The Government of Punjab, School Education Department
(Entry Test for the Recruitment of Assistant Education Officers)

Qualify Test

A.E.O

Assistant Education Officer

NEW POLICY (SEPTEMBER 2016)

100% Marks

- English (Graduation Level)
- Math (Inter Level)
- Physics (Inter Level)
- Chemistry (Inter Level)
- Biology (Inter Level)
- Pedagogy

BPS 16

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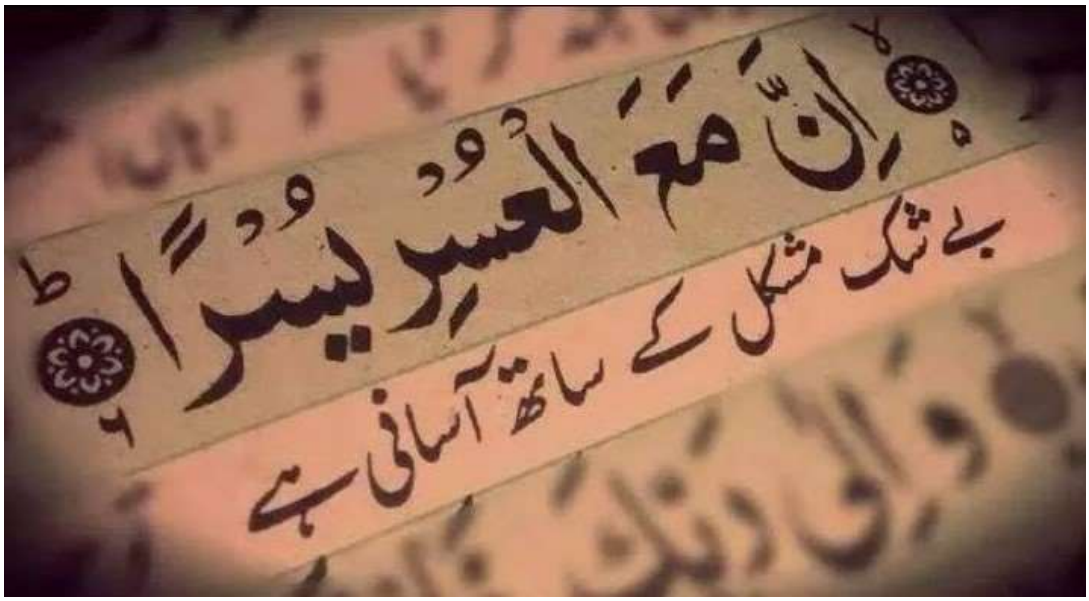
Free For All

* Prayers are requested*


إِنَّ مَعَ الْعُسْرِ يُسْرًا
بے شک مشکل کے ساتھ آسانی ہے

ASSISTANT EDUCATION OFFICER
(BPS-16)

PAPER DISTRIBUTION

S.No.	Core Areas	Marks
1	English (Graduation Level)	30
2	Math (Inter Level)	30
3	Physics, Chemistry, Biology (Inter Level)	30
4	Pedagogy	10
	Total	100

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4	Pedagogy	299

ENGLISH

SYNONYMS

Directions: ***In each of the following questions, out of the given alternatives, choose the on which best expresses the meaning of the given word***

SET 1

1 **PROGNOSIS**
(a) Identification ★ (b) Preface
(c) Forecast (d) Scheme

2 **ENGENDER**
(a) Confound (b) Suffer
(c) Sacrifice (d) Beget★

3 **GLIB**
(a) Smooth★ (b) Indifferent
(c) Gainful (d) Rough

4 **TACITURNITY**
(a) Reserve★ (b) Hesitation
(c) Changeableness (d) Dumbness

5 **APPAREL**
(a) Appearance (b) Clothing★
(c) Confidence (d) Manner

6 **DOLEFUL**
(a) Colourful (b) Jovial
(c) Bright (d) Mournful★

7 **EFFACE**
(a) Wipe out★ (b) Weaken
(c) Insult (d) Repair

8 **BLITHE**
(a) Graceful (b) Joyous
(c) Giddy (d) Other worldly★

9 **ERRAND**
(a) Foolishness (b) Mission
(c) Misadventure (d) Error★

10 **RIBALD**
(a) Vulgar★ (b) Attractive
(c) Refined (d) Indifferent

11 **WHIM**
(a) Fancy★ (b) Clumsy
(c) Desire (d) Strange behaviour

12 **DISSOLUTE**
(a) Distant (b) Repulsive
(c) Honest (d) Immoral★

13 **FALSE**
(a) Defective (b) Untrue★
(c) Incorrect (d) Inaccurate

14 **ANATHEMA**
(a) Religious chant (b) Pun
(c) Musical subject (d) Curse★

15 **NIGGARD**
(a) Miser★ (b) Loyal
(c) Divine (d) Shrewd

16 **PLACATE**
(a) Pity (b) Embroil
(c) Appease★ (d) Amuse

17 **ABNEGATION**
(a) Self-denial★ (b) Self-sacrifice
(c) Self-praise (d) Self-criticism

18 **SUPERVENE**
(a) Ensue★ (b) Interfere
(c) Displace (d) Precede

19 **ABRADE**
(a) Scold (b) Attach
(c) Wear off★ (d) Twist

20 **SANGUINE**
(a) Clever (b) Proud
(c) Hopeful★ (d) Modest

21 **LETHARGY**
(a) Laxity★ (b) Impassivity
(c) Serenity (d) Listlessness

22 **VERATE**
(a) Scold★ (b) Judge
(c) Downgrade (d) Deny

23 **MORIBUND**
(a) Stagnant (b) Gloomy
(c) Neglect★ (d) Superfluous

24 **REBATE**
(a) Loss (b) Refund
(c) Compensation (d) Discount★

25 **BEMOAN**
(a) Lament★ (b) Soothe
(c) Denounce (d) Loathe

26 **SPITE**
(a) Concern (b) Admiration
(c) Malice★ (d) Indifference

27 **PROLIFIC**
(a) Plenty (b) Competent
(c) Fertile★ (d) Predominant

28 **DEBILITATE**
(a) Weaken★ (b) Attack
(c) Surmount (d) Destroy

29 **OSTENTATIOUS**
(a) Pretty (b) Modest
(c) Showy (d) Flagrant★

30 **AFFABLE**
(a) Friendly★ (b) Cheerful
(c) Helpful (d) Neutral

31 **AFFLUENT**
(a) Prosperous★ (b) Poor
(c) Talkative (d) Close

32 **LIMP**
(a) Kneel (b) Bend
(c) Falter★ (d) Stoop

33 **INFREQUENT**
(a) Never (b) Usual
(c) Rare (d) Sometin★

34 **MASSACRE**
(a) Stab (b) Slaughter★
(c) Murder (d) Assassir

35 **BELITTLE**
(a) Diminish (b) Mock
(c) Disparage★ (d) Scoff

36 **REVISE**
(a) Edit (b) Alter
(c) Correct (d) Reconsider★

37 **DISTINGUISH**
(a) Darken (b) Abolish
(c) Differentiate★ (d) Confuse

38 **ACCUSE**
(a) Absolve (b) Exonert
(c) Vindicate (d) Impeach★

39 **RECOVER**
(a) Recoup★ (b) Revive
(c) Heal (d) Return

40 **ADMONISH**
(a) Threaten★ (b) Praise
(c) Appeal (d) Support

41 **GRATIFY**
(a) Frank (b) Appreciate
(c) Pacify★ (d) Indulge

42 **PENCHANT**
(a) Like★ (b) Eagern
(c) Disability (d) Dislike

43 **BARTER**
(a) Deal (b) Return
(c) Lend (d) Exchange★

44 **UNCONSCIONABLE**
(a) Distasteful (b)Unmanageable
(c) Excessive★ (d) Unmindful

45 **TERMINATE**
(a) Suspend (b) Dismiss
(c) End★ (d) Interrupt

46 **DANK**
(a) Dangerous (b) Ugly
(c) Plunder (d) Damp★

47 **BOUNTY**
(a) Donation (b) Gift★
(c) Pleasure (d) Reward

48 **DIVVY**
(a) Selfless (b) Foolish
(c) Follower (d) Pioneer★

49 **OBJECT**
(a) Disobey (b) Challenge
(c) Deny (d) Disapprove★

50 **RANGE**
(a) Level (b) Expanse ★
(c) Grade (d) Standing

51 **BASH**
(a) Strike★ (b) Neglect
(c) Ignore (d) Embrace

52 **HAGGLE**
(a) Postpone (b) Accept
(c) Bargain★ (d) Reject

53 **ABSTRUSE**
(a) Awful (b) Irrelevant
(c) Shallow (d) Profound★

54 **YOB**
(a) Annoyed (b) Intelligent
(c) Humble (d) Aggressive★

55 **APOGEE**
(a) Climax★ (b) Beginning
(c) Middle (d) Bottom

56 **MOROSE**
(a) Gloomy ★ (b) Diseased
(c) Calm (d) Disappointed

57 **ADVERSITY**
(a) Crisis (b) Misfortune★
(c) Failure (d) Helplessness

58 **CANDID**
(a) Rude (b) Impertinent
(c) Blunt (d) Frank★

59 **EPHEMERAL**
(a) Unreal (b) Mythical
(c) Short-living★ (d) Artificial

60 **STUBBORN**
(a) Easy (b) Obstinate
(c) Willing (d) Pliable★

61 **DEFLECT**
(a) Frustrate (b) Cheat
(c) Pervert★ (d) Depress

62 **DAWDLE**
(a) Assess (b) Evaluate★
(c) Fickle (d) Loiter

63 **EXORBITANT**
(a) Odd (b) Ridiculous
(c) Excessive★ (d) Threatening

64 **PIVOTAL**
(a) Movable (b) Crucial★
(c) Internal (d) Mechanical

65 **VULGAR**
(a) Thoughtless (b) Unkind
(c) Coarse★ (d) Illiterate

66 **OBVERSE**
(a) Bitter (b) Reverse
(c) Opposite★ (d) Adverse

67 **MIRTH**
(a) Sorrow (b) Enthusiasm
(c) Adventure (d) Merriment★

68 **TERRIFIC**
(a) Big (b) Excellent
(c) Tragic (d) Terrible★

69 **DILIGENT**
(a) Intelligent (b) Energetic
(c) Modest (d) Industrious★

70 **ABRIDGE**
(a) Abort (b) Span
(c) Shorten★ (d) Cross

71 **STRINGENT**
(a) Tense★ (b) Stringy
(c) Strict (d) Causing to shrink

72 **PREVENT**
(a) Restrict (b) Stop★
(c) Interrupt (d) Obstruct

73 **GORGEOUS**
(a) Refined (b) Tasteful
(c) Elegant (d) Dazzling★

74 **HUMBUG**
(a) Deceit★ (b) Desire
(c) Craving (d) Illusion

75 **IMPROVEMENT**
(a) Promotion (b) Advancement
(c) Betterment★ (d) Preference

76 **RESTITUTE**
(a) Help (b) Avenge
(c) Revenge (d) Repair★

77 **ENTANGLE**
(a) Confuse (b) Trap★
(c) Perplex (d) Submerge

78 **RETRIBUTION**
a) Contempt (b) Revenge
(c)Compensation★ (d) Discount

79 **INTRINSIC**
(a) Introvert★ (b) Intricate
(c) Complicated (d) Secret

80 **APPRAISAL**
(a) Estimation★ (b) Praise
(c) Approval (d) Investigatio

81 **LUMINARY**
(a) Bright (b) Lightning
(c) Famous★ (d) Dashing

82 **STRINGENT**
(a) Shrill (b) Rigorous★
(c) Dry (d) Strained

83 **EXOTIC**
(a) Beautiful (b) Colourful
(c) Excellent (d) Unusual★

84 **ESTRANGE**
(a) Puzzling (b) Endanger
(c) Alienate★ (d) Miscalculat

85 **JEREMAD**
(a) Friction (b) Incident
(c) Trouble★ (d) Accident,

86 **WHIMPER**
(a) Prevent (b) Cry★
(c) Instigate (d) Pacify

87 **HARASS**
(a) Grieve (b) Injure
(c) Excite (d) Annoy★

88 **GADFLY**
(a) Horror (b) Nuisance★
(c) Gain (d) Blessing

89 **HYBRID**
(a) Unusual (b) Hackneyed
(c) Pedigreed (d) Crossbred★

90 **MAIM**
(a) Disfigure★ (b) Slit
(c) Severe (d) Slash

91 **MINIMUM**
(a) Little (b) Lowest
(c) Minimal★ (d) Meagre

92 **EXCRUCIATE**
(a) Refine (b) Torture★
(c) Extract (d) Imprison

93 **OUTRE**
(a) Fair (b) Traditional
(c) Real (d) Eccentric★

94 **TEDIOUS**
(a) Tiresome★ (b) Painful
(c) Troublesome (d) Lengthy

95 **ASSIMILATE**
(a) Absorb★ (b) Arrange
(c) Receive (d) Assemble

96 **COTERIE**
(a) Mob (b) Group★
(c) Family (d) Institution

97 **OBEISANCE**
(a) Insult (b) Obedience★
(c) Indifference (d) Disrespect

98 **FATIGUE**
(a) Weariness★ (b) Sweating
(c) Tension (d) Drowsiness

99 **PERTIDY**
(a) Debauchery★ (b) Deceit
(c) Treachery (d) Conceit

100 **MASTICATE**
(a) Lavour (b) Drink
(c) Shew★ (d) Swallow

SET 2

1 **INDICT**
(a) Accuse★ (b) Condemn
(c) Allege (d) Reprimand

2 **SUPERANNUATED**
(a) Accepted (b) Senile
(c) Retired★ (d) Experienced

3 **ENDORSEMENT**
(a) Reprimand (b) Censure
(c) Commendation★ (d) Reproach

4 **STAMINA**
(a) Endurance (b) Intensity
(c) Eagerness (d) Energy★

5 **BRASH**
(a) Invective (b) Rude★
(c) Abusive (d) Superficial

6 **DECRY**
(a) Deviate (b) Despoil
(c) Demure (d) Disparage★

7 **MOLLIFY**
(a) Chastise (b) Testify
(c) Rebuke (d) Appease★

8 **RECALL**
(a) Speak (b) Receive
(c) Face (d) Remember★

9 **JEOPARDY**
(a) Magic (b) Adventure
(c) Enmity (d) Danger★

10 **ECONOMISE**
(a) Accumulate (b) Minimise
(c) Save★ (d) Reduce

11 **INGENUOUS**
(a) Cunning (b) Frank★
(c) Courteous (d) Clever

12 **CONSEQUENCE**
(a) Manner (b) Result★
(c) Cause (d) Order

13 **EROTIC**
(a) Sexual★ (b) Sensuous
(c) Beautiful (d) Attractive

14 **CRUEL**
(a) Hateful (b) Dreadful
(c) Indifferent (d) Merciless★

15 **DODGE**
(a) Con fuse (b) Avoid★
(c) Thwarfl (d) Frustrate

16 **INEXPLICABLE**
(a) Unconnected (b) Chaotic
(c) Unaccountable★ (d) Confusing

17 **OBSTREPEROUS**
(a) Obstinate (b) Calm
(c) Noisy★ (d) Cheerful

18 **CHIMERICAL**
(a) Erratic (b) Imaginary★
(c) Uncertain (d) Short-lived

19 **CONUNDRUM**
(a) Question★ (b) Discussion
(c) Explanation (d) Solution

20 **IRK**
(a) Bore (b) Insult
(c) Urge (d) Annoy★

21 **MUFFLE**
(a) Wrap (b) Soften★
(c) Hasten (d) Disturb

22 **SUSTAIN**
(a) Support★ (b) Revive
(c) Believe (d) Allow

23 **SCOUR**
(a) Search ★ (b) Flow
(c) Raise (d) Push

24 **INDUSTRIOUS**
(a) Intelligent (b) Hard working★
(c) Clever (d) Reserved

25 **LACHRYMOSE**
(a) Unimpressive (b) Mournful ★
(c) Moist (d) Impious

26 **FORAGE**
(a) Search ★ (b) Research
(c) Fly (d) Travel

27 **ULTERIOR**
(a) Revealed (b) Implied
(c) Extreme (b) Decisive★

28 **WARY**
(a) Cautious★ (b) Accurate
(c) Quick (d) Practical

29 **WELTER**
(a) Sacrifice (b) Clarity
(c) Height (d) Confusion★

30 **RETRIEVE**
(a) Repeat (b) Repose
(c) Retort (d) Recover★

31 **GARNISH**
(a) Decorate★ (b) Compose
(c) Impress (d) Impose

32 **ALLOW**
(a) Accept (b) Seek
(c) Permit★ (d) Wish

33 **CAVEAT**
(a) Dispute (b) Challenge
(c) Advice (d) Warning★

34 **LIABILITY**
(a) Debt★ (b) Debit
(c) Asset (d) Credit

35 **AMALGAMATE**
(a) Try (b) Collect
(c) Mix★ (d) Hate

36 **CONDEMN**
(a) Blame ★ (b) Underrate
(c) Hate (d) Avoid

37 **FICKLE**
(a) Constant (b) Nervous
(c) Changeable★ (d) Poor

38 **CONGREGATION**
(a) Combination (b) Meeting
(c) Assembly★ (d) Collection

39 **HASSLE**
(a) Greed (b) Jealousy
(c) Gossip (d) Wrangle★

40 **ROTUND**
(a) Flat (b) Fat ★
(c) Foolish (d) Weak

41 **JUVENILE**
(a) Hidden (b) Young★
(c) Humorous (d) Tedious

42 **VENTURE**
(a) Entrust (b) Risk★
(c) Travel (d) Adventure

43 **IMPERTINENT**
(a) Impudent★ (b) Sceptical
(c) Thoughtless (d) Irritable

44 **IMPEDIMENT**
(a) Passage (b) Obstruction★
(c) Fateful (d) Destruction

45 **LURID**
(a) Sensational★ (b) Old
(c) Obscene (d) Pale

46 **MASTERPIECE**
(a) Sample (b) Wonder
(c) Miracle (d) Model★

47 **ALERT**
(a) Watchful★ (b) Intelligent
(c) Observant (d) Energetic

48 **ARTICULATE**
(a) Distinct★ (b) Aggressive
(c) Wayward (d) Confused

49 **VEER**
(a) Shift (b) Dominate
(c) Delegate★ (d) Concentrate

50 **SUPERCILIOUS**
(a) Indifferent (b) Annoyed
(c) Haughty★ (d) Angry

51 **DEMIT**
(a) Promote (b) Judge
(c) Appoint (d) Resign★

52 **BERSERK**
(a) Clever (b) Morose
(c) Cheerful (d) Wild★

53 **GROTESQUE**
(a) Fantastic★ (b) Exaggerated
(c) Colourful (d) Pompous

54 **COUNSEL**
(a) Correct (b) Publish
(c) Oppose (d) Advise★

55 **SUCCULENT**
(a) Fluid (b) Sucking
(c) Juicy★ (d) Sweet

56 **TESTIFY**
(a) Witness ★ (b) Describe
(c) Recognise (d) Appreciate

57 **ASCEND**
(a) Leap (b) Mount ★
(c) Deviate (d) Grow

58 **OSTRACIZE**
(a) Cut off ★ (b) Expedite
(c) Welcome (d) Include

59 **FORLORN**
(a) Uncured ★ (b) Funny
(c) Fearful (d) Fortunate

60 **RILE**
(a) Drag (b) Agree
(c) Please (d) Annoy★

61 **LAZE**
(a) Abdicate (b) Rest★
(c) Waste (d) Wander

62 **UGLY**
(a) Fearful (b) Hateful ★
(c) Evilsome (d) Repulsive

63 **EFFETE**
(a) Affected (b) Injured
(c) Feeble★ (d) Sick

64 **SLOPPY**
(a) Drunk ★ (b) Careless
(c) Tired (d) Untrustworthy

65 **HARBINGER**
(a) Pilot (b) Forerunner
(c) Steward (d) Messenger★

66 **INDOLENCE**
(a) Leniency (b) Relaxation
(c) Laziness★ (d) Stagnation

67 **ACCENTUATED**
(a) Projected (b) Exhibited
(c) Sharpened (d) Mitigated★

68 **DISRUPT**
(a) Deny (b) Refuse
(c) Break★ (d) Join

69 **SUMPTUOUS**
(a) Lavish★ (b) Fancy
(c) Meagre (d) Irritable

70 **LATENT**
(a) Prompt (b) Lethargic
(c) Apparent (d) Concealed★

71 **AROMATIC**
(a) Stinking (b) Sentimental
(c) Fragrant★ (d) Crippled

72 **AMBIT**
(a) Eviction (b) Scope★
(c) Restriction (d) Barrier

73 **ENTHUSIASTIC**
(a) Angry (b) Excited★
(c) Noisy (d) Violent

74 **QUELL**
(a) Postpone (b) Avoid
(c) Complain (d) Suppress★

75 **OMINOUS**
(a) Poisonous (b) Foregone
(c) Foreboding★ (d) Bad

76 **MISFORTUNE**
(a) Misery (b) Poverty
(c) Ill-luck★ (d) Sadness

77 **INDOMITABLE**
(a) Inactive (b) Authoritative
(c) Rebellious (d)Unconquerable★

78 **LUG**
(a) Drag★ (b) Denounce.
(c) Decline (d) Degrade

79 **LEVITATE**
(a) Float★ (b) Dance
(c) Waver (d) Harass

80 **RANCOUR**
(a) Prejudice (b) Enmity
(c) Disappointment (d) hatred★

81 **DELIRIOUS**
(a) Content (b) Happy
(c) Insane★ (d) Amused

82 **EXTRAVAGANZA**
(a) Profligacy (b) Spectacular ★
(c) Over reaching (d) Falsification

83 **DETECT**
(a) Discover★ (b) Invent
(c) Determine (d) Fix

84 **COUNTERVAIL**
(a) Recreate (b) Demolish
(c) Equalise★ (d) Contradict

85 **LANGUOR**
(a) Excitement. (b) Irritation
(c) Weariness★ (d) Agitation

36 **FIDDLE**
(a) Examine (b) Trifle★
(c) Discard (d) Frown

37 **BENEFACTOR**
(a) Guardian (b) Saint
(c) Do-gooder★ (d) Friend

38 **AMICABLE**
(a) Interesting★ (b) Loving
(c) Affectionate (d) Friendly

39 **ENTHUSE**
(a) Pester (b) Provoke
(c) Excite★ (d) Annoy

0 **GRUBBY**
(a) Wet (b) Muddy
(c) New (d) Unwashed★

1 **COMBAT**
(a) Quarrel (b) Fight★
(c) Conflict (d) Feud

2 **SUBSIDE**
(a) Submit (b) Oppress:
(c) Subdue★ (d) Surrender

3 **ABSCOND**
(a) Turn (b) Flee★
(c) Manage (d) Avoid

4 **GAINSAY**
(a) Advantage (b) Proposal
(c) Contradict★ (d) Suggestion

5 **PROFOUND**
(a) Profuse (b) Boundless
(c) Deep★ (d) Fathomless

6 **SOPORIFIC**
(a) Lethargic (b) Merry
(c) Soothing★ (d) Impressive

ANNEAL
(a) Commence (b) Forget
(c) Patch (d) Temper★

ABOMINATION
(a) Revulsion (b) Disgust★
(c) Criticism (d) Attach

BURLESQUE
(a) Insult (b) Irritate
(c) Mock★ (d) Annoy

FOSTER
(a) Encourage (b) Fabricate★
(c) Foment (d) Nurture

SET 3

1 **ENIGMA**
(a) Elusive (b) Clear
(c) Puzzle★ (d) Praise

2 **FILTHY**
(a) Healthy (b) Ugly
(c) Dirty★ (d) Angry

3 **NOSTALGIC**
(a) Soothing (b) Homesick ★
(c) diseased (d) Indolent

4 **OVERSEF**
(a) Supervise★ (b) Chance
(c) Contest (d) Look

5 **DECIEVE**
(a) Mislead★ (b) Challenge
(c) Harm (d) Defeat

6 **COMPUNCTION**
(a) Anger (b) Appreciate
(c) Regret★ (d) wonder

7 **PREROGATIVE**
(a) Privilege★ (b) Request
(0 Desire (d) Command

8 **AFICIONADO**
(a) Rival (b) Enthusiast★
(c) Critic (d) Indifferent

9 **SOLICIT**
(a) Beseech★ (b) Demand.
(c) Claim (d Require

10 **RADIANT**
(a) Bright★ (b) Beautiful
(c) Light (d) Influential

11 **DEFERENCE**
(a) Obligation (b) Respect★
(c) Postponement (d) Pride

12 **NEPOTISM**
(a) Favouritism★ (b) Carelessness
(c) Inefficiency (d) Corruption

13 **BIFURCATED**
(a) Reduced (b) Stabbed
(c) Ploughed (d) Forked★

14 **LIBERAL**
(a) Progressive (b) Tolerant
(c) Generous★ (d) Educated

15 **INTERIM**
(a) Temporary ★ (b) Internal
(c) Interval (d) Timely

16 **HOOD-WINK**
(a) Deceive★ (b) Stab
(c) Prefer (d) Collide

17 **IMPRECATION**
(a) Abuse (b) Blessing
(c) Bliss (d) Oath★

18 **JAUNTY**
(a) Readiness (b) Hesitation
(c) Reluctance (d)Cheerfulness★

19 **LEEWAY**
(a) Flexibility (b) Leisure
(c) Permissiveness (d) Course★

20 **SOZZLED**
(a) Burnt (b) Cultured
(c) Drunk ★ (d) Moderate

21 **AFFILIATE**
(a) Control (b) Associate★
(c) Copy (d) Discriminate

22 **GAWK**
(a) Sweeten (b) Stare★
(c) Perspire (d) Swallow

23 **BENEVOLENT**
(a) Charitable★ (b) Sympathetic
(c) Liberal (d) Beneficial

24 **HEGEMONY**
(a) Domination★ (b) Materialism
(c) Subordination (d) Booty

25 **ENCUMBRANCE**
(a) Disturbance (b) Barden ★
(c) Distraction (d) Hindrance

26 **SURREPTTFIOUS**
(a) Mysterious (b)Abstract
(c) Secretive (d) Secret★

27 **CAPITULATE**
(a) Surrender ★ (b) Withdraw
(c) Execute (d) Summarize

28 **HOCK**
(a) Repent (b) Pledge ★
(c) Promise (d) Punish

29 **DYNAMIC**
(a) Vigorous (b) Forceful
(c) Robust (d) Active★

30 **HERETICAL**
(a) Fiery (b) Corrupt
(c) Impious★ (d) Disputable

31 **OBDURATE**
(a) Adamant ★ (b) Helpful
(c) Simple (d) Flexible

32 **IRONIC**
(a) Good natured (b) Inflexible
(c) Disguisedly sarcastic★ (d) Bitter

33 **LIBERTY**
(a) Obligation (b) Rights
(c) Freedom★ (d) Democracy

34 **VIRILE**
(a) Boastful (b) Manly★
(c) Pompous (d) Athletic

35 **LEGITIMATE**
(a) Rightful (b) Valid★
(c) Illicit (d) Correct

36 **AMEITION**
(a) Expectation (b) Desire★
(c) Aspiration (d) Goal

37 **FRACTIOUS**
(a) Disheartening (b) Irritable★
(c) Comic (d) Pleasing

38 **FLABBY**
(a) Obese (b) Fatty
(c) Chubby (d) Loose★

39 **DEMISE**
(a) Decline (b) Decay
(c) Dormant (d) End★

40 **PRISTINE**
(a) Traditional (b) Expensive
(c) Original★ (d) Meritorious

41 **TURN UP**
(a) Show up (b) Come up★
(c) Land up (d) Crop up

42 **EDIFY**
(a) Consume (b) Satisfy
(c) Instruct★ (d) Amuse

43 **OROTUND**
(a) Stout (b) Round
(c) Resonant★ (d) Gilded

44 **APOLOGIA**
(a) Moral fable★ (b) After thou
(c) Ancient legend (d) Explanatio

45 **OPTIMISTIC**
(a) Optician (b) Favourab
(c) Wishful (d) Hopeful★

46 **CANDID**
(a) Sincere (b) Polite
(c) Plain-spoken★ (d) Rude

47 **INCENSED**
(a) Inspired (b) Encourag
(c) Incited★ (d) Affected

48 **INCONTINENT**
(a) Unrestrained★ (b) Restless
(c) Inconstant (d) Uncertain

49 **RECIPROCATE**
(a) Grant (b) Interchange★
(c) Receive (d) Deliver

50 **ABSTAIN**
(a) Resist★ (b) Refrain
(c) Assist (d) Attain

51 **NIMBLE**
(a) Agile★ (b) Clean
(c) Soft (d) Delicate

52 **OFFAL**
(a) Tendency (b) Sacrifice
(c) Refuse★ (d) Poison

53 **COLOSSUS**
(a) Towering★ (b) Tall
(c) Lofty (d) Huge

54 **HELM**
(a) Corner (b) Handle
(c) Head★ (d) Edge

55 **OCCULT**
(a) Mysterious★ (b) Harmless
(c) Dreadful (d) Amazing

56 **REPURCUSSION**
(a) Remuneration (b) Consequence
(c) Reaction★ (d) Recollection

57 **CIVIL**
(a) Sophisticated (b) Social
(c) Formal (d) Polite★

58 **ADJURE**
(a) Provoke (b) Adjust
(c) Entreat★ (d) Enjoy

59 **PANDER**
(a) Encourage★ (b) With-hold
(c) Recommend (d) Withdraw

60 **RANCOUS**
(a) Noisy (b) Harmful
(c) Pleasant (d) Harsh★

61 **BROWSE**
(a) Strike (b) Examine ★
(c) Deceive (d) Heal

62 **PRIVY**
(a) Secret★ (b) Dispossessed
(c) Open (d) Deprived

63 **ACERB**
(a) Unwilling (b) Harsh ★
(c) Dangerous (d) Foreign

64 **INANITION**
(a) Silliness (b) Passivity
(c) Emptiness★ (d) Strictness

65 **SPECTATORS**
(a) Listeners (b) Audience
(c) Onlookers★ (d) Participants

66 **ENTICE**
(a) Tease (b) Tempt ★
(c) Charm (d) Attract

67 **SEVERE**
(a) Rigid★ (b) Aggressive
(c) Offensive (d) Sickening

68 **RESTORATION**
(a) Renovation★ (b) Renewal
(c) Reinstatement (d) Recreation

69 **MODISH**
(a) Adorned (b) Sentimental
(c) Stylish★ (d) Vacillating

70 **IMPECCABLE**
(a) Precise (b) Faultless
(c) Fussy (d) Having integrity★

81 **JINK**
(a) Inherit (b) Refrain
(c) Dodge★ (d) Travel

82 **RELUCTANT**
(a) Ready (b) Willing
(c) Hesitating★ (d) Inclined

83 **ADMIT**
(a) Adjourn (b) Confess★
(c) Relate (d) Commit

84 **DOWDY**
(a) Unstylish ★ (b) Elegant
(c) Rakish (d) Corpulent

85 **ASSUAGE**
(a) Rub (b) Prohibit
(c) Ease★ (d) Enlarge

86 **RECKLESS**
(a) Daring (b) Bold
(c) Rash★ (d) Courageou

87 **CATAPULT**
(a) Restrain (b) Control★
(c) Contain (d) Shoot

88 **MUTATION**
(a) Variation ★ (b) Display
(c) Severance (d) Silence

89 **CONTEMPLATIVE**

(a) Morbid (b) Serious
(c) Calm (d) Thoughtful★

90 **BROOK**
(a) Indulge (b) Serve
(c) Tolerate★ (d) Taste

91 **LANGUISH**
(a) Condemn (b) Condone
(c) Console (d) Decline★

92 **RAKISH**
(a) Frivolous (b) Immoral★
(c) Aggressive (d) Childish

93 **DILIGENT**
(a) Industrious★ (b) Intelligence
(c) Modest (d) Energetic

94 **RICOCHET**
(a) Spare (b) Turn down
(c) Ride (d) Rebound★

95 **SCINTILLATING**
(a) Warming (b) Touching
(c) Glittering★ (d) Smouldering

96 **MUSTY**
(a) Stale★ (b) Irritable
(e) Hungry (d) Ugly

97 **REGALE**
(a) Harass (b) Entertain★
(c) Express (d) Suppress

98 **LASCIVIOUS**
(a) Lustful★ (b) Foul
(c) Fragrant (d) Naughty

99 **EMPHASISE**
(a) Suggest (b) Plead
(c) Stress★ (d) Farce

100 **OBLIGATORY**
(a) Required★ (b) Stubborn
(c) Agreeable (d) Useful

SET 4

1 **SLAKE**
(a) Erase (b) Quench★
(c) Rub (d) Sharpen

2 **BARGE**
(a) Interpret (b) Shout
(c) Restrain (d) Enter★

3 **APPURTENANCE**
(a) Privilege★ (b) Journey
(a) Concept (d) Necessity

4 **SYCOPHANT**
(a) Suppliant (b) Follower
(c) Flatterer★ (d) Admirer

5 **DODGE**
(a) Avoid★ (b) Break up
(c) Drag (d) Push forward

6 **RECEPTIVE**
(a) Pretentious (b) Observant ★
(c) Gmcinus (d) Generous

7 **W ELSH**
(a) Perspire (b) Inspire
(c) Encourage (d) Default★

8 **VINDICATE**
(a) Judge (b) Justify ★
(c) Argue (d) Explain

9 **OVERTURES**
(a) Observations (b) Offers ★
(c) Agreements (d) Promises

10 **CRASS**
(a) Wicked (b) Zig zag
(c) Spiritless (d) Insensitive★

11 **BESIEGED**
(a) Encircled ★ (b) Skirted
(c) Troubled (d) Destroyed

12 **STERNUTATION**
(a) Sneezing ★ (b) Trepidation
(c) Reversal (d) Hardening

13 **JINGOISTIC**
(a) Victorious (b) Compromise
(c) Cooperative (d) Dashing★

14 **YOKEL**
(a) Illiterate (b) Simple-minded★
(c) Canny (d) Crafty

15 **GERMANE**
(a) Cruel (b) Relevant ★
(c) Obstinate (d) Smart

16 **COUNTERMAND**
(a) Criticise (b) Cancel ★
(c) Devastate (d) Intrigue

17 **APLOMB**
(a) Agitation (b) Noise
(c) Sacrifice (d) Self-control★

18 **ABROGATION**
(a) Abridgement (b) Deprivation
(c) Annulation★ (d) Dismissal

19 **PLACID**

(a) Clear (b) Calm ★
(c) Enjoyable (d) Dull

20 **MAGNILOQUENT**
(a) Amusing (b) Boastful ★
(c) Humorous (d) Tactful

21 **INSOLENT**
(a) Nervous (b) Rude
(c) Proud (d) Assertive★

22 **INSPIRE**
(a) Compel (b) Persuade ★
(c) Infuse (d) Encourage

23 **EXTRAVAGANT**
(a) Proud (b) Expensive
(c) Wasteful★ (d) Reckless

24 **INEBRIATE**
(a) Drunken★ (b) Unsteady
(c) Stupefied (d) Dreamy

25 **PROSCRIBE**
(a) Recommend (b) Allow
(c) Advance (d) Banish★

26 **EGREGIOUS**
(a) Progressive (b) Superficial
(c) Exceptional★ (d) Cowardly

27 **ABBREVIATE**
(a) Shorten★ (b) Enlarge
(c) Decrease (d) Change

28 **ABOMINABLE**
(a) Weird (b) Awful
(c) Odd (d) Fine★

29 **PLACID**
(a) Clear (b) Calm★
(c) Enjoyable (d) Dull

30 **PREDICT**
(a) Determine (b) Analyse
(c) Foretell★ (d) Describe

31 **MULL**
(a) Recommend (b) Think
(c) Punish (d) Provoke★

32 **WHIRL**
(a) Reap (b) Turn
(c) Agitate (d) Weep★

33 **VINDICTIVE**
(a) Strategic (b) Triumphant
(c) Revengeful★ (d) Demonstrative

34 **ALACRITY**
(a) Suspicion (b) Unwillingly
(c) Unhesitatingly (d) Eagerly★

35 **PROEM**
(a) Proclamation (b) Narrative
(c) Conclusion (d) Preface★

36 **FERACIOUS**
(a) Predatory (b) Fertile ★
(c) Overpowering (d) Fierce

37 **MEDIOCRE**
(a) Mild (b) Indifferent
(c) Stupid (d) Average★

38 **SURFEIT**
(a) Satiate★ (b) Pass
(c) Confiscate (d) Delegate

39 **DOGMA**
(a) Possibility (b) Feeling
(c) Tenet. ★ (d) Doubt

40 **ZANY**
(a) Magician (b) Pet
(c) Thief★ (d) Clown

41 **CATALOGUE**
(a) Menu (b) Record
(c) List★ (d) Pamphlet

42 **OVERSTRUNG**
(a) Concerned (b)Active
(c) Sensitive★ (d) Energetic

43 **GREGARIOUS**
(a) Sociable★ (b) Turbulent
(c) Pugnacious (d) Clumsy

44 **ACCOST**
(a) Hesitate (b) Speculate
(c) Insult (d) Address★

45 **DEFUNCT**
(a) Active (b) Clever
(c) Alive (d)Extinct★

46 **SAGACITY**
(a) Morality (b) Wisdom★
(c) Sanity (d) Uprightness

47 **ANGST**
(a) Anxiety★ (b) Pride
(c) Modesty (d) Simplicity

48 **KULAK**
(a) Fortress (b) Priest
(e) Insane. (d) Farmer★

49 **SALACITY**
(a) Recession (b) Indecency★
(c) Depression (d) Bliss

50 **VULGAR**
(a) Enthusiastic (b) Wild
(c) Coarse★ (d) Noisy

51 **UMBRAGE**
(a) Sensitive (b) Shabbiness
(c) Premature (d) Resentment★

52 **EMULATE**
(a) Trying to do as well★ (b) Enable
(c) Likely to be late (d) Inspite to win

53 **AMNESTY**
(a) Revolt (b) Privilege
(c) Farewell (d) Pardon★

54 **HIATUS**
(a) Gap★ (b) Contempt
(c) Tight (d) Narrow

55 **KITTY**
(a) Romantic (b) Cheap
(c) Pooled fund★ (d) Drowsy

56 **FRAGMENT**
(a) Dissection (b) Cut
(c) Crumble (d) Scrap★

57 **CADGE**
(a) Beg★ (b) Hide
(c) Bicker (d) Imprison

58 **EXORCISE**
(a) Expel★ (b) Expose
(c) Explain (d) Mock

59 **AMBITION**
(a) Plan (b) Proclamation
(c) Desire★ (d) Decision

60 **PAINT**
(a) Soil (b) Stain
(c) Dirty (d) Corrupt★

61. **All the streets looked just the *same*.**
(a) decisively (b) normally
(c) exactly★ (d) simply .

62. **At the Hardy house there was great *consternation* when Aunt Gertrude saw Joe helping Frank up the stairs.**
(a) surprise (b) panic★
(c) gaity (d) anxiety

63. **He is a *candid* politician.**
(a) frank★ (b) faithful
(c) fearless (d) soft spoken

64. **The purpose of his speech was to *lampoon* the leading politicians of the day.**
(a) praise (b) expose
(c) ridicule★ (d) defame

65. ***Sagacity* increases with age.**
(a) Wisdom★ (b) Love
(c) Maturity (d) Efficiency

66. **She has an *insatiable* love for music.**
(a) undesirable (b)irreconcilable★
(c) unchanging (d) unsatisfiable

67. **I was shocked to see my friend lying at the *edge* of the road.**
(a) side★ (b) bank
(c) corner (d) border

68. **He is very *discreet* while deciding such matters.**
(a) obstinate (b) cunning .
(c) prudent★ (d) trustworthy

69. **Science has *revealed* the mysteries of nature to man.**
(a) released (b) disclosed★
(c) opened (d) cleared

70. **It is a *scandal* that the murderer was declared innocent.**
(a) rumour
(b) silly notion
(c) talk
(d) disgraceful action★

71. **Ever since the death of his mother, my friend is utterly forlorn and *wretched*.**
(a) frustrated (b) lonely★
(c) fearful (d) gloomy

72. **The *raucous* shouts of the audience forced the management to call off the show.**
(a) unpleasant (b) loud
(c) harsh★ (d) harmful

73. **He was *admonished* for the delay.**
(a) dismissed (b) admired
(c) censured★ (d) advised

74. **What is the *ultimate* goal of life?**
(a) fixed (b) final★
(c) desired (d) immediate

75. **Everyone who has worked for him *hammers* home that point because they feel that it is widely unappreciated.**
(a) hints (b) stresses★
(c) strikes (d) directs

76. **We must *eradicate* corruption.**
(a) minimise (b) control
(c) condemn (d) uproot★

77. **During his stay in Canada, he had quite a few *frustrating* experiences.**
(a) disappointing★ (b) disenchanting
(c) humiliating (d) repulsive

78. I tried to persuade him to change his mind, but he remained *adamant*.
(a) foolish (b) aggressive
(c) stubborn★ (d) defensive

79. The weavers have to do *monotonous* work.
(a) repetitive★ (b) exhausting
(c) irksome (d) autonomous

80. There was always an *imminent* danger of the falling of that damaged roof.
(a) constant (b) impending★
(c) remote (d) favourable

81. She is really a *fantastic* girl.
(a) wonderful★ (b) charming
(c) beautiful (d) intelligent

82. In present day society, money plays the only dominant role in almost all *transactions*.
(a) jobs (b) negotiations★
(c) business (d) proceedings

83. The old man was fond of giving *homilies* whenever we went to him with a problem.
(a) alternatives (b) advice★
(c) suggestions (d) sermon

84. He enjoyed the *salubrious* climate of the place.
(a) cold (b) temperate★
(c) warm (d) healthful

85. The soldier displayed *exceptional* courage and saved the Major from the enemy's hand.
(a) new (b) strange★
(c) abnormal (d) unusual
(e) avoidable

86. The house cannot *accommodate* more people
(a) hold★ (b) allow
(c) hide (d) associate

87. If you want the quality of your writings to improve, then avoid *redundant* words.
(a) unwilling (b) mistaken★
(c) wrong (d) repetitive

88. Catching snakes can be *hazardous* for people untrained in the art.
(a) dangerous★ (b) difficult
(c) harmful (d) tricky

89. In order to tarnish the public image of his opponent, he has got a *mendacious* story planted in the local newspaper.
(a) false★ (b) fabricated
(c) imaginary (d) horrible

90. The sentiments expressed by him in the speech were *odious*.
(a) significant (b) hateful★
(c) admirable (d) common

91. A civilized Raman banquet was a thing of great richness, style and *decorum*.
(a) palace (b) feast★
(c) ornament (d) table

92. The troops were *mobilized* to take control of the tensed valley.
(a) organised into platoons
(b) summoned to headquarters
(c) prepared for active service
(d) collected hurriedly★

93. He listened to her *mellifluous* music under the genial influence of wine.
(a) heavy (b) stressing★
(c) drowsy (d) sympathetic

94. His *lascivious* habits brought him nothing but bad name.
(a) treacherous (b) erotic
(c) lustful★ (d) vicious

95. The fishing boat pulled away from the wharf and chugged smoothly down the *bay*.
(a) harbour (b) share
(c) quay★ (d) anchor

96. The people attending the *carnival* looked gay and happy.
(a) occasion (b) fair
(c) function (d) revelry★

97. The *aberration* in the Pakistani economy can be attributed to short-sightedness of its political masters.
(a) deviation★ (b) steadfastness
(c) privilege (d) procrastination

98. Feeling *drowsy* may be a side effect of too many antibiotics.
(a) dizzy (b) energetic
(c) irritable (d) sluggish★

99. Pakistan has too often to *fulminate* against India's role in aiding and

abetting acts of militancy on her soil.
(a) think (b) consider
(c) conspire (d) protest★

100. Everyone was listening to the news of earthquake with *mounting* anxiety.
(a) interest (b) eagerness
(c) uneasiness★ (d) grief
(e) curiosity

SET 5

1. The accident occurred due to his *lapse*.
(a) haste (b) error★
(c) ignorance (d) carelessness

2. *Courtesy* does not cost one anything.
(a) Gentility (b) Civility★
(c) Amiability (d) Urbanity

3. It was *incumbent* on him to report the matter at once.
(a) pointless (b) depending
(c) pressing★ (d) optional

4. The intruders *strangled* the lady to death.
(a) thrashed (b) forced
(c) compressed (d) throttled★

5. Only my neighbour *succoured* me during my illness.
(a) nourished (b) treated★
(c) aided (d) attended

6. That case is not *amenable* to ordinary rules.
(a) applicable★ (b) interpreted
(c) contradictory (d) dealt with

7. As they whispered, I felt *awkward* in their company.
(a) inconvenient (b) clumsy
(c) ashamed (d) embarrassed★

8. Lost in his own dream he forgot that *vicissitudes* can change the course of man's life.
(a) difficulties
(b)changes of fortune★
(c) impediments
(d) good fortunes

9. He tried to *cajole* her, but it was in vain.
(a) enjoin (b) coax★
(c) rejoice (d) inspire

10. India has been vigorously pursuing a *clandestine* nuclear weapons programme.
(a) nefarious (b) progressive
(c) systematic (d) secretive★

11. Despite his *pompous* style and gestures, the audience failed to evince any interest in his lecture.
(a) display★ (b) hide
(c) develop (d) take

12. I have worked in this organization for five years trying to check the *erosion* of ethical values.
(a) decay (b) corrosion★
(c) misuse (d) expansion

13. When he returned he was accompanied by a *sprightly* young girl.
(a) sportive (b) intelligent
(c) lively★ (d) beautiful

14. The story which Naveed *narrated* was very exciting.
(a) disclosed (b) told★
(c) revealed (d) explained

15. It was *presumptuous* of him to make a remark in the assembly.
(a) ridiculous (b) unthoughtful
(c) self-confident★ (d) ambiguous

16. The earth from here is a grand *oasis* in the vastness of space.
(a) greenland (b) landscape
(c) waterhole★ (d) wetland

17. It is quite *unseemly* that person should so behave with his elders.
(a) childish (b) ugly
(c) discourteous (d) improper★

18. The police need *tangible* proof of his guilt before they can act against him.
(a) convincing (b) strong
(c) emphatic (d) clear and certain★

19. It is a popular *fallacy* that all man-eaters are old and mangy.
(a) observation (b) belief
(c) fact (d) illusion★

20. Her new glasses make her look rather *owlish*.

M.B.D.

(a) foolish (b) solemn★
(c) silly (d) stupid

21. ***Malice*** **is a feeling that we should always avoid.**
(a) Envy (b) Cruelty
(c) Spite★ (d) Hatred

22. **He spent his whole life caught up in *mundane* matters.**
(a) foolish (b) worldly★
(c) inconsequential (d) criminal

23. **He deserved the *accolade* he received.**
(a) comment (b) honour
(c) appreciation★ (d) blame

24. **He was given a *severe* warning for coming late.**
(a) rigorous (b) stern★
(c) harsh (d) strict

25. **The notice said that the meeting would begin *precisely* at 9.00 a.m.**
(a) concisely (b) approximately
(c) exactly★ (d) accurately

26. **All incoming and outgoing mail is *censored* by the Government during the times of war.**
(a) distributed (b) confiscated
(c) checked (d) supervised★

27. **The ascending temperature in many parts of the world confirms global warming which is an environmental *hazard*.**
(a) rising★ (b) falling
(c) shooting (d) mounting

28. **It is risky to go beyond this *barricade*.**
(a) stupid (b) adventurous
(c) hazardous★ (d) inadvisable

29. **He was *sentenced* to four years imprisonment.**
(a) punished★ (b) acquitted
(c) assigned (d) convicted

30. **The art movie I watched this evening has put me in a *pensive* mood.**
(a) cheerful (b) reflective★
(c) confused (d) depressed

31. **He died as an *impecunious* man in a charitable hospital.**
(a) innocent
(b) ignorant
(c) faultless
(d) having no money★

32. **He was punished for *shirking* his official work.**
(a) slowing (b) postponing
(c) avoid★ (d) delegating

33. **The British *levied* unusually high taxes on export of Indian goods.**
(a) implemented (b) stipulated
(c) imposed★ (d) enacted

34. **The one who is rich possesses many *superfluous* things.**
(a) needless★ (b) superior
(c) essential (d) expensive

35. **Many of his acquaintances avoid him because he is so *garrulous*.**
(a) proud (b) unreasonable
(c) talkative★ (d) quarrelsome

36. **He had been living his life according to *set pattern*.**
(a) duties (b) model
(c) conduct (d) behaviour★

37. **Absolute silence *reigned* in the whole necropolis.**
(a) duties (b) responsibilities
(c) restrictions (d) ruled★

38. **Absolute silence reigned in the whole *necropolis*.**
(a) cemetery★ (b) hell
(c)cenotaph (d) churchyard

39. **Her today's story was merely an *exaggeration* of what happened before my eyes.**
(a) overstatement★
(b) reproduction
(c) falsehood
(d)understatement

40. **When kept in water, grapes become *turgid*.**
(a) bloated★ (b) swollen
(c) rotten (d) fomented
(e) fermented

41. **The *facade* of our school building got a face-lift recently.**
(a) basement (b) floor
(c) top (d) front★

42. **The stratospheric ozone layer plays an important protective role for life**

on earth and its disruption is obviously *fraught* with dangerous consequences.
(a) involving★ (b) concerned
(c) followed (d) caused

43. There is not a single word that is *redundant* in the report.
(a) bombastic (b) unimportant
(c) flowery (d) not needed★

44. In the company of smart and crafty fellows, an *innocuous* finds himself out of place.
(a) simpleton★ (b) innocent
(c) honest (d) cunning

45. Being a member of this club, he has certain *rights*.
(a) virtues (b) facilities
(c) gains (d) privileges★

46. How I *envy* the man who can always produce his reading glasses at a moment's notice.
(a) begrudge★ (b) desire
(c) crave (d) covet

47. The *munificence* of the businessman was great.
(a) generosity★ (b) stinginess
(c) misery (d) tactfulness

48. The next day, she *pacified* the teacher explaining her the reason for the previous day's leave.
(a) quiet end★ (b) silenced
(c) pleased (d) flattered

49. He could not suppress his *resentment* against that decision.
(a) excitement (b) irritation
(c) displeasure★ (d) indignation

50. We did not expect such a *judicious* remark from him.
(a) legal (b) shrewd
(c) rational (d) sagacious★

51. He was annoyed at his *flippant* remark.
(a) discourteous★ (b) bitter
(c) humorous (d) casual

52. Some people are extremely *fastidious* in their choice of dress.
(a) pompous (b) fussy★
(c) discriminating (d) careless

53. The magazine was *embellished* with amusing articles.
(a) filled (b) replete
(c) adorned★ (d) sprinkled

54. His views on children and their upbringing are indeed *outlandish*.
(a) realistic (b) funny
(c) strange★ (d) offensive

55. Saleem neglected to *remit* the fees in time and therefore had to pay a fine.
(a) exempted (b) refused
(c) failed★ (d) promised
(e) obstructed

56. His *credulous* nature often landed him in trouble.
(a) dreamy (b) naughty
(c) innocent (d) willing to believe easily★

57. `To be or not to be' was the *dilemma* of Hamlet.
(a) question (b) obsession
(c) problem (d) helplessness
(e) confusion★

58. You should have watched that *glint* in her eyes when speaking of her husband.
(a) disgust (b) sparkle★
(c) anger (d) sadness

59. War always has a *baneful* effect on the people of a nation.
(a) unpleasant (b) foul
(c) pernicious★ (d) harmful

60. People refuse to pay *obeisance* to people whom they do not accept as their leaders.
(a) attention (b) respect
(c) obedience★ (d) command

61. His endeavours proved *fruitful*.
(a) justified (b)futile
(c) efficient (d) productive. ★

62. The newly found drug on the epidemic was not at all *deleterious*.
(a) effective (b) intoxicating
(c) noxious★ (d) successful

63. The boy was chided for his *impertinence*.
(a) praised (b) beaten★
(c) applauded (d) rebuked

64. People of different *persuasions* have met on the game platform.

(a) personalities (b) tastes
(c) qualifications (d) convictions★

65. The problem is *tedious* to tackle.
(a) easy (b) difficult
(c) tiring (d) troublesome★

66. We were *touched* by the honesty of the beggar.
(a) impressed★ (b) moved
(c) surprised (d) horrified

67. The time I spent in the library was the most *rewarding* one.
(a) precious (b) serviceable
(c) profitable★ (d) paying

68. The food we had to eat was *incompatible* to our needs.
(a) harmonizing (b) according
(c) corresponding (d) unsuitable★

69. The kingdom suffered a constant threat from certain *predatory tribes*.
(a) wild (b) violent
(c) rebellious (d) plundering★

70. He decided to *accost* a big financier for his new scheme.
(a) employ (b) consult
(c) hire (d) deceive
(e) approach★

71. They tolerated him though they dished his *craven* behaviour
(a) silly (b) cowardly★
(c) indecent (d) mean

72. For quick promotion, he hit on a plan to *propitiate* the Manager.
(a) evict (b) incite
(c) praise (d) conciliate★

73. The *antidote* to these problems is hard to find.
(a) remedy for★ (b)consequence of
(c) cause for (d) result of

74. Poets and writers are *sensuous* by nature.
(a) sensible (b) sentimental★
(c) sensual (d) sensitive

75. I am quite *content* to stay here.
(a) eager (b) happy★
(c) frightened (d) determined

76. The petals of the flowers are usually *conspicuous* to attract birds for pollination.
(a) prominent★
(b) beautifully shaped
(c) colourful
(d) scented

77. The man *vehemently* denied all the charges of corruption that were leveled against him.
(a) devoutly (b) hysterically
(c) forcefully★ (d) serenely

78. The artists worked with tremendous *felicity* in expressive poetic language.
(a) zeal (b) excitement
(c) happiness★ (d) expertise

79. Those who man government *run* shops also have their palm greased.
(a) control (b) operate★
(c) administer (d) rule

80. The cyclone had blown some of the cars on to *funny* places.
(a) humorous (b) cranky
(c) irregular (d) odd★
(e) unconventional

81. Despite a full one hour meeting, they could not arrive at any *consensus*.
(a) settlement (b) unity
(c) harmony (d) agreement ★
(e) consent

82. During his meeting with the owners of the company he made a number of *overtures*.
(a) observations (b) offers★
(c) agreements (d) promises

83. You cannot befool your mother by these *pretences*.
(a) accusations (b) excuses★
(c) statements (d) promises

84. The eyewitness testimony was *incontrovertible*.
(a) unquestionable★ (b) disputable
(c) unacceptable (d) debatable

85. I realised they wanted to be alone together, so I felt very *awkward*.
(a) ashamed (b) inconvenient
(c) embarrassed★ (d) clumsy

86. He was punished to rigorous imprisonment for *larceny*.
(a) murder (b)forgery
(c) stealing★ (d) dacoity

87. The drugs were *innocuous* and had no side effect.

(a) effective (b) harmless★
(c) imported (d) newly discovered

88. He is being treated for his *somnolence*.
(a) weakness
(b) severe pain in the joints
(c) intoxication
(d) sleepiness★

89. The pupil was asked to *rectify* the mistake.
(a) correct★ (b) condone
(c) clarify (d) repeat

90. I used to skate quite well but I have lost the *knack* now.
(a) agility (b) strength
(c) skill★ (d) stamina

91. The *criterion* of judgement would be fixed soon.
(a) result (b) decision
(c) standard★ (d) consideration
(e) approach

92. He did not hesitate to *pester* the sleeping mother when he wanted money.
(a) shake (b) wake
(c) trouble (d) disturb★
(e) annoy

93. Inspite of their efforts, the team of scientists could not make much *headway* to solve the problem.
(a) results (b) start
(c) efforts (d) progress★
(e) thinking

94. The speech he made on the occasion was quite *exhilarating*.
(a) irrelevant (b) boring
(c) lively★ (d) learned

95. After that tiresome long journey, he felt *drowsy*
(a) sluggish★ (b) irritable
(c) energetic (d) dizzy

96. The *terminus* of his progress would be reached when he accomplishes that honour.
(a) beginning (b) highest stage
(c) last point★ (d) result

97. Several *ancillary* units were patronized by that large store.
(a) small (b) temporary
(c) standing (d) subordinate★

98. I don't see why he should be so *obsequious* to his brother just because the latter is rich.
(a) unusually kind (b) unfriendly
(c) excessively respectful★ (d) offensive

99. An issue of the highest sensitivity, which required the greatest *finesse* and delicacy, was handled in the most slapdash manner.
(a) carefulness (b) attention
(c) tact★ (d) action

100. Corruption *stalks* every sphere of national life.
(a) pervades★ (b) penetrates
(c) pollutes (d) poisons

SET 5

1. Speaking in a *tremulous* tone, he took everybody to task.
(a) confident (b) angry
(c) feeble (d) trembling★

2. His *judicious* handling of the matter saved the situation from going out of control.
(a) sensible (b) nerve us
(c) cautious★ (d) helpful

3. The prince fell in love with a *comely* young maiden.
(a) elegant (b) homely
(c) pretty★ (d) delightful

4. The bedroom is at the *rear* side of this house.
(a) front (b) back★
(c) upper (d) different

5. The boy was *incorrigible* and a constant source of trouble to his mother.
(a) truant
(b) bad beyond correction★
(c) rash
(d) dishonest

6. He has written an *erudite* commentary on the Quran.
(a) scholarly★ (b) inspiring
(c) effective (d) perfect

7. **The river level was rising *drastically* after that heavy rain.**
(a) slightly (b) suddenly
(c) greatly★ (d) unexpectedly

8. **It was very *perspicacious* of the judicial investigation officer to find the cause of the problem so quickly.**
(a) discerning★ (b) mysterious
(c) clever (d) quick

9. **The parade *route* was down the main boulevard**
(a) alley (b) highway
(c) avenue★ (d) driveway

10. **He gave me a *detailed* account of the meeting.**
(a) report★ (b) summary
(c) explanation (d) précis

11. **The only way to *subvert* the money power and let truth triumph is by enhancing the perks or income of the individuals.**
(a) reduce (b) abolish
(c) overthrow★ (d) subdue

12. **A *conscientious* worker is always admired by his employers.**
(a) obedient (b) sincere★
(c) skillful (d) careful

13. **The employee was *ousted* from the office.**
(a) pushed (b) dismissed
(c) forced (d) expelled★

14. **A factory manufacturing *illicit* liquor was unearthed by the police yesterday.**
(a) poisonous (b) unlawful★
(c) intoxicating (d) cheap

15. **A pervading sense of *ennui*.**
(a) anger (b) anxiety
(c) weariness★ (d) melancholy

16. **The demand for an *autonomous* state is responsible for insurgence of terrorism**
(a) separate (b) independent
(c) secluded (d) self-governed★

17. **He could not suppress his *resentment* against that decision.**
(a) indignation (b) irritation
(c) displeasure★ (d) excitement

18. **It is so *gratifying* to know that there are not many small-pox cases these days.**
(a) pleasing★ (b) surprising
(c) satisfying (d) happy

19. **Without science and the scientific spirit, we shall just *drift* along.**
(a) move gently
(b) move aimlessly★
(c) move cautiously
(d) live peacefully

20. **He was given to *fanaticism* in his political beliefs.**
(a) limitations
(b) unreasoning enthusiasm★
(c) falsehood
(d) having no grounds

31. **No civilised society can allow the *subversion* of its institutions by extremists.**
(a) domination (b) subservience
(c) destruction★ (d) subordination
(e) absorption

32. **It is the Prime Minister's *prerogative* to appoint or dismiss a Minister.**
(a) function (b) monopoly
(c) authority (d) privilege★

33. **He cast a *cursory* glance over the papers before signing them.**
(a) short (b) eager
(c) inquisitive (d) hurried★

34. **He had to *curtail* his leave as a lot of work was pending in his office.**
(a) cancel (b) extend
(c) shorten★ (d) postpone

35. **In the absence of the Grief Guest, the host himself acted as his *surrogate* and presided over the function.**
(a) counterpart (b) alliance
(c) assistant (d) substitute★

36. **The incident *affected* him so much that he could not forget it for several days.**
(a) upset (b) changed
(c) influenced★ (d) controlled

37. **The traditional methods of doing things have now become *obsolescent***

(a) harmful (b) out of date ★
(c) unrewarding (d) all unpopular

38. **This was his *maiden* performance on the stage and he did very well.**
(a) primary (b) first★
(c) opening (d) girlish

39. **It is the *inherent* quality of matter to expand on being heated.**
(a) eternal (b) hidden
(c) internal (d) natural★

40. **The isolated and dilapidated palace has become a *rendezvous* for the unsocial elements.**
(a) resort
(b) hiding place
(c) public place
(d) meeting place★

41. **The poem is written in a very *lucid* style.**
(a) intricate (b) noble
(c) elaborate (d) clear★

42. **It goes against my *grain* to be running around the courts for justice.**
(a) character (b) nature★
(c) training (d) personality

43. **The man lived in a *dilapidated* house made of mud and bricks.**
(a) crumbling★ (b) old
(c) thatched (d) crashing

44. **Whatever opinion he gives is *sane*.**
(a) arrogant (b) wild
(c) obscure (d) rational★

45. **The workers struck work asking for *interim* relief.**
(a) immediate (b) extra
(c) urgent (d) provisional★

46. **He is *urbane* in his manners.**
(a) urban (b) genteel
(c) civil★ (d) sane

47. **He has won great admiration amongst his students because of his *verdant* outlook.**
(a) wide (b) optimistic
(c) fresh★ (d) logical

48. **The great dancer impressed the appreciative crowd by his *nimble* movements.**
(a) subtle (b) clear
(c) quickening★ (d) lively
(e) unrythmic

49. **Wisdom seems to have got lost in a *welter* of knowledge.**
(a) confusion★ (b) height
(c) clarity (d) sacrifice

50. **The story began in an *eerie* situation.**
(a) dangerous (b) thrilling
(c) wonderful (d) strange★
(e) dismaying

51. **He was a *vulpine* person and so avoided by his neighbours.**
(a) indolent (b) miserly
(c) haughty (d) crafty★

52. **The prisoner made an *abortive* attempt to escape from the jail.**
(a) courageous (b) futile★
(c) illegal (d) furtive

53. **A *reliable* friend is the gift of God.**
(a) helpful (b) dependable★
(c) honest (d) true

54. **War was not the only *inevitable* means to decide that dispute.**
(a) indefinite (b) imminent
(c) unavoidable★ (d) improbable

55. **The tinned food that we bought in the way was all *tainted* and spoiled.**
(a) contaminated ★ (b) rotten
(c) adulterated (d) noxious

56. **We must not take his *facetious* remarks very seriously.**
(a) amusing
(b) critical
(c) casual
(d) flippantly humorous★

57. **My uncle was so *chagrined* that he avoided mentioning the incident.**
(a) frustrated (b) annoyed
(c) disappointed★ (d) tired

58. **He was *ingenious* enough to know how to get out of the clutches of law.**
(a) clever★ (b) intelligent
(c) alert (d) cunning

59. **The recent acts of *vandalism* in the country cannot be ignored.**
(a) disturbance (b) ravage
(c) provocation (d) violence★

60. Bearing to the complaints of the villagers, the father would come and box his ears, and *cuff* him.
(a) lock (b) abuse
(c) scold (d) slap★

61. Everyone in the bazaar turned to stare at the visitor and his *preposterous* dress.
(a) pompous (b) vague
(c) absurd★ (d) strange

62. Sohaib had got an *indication* from his friend about the changes in the export market.
(a) a feeling (b) a hint★
(c) a guess (d) a signal
(e) an ultimatum

63. Those who acquire quick money are impatient to *flaunt* their wealth and material possessions.
(a) waste (b) squander
(c) hide (d) show off★

64. India's attitude towards China has all along been *pusillanimous*.
(a) generous (b) cowardly★
(c) subversive (d) restrained

65. Parents should *cultivate* in their children the habit of helping others.
(a) propagate (b) sprout
(c) create (d) foster★

66. A person unrestrained by the rules, of morality or tradition is called a *licentious* person.
(a) freelance (b) criminal
(c) loafer-type (d) libertine★

67. The Principal's advice will prove *salutary* for the students.
(a) encouraging (b) remarkable
(c) beneficial★ (d) harmful

68. The child *merits* serious attention at this age.
(a) demands (b) deserves★
(c) suits (d) invites

69. His *sententious* reply impressed the visitor.
(a) sharp (b) quick
(c) insipid (d) meaningful★

70. She looked *gorgeous* in her new dress.
(a) great (b) fantastic
(c) silly (d) splendid★

71. Scientific knowledge is an intoxicating *draught*, and it may be one in which the human race is unable to sustain.
(a) drink★ (b) product
(c) disease (d) process

72. He is *deluding* himself with false hopes.
(a) satisfying (b) entertaining
(c) misleading★ (d) assuring

73. There has been considerable *furore* both within Parliament and without about the proposed hike in telecommunication tariff:
(a) opposition (b) criticism
(c) uproar★ (d) disagreement

74. The obstacles seem to be *insurmountable*, but no one should doubt what this fearless woman can accomplish.
(a) too easy to achieve
(b) too difficult to overcome★
(c) too tall and too high
(d) too trivial to attract attention

75. Article 26 of the *Constitution* is in fact a corollary to Article 25.
(a) proof (b) summary
(c) synopsis (d) deduction★

76. *Plants* that grow and exist in deserts have highly specialized means of adapting themselves to the arid environment.
(a) unproductive (b) useless
(c) withering (d) dry★

77. The king's palace was really a *magnificent* one.
(a) popular (b) splendid★
(c) decorative (d) dhumhated

78. He finds it difficult *to rear* his family with the present income.
(a) support★ (b) live
(c) a control (d) supply
(e) entertain

79. The *agility* of the body of the athlete was very much appreciated by the spectators.

(a) briskness★ (b) suppleness
(c) alertness (d) sprightliness

80. Babur's *memoirs* are contained in `Tuzuk-i-Bahuri'.
(a) life★ (b) speech
(c) memory (d) events

81. He is in the habit of *thriving* on others' money.
(a) reviving (b) surviving
(c) prospering★ (d) gntertaitang

82. All the characters in the towel are *fictitious*.
(a) unreliable (b) unbelievable
(c) unreal (d) imaginative★

83. He has travelled all over the continent by *hitchhiking* most of the time.
(a) flying from city to city
(b) driving his own car
(c) working at different places
(d) getting free rides on request★

84. After the *acrimonious* debate in the Assembly, some members walked out.
(a) bitter★ (b) lively
(c) disgusting (d) short

85. A stray dog kept *whimpering* all night.
(a) barking (b) crying
(c) whining★ (d) sobbing

86. Our talks with the foreign delegation were really *productive*.
(a) growing (b) efficient
(c) fruitful★ (d) lengthy

87. 'Miss Margaret is a *genteel* lady.
(a) well-bred★ (b) delicate
(c) attractive (d) beautiful

88. ISI marked goods are always *pure*.
(a) clear (b) fresh
(c) unmixed★ (d) clean

89. I don't mean to be *flippant* but there is no nice way to kill somebody in a war.
(a) frivolous★ (b) mean
(c) desperate (d) naughty

90. The arguments of the lawyer of the accused were so *persuasive* that the judge acquitted him.
(a) clever (b) logical
(c) eloquent (d)convincing★

91. He had a strange *quirk* of hitting his sister every now and then.
(a) fondness (b) aversion
(c) habit★ (d) diversion

92. I found myself *befooled* in that situation.
(a) panicky (b) puzzled★
(c) surprised (d) happy

93. He *declined* to speak about the problem when I asked him.
(a) agreed (b) promised
(c) refused★ (d) permitted

94. The arguments of the lawyer of the accused were so *persuasive* that the judge acquitted him.
(a) convincing★ (b) clever
(c) eloquent (d) logical

95. The appointments were made quite *judiciously*.
(a) legally (b) reasonably
(c) lawfully (d) justifiably
(e) impartially★

96. Nowadays, pollution is *rampant* in all major urban centres.
(a) fashionable (b) chronic
(c) deep-rooted (d) excessive★

97. That young man is quite *sanguine* about the result of his competitive examination.
(a) optimistic (b) anxious
(c) depressed★ (d) pessimistic

98. One could see the magnitude of tragedy in the *limpid* eyes of the earthquake victims.
(a) ugly (b) crying
(c) wet (d) translucent★

99. The *affluence* of most visiting Arabs is astonishing.
(a) ostentation★ (b) wealth
(c) influence (d) endeavour

100. He has *implicated* them in the conspiracy.
(a) interested (b) involved
(c) affected (d) influenced★

ANTONYMS

Directions: In each of the following questions, choose the word opposite in meaning to the given word

SET 1

1. **RUGGED**
   (a) Delicate ★ (b) Coarse
   (c) Tough (d) Timid
2. **EDIFICATION**
   (a) Lamentation (b) Annotation
   (c) Corruption★ (d) Segregation
3. **INNOCENT**
   (a) Sinful (b) Guilty★
   (c) Deadly (d) Corruption
4. **PACIFY**
   (a) Quarrel ★ (b) Challenge
   (c) Threaten (d) Darken
5. **FURTIVE**
   (a) Straight (b) Obvious
   (c) Unambiguous (d) Open★
6. **SECULAR**
   (a) Righteous (b) Religious★
   (c) Spiritual (d) Moral
7. **DEAR**
   (a) Cheap ★ (b) Worthless
   (c) Free (d) Priceless
8. **ASCETICISM**
   (a) Bliss (b) Pleasure★
   (c) Joy (a) Trance
9. **PREDILECTION**
   (a) Denial (b) Concealment
   (c) Aversion★ (d) Attraction
10. **APPOSITE**
    (a) Inappropriate★ (b) Intemperate
    (c) Inconsistent (d) Irregular
11. **CONCEAL**
    (a) Unfold (b) Reveal★
    (c) Open (d) Discover
12. **EXTENSION**
    (a) Condensation★ (b) Subtraction
    (c) Deletion (d) Weakening
    (e) Diminution
13. **KILL**
    (a) Azure (b) Relief
    (c) Execute (d) Animate★
14. **SELDOM**
    (a) Rarely (b) Daily
    (c) Often★ (d) Never
15. **PERTINENT**
    (a) Indifferent (b) Detached
    (c) Determined (d) Irrelevant★
16. **AMALGAMATE**
    (a) Generate (b) Repair
    (c) Materialise (d) Separate★
17. **GUILTY**
    (a) Innocent★ (b) Pure
    (c) Virtuous (d) Argelic
18. **DREARY**
    (a) Plenty (b) Monotonous
    (c) Unhappy (d) Cheerful★
19. **BESEECH**
    (a) Bully (b) Solicit
    (c) Demand★ (d) Dismiss
20. **SEETHE**
    (a) Plumb (b) Cool★
    (c) Freeze (d) Chill
21. **HUMBLE**
    (a) Dominant (b) Proua★
    (c) Despotic (d) Pompous
22. **EXECRABLE**
    (a) Importable (b) Acceptable
    (c) Desirable★ (d) Irritable
23. **STRIDENT**
    (a) Stable (b) Pleasant★
    (c) Musical (d) Melodious
24. **REAR**
    (a) Front★ (b) Foreground
    (c) Forehead (d) Forward
25. **BATTY**
    (a) Prudent (b) Sane★
    (c) Cunning (d) Cautious
26. **MILITANT**
    (a) Religious (b) Combative
    (c) Spiritual (d) Pacifist★
27. **PACIFY**
    (a) Insult (b) Injure
    (c) Offend★ (d) Aggravate

28. SUBLIME
(a) Strange (b) Low
(c) Ridiculous★ (d) Mean

29. GRADUALLY
(a) Hastily (b) Suddenly★
(c) Thoughtlessly (d) Impulsively

30. SAGE
(a) Rogue (b) Fool★
(c) Egoist (d) Snob

31. ACCLAMATION
(a) Denunciation★ (b) Suppression
(c) Termination (d) Applause

32. AMBIGUOUS
(a) Obscure (b) Secular
(c) Explicit★ (d) Equivocate

33. ANTIPATHY
(a) Obedience (b) Admiration★
(c) Agreement (d) Fondness

34. BLISS
(a) Paradise (b) Heaven
(c) Misery★ (d) Happiness

35. EUPHONIOUS
(a) Strident★ (b) Lethargic
(c) Literary (d) Musical

36. EXTERIOR
(a) Internal (b) Inner
(c) Interior★ (d) Inward

37. IMPOUND
(a) Release★ (b) Strengthen
(c) Generate (d) Stimulate

38. COMPACT
(a) Shattered (b) Enlarged★
(c) Spread (d) Diffused

39. HOST
(a) Accomplice (b) Enlarged
(c) Spread (d) Diffused★

40. VIGOUR
(a) Failure (b) Negligence
(c) Frailty★ (d) Health

41. UNREALISTIC
(a) Natural (b) Visionary
(c) Reasonable★ (d) Actual

42. DEPRAVED
(a) Great (b) Enhanced
(c) Moral★ (d) Prosperous

43. METICULOUS
(a) Slovenly★ (b) Meretricious
(c) Shaggy (d) Mutual

44. AMICABLE
(a) Cunning (b) Shy
(c) Hostile★ (d) Crazy

45. CLARITY
(a) Exaggeration (b) Adour
(c) Confusion★ (d) Reserve

46. OPULENT
(a) Wealthy (b) Poor★
(c) Sumptuous (d) Drooping

47. SANCTIFY
(a) Dedicate (b) Patronise
(c) Venerate (d) Pollute★

48. CHALLENGE
(a) Admire (b) Accept★
(c) Favour (d) Praise

49. TEDIOUS
(a) Pleasant (b) Lovely
(c) Lively★ (d) Gay

50. COMMEND
(a) Censure★ (b) Condemn
(c) Defy (d) Defame

51. SUPERFICIAL
(a) Artificial (b) Deep★
(c) Shallow (d) Real

52. EFFETE
(a) Adamant (b) Strong★
(c) Courageous (d) Bold

53. COMMEND
(a) Suspend (b) Admonish
(c) Hate (d) Dislike★

54. SERENE
(a) Jovial (b) Moving
(c) Agitated★ (d) Nervous

55. ANTIPATHY
(a) Fondness ★ (b) Obedience
(c) Agreement (d) Admiration

56. DAUNTLESS
(a) Cautious (b) Thoughtful
(c) Weak (d) Adventurous★

57. CHAFFING
(a) Expensive (b) Achieving
(c) Capitalistic (d) Serious★

58. TRAGIC
(a) Funny (b) Comic★
(c) Light (d) Humorous

59. EXODUS
(a) Restoration (b) Return
(c) Home-coming (d) Influx★

60. PREVENT
(a) Excite (b) Support★
(c) Invite (d) Incite

71. EXONERATE
(a) Compel (b) Accuse★
(c) Imprison (d) Boldness

72. LIBERALISM
(a) Humanism (b) Dynamism
(c) Sectarianism (d)Totalitarianism★

73. MISERLY
(a) Generous ★ (b) Liberal
(c) Spend thrift (d) Charitable

74. WONDER
(a) Stock (b) Amusement
(c) Expectation ★ (d) Surprise

75. MALICE
(a) Honour (b) Ecstasy
(c) Goodwill★ (d) Happiness

76. DENSITY
(a) Brightness (b) Clarity
(c) Intelligence (d) Rarity★

77. COMMODIOUS
(a) Limited★ (b) Expensive
(c) Numerous (d) Leisurely

78. APPOINTMENT
(a) Disappointment (b) Suspension
(c) Dismissal★ (d) Discharge

79. CONTENTED
(a) Rash (b)Narrow-minded
(c) Gloomy (d) Disappointed★

80. MAMMOTH
(a) Dull (b) Weak
(c) Tiny★ (d) Bright

81. INDOLENT
(a) Desirable (b) Adequate
(c) Energetic★ (d) Consistent

82. COSSET
(a) Neglect★ (b) Divert
(c) Pamper (d) Pinch

83. DOLEFUL
(a) Poor (b) Happy★
(c) Rich (d) Steady

84. MORTAL
(a) Eternal (b) Spiritual
(c) Immortal★ (d) Divine

85. MASTICATE
(a) Gobble★ (b) Conceal
(c) Chew (d) Review

86. UNDERHAND
(a) Cruel (b) Quiet
(c) Secret (d) Open★

87. NEAT
(a) Sloppy ★ (b) Fragrant
(c) Spruce (d) Prodigal

88. TERSE
(a) Concise (b) Detailed★
(c) Expressive (d) Descriptive

89. ILLUSTRIOUS
(a) Uneducated (b) Uncivilised
(c) Unintelligent (d) Unknown★

90. PASTEL
(a) Urban (b) Delicate
(c) Bright★ (d) Sweet

91. LETHAL
(a) Safe★ (b) Playful
(c) Virulent (d) Forgiving

92. ENCOURAGE
(a) Warn (b) Discourage★
(c) Dampen (d) Disapprove

93. INNOCENCE
(a) Crime (b) Mischief
(c) Guilt★ (d) Sin

94. DIABOLIC
(a) Patient (b) Generous
(c) Kind★ (d) Simple

95. FRUGAL
(a) Gaudy (b) Generous
(c) Extravagant★ (d) Charitable

96. JUSTIFY
(a) Accuse★ (b) Infuriate
(c) Absolve (d) Vindicate

97. ERRATIC
(a) Reliable★ (b) Right
(c) Punctual (d) Free

98. CRITICISE
(a) Judge (b) Appreciate★
(c) Flatter (d) Analyse

99. MONOLOGUE
(a) Dialogue★ (b) Prologue
(c) Epilogue (d) Catalogue

100. CATHOLIC
(a) Rigid (b) Orthodox
(c) Strict (d)Narrow-minded★

SET 2

1. **CHIDE**
(a) Praise★ (b) Fear
(c) Criticise (d) Flatter

2. **UNCOUTH**
(a) Crude (b) Awkward
(c) Courteous★ (d) Refined

3. **BLEMISH**
(a) Preserve (b) Purify★
(c) Defect (d) Tarnish

4. **RELIGIOUS**
(a) Atheistic (b) Immoral
(c) Secular★ (d) Sinful

5. **REPRISAL**
(a) Relief (b) Forgiveness★
(c) Exemption (d) Relaxation

6. **DISCREPANCY**
(a) Variance (b)Inappropriate
(c) Consistency★ (d) Inconsistency

7. **FRIEND**
(a) Rival (b) Acquaintance
(c) Foe★ (d) Competitor

8. **DIVERGE**
(a) Repulse (b) Converge★
(c) Resurge (d) Constrict

9. **ALLURE**
(a) Repulse★ (b) Develop
(c) Entice (d) Decoy

10. **CRASS**
(a) Gross (b) Refined★
(c) Coarse (d) Dense

11. **CULPABLE**
(a) Irresponsible (b) Careless
(c) Blameless (d) Defendable★

12. **VENERATE**
(a) Accuse (b) Defame★
(c) Criticise (d) Abuse

13. **DENOUNCE**
(a) Defend ★ (b) Gather
(c) Fight (d) Rally

14. **HESITATE**
(a) Proud (b) Confident
(c) Certain★ (d) Reluctant

15. **TACIT**
(a) Order (b) Written★
(c) Oral (d) Understanding

16. **DOUR**
(a) Radical (b) Active
(c) Young (d) Cheerful★

17. **WRATH**
(a) Solace (b) Peace
(c) Delight★ (d) Choler

18. **VITAL**
(a) Peripheral (b) Dean
(c) Unimportant★ (d) Outer

19. **COVERT**
(a) Clandestine (b) Open★
(c) Virtuous (d) Wide

20. **VILIFY**
(a) Commend★ (b) Pray
(c) Admonish (d) Worship

21. **SUBJUGATE**
(a) Enrich (b) Liberate★
(c) Enslave (d) Free

22. **DEBONAIR**
(a) Worried (b) Pensive
(c) Grim (d) Serious★

23. **CONCEALMENT**
(a) Identification (b) Broaenens
(c) Evidence (d) Indication★

24. **IMMERSE**
(a) Disinter ★ (b) Douse
(c) Engross (d) Disappear

25. **ARROGANT**
(a) Proud (b) Meek★
(c) Insolent (d) Rude

26. **ASTUTE**
(a) Cowardly (b) Foolish★
(c) Wicked (d) Impolite

27. **PANIC**
(a) Alarm (b) Indifference
(c) Serenity★ (d) Cautiousness

28. **LEGATO**
(a) Uneven ★ (b) Brief
(c) Silent (d) Smooth

29. **CO-OPERATION**
(a) Rebellion (b) Resistance
(c) Hindrance (d) Opposition★

30. **BRILLIANT**
(a) Dusty (b) Dull★
(c) Dumb (d) Dud

31. **TENTATIVE**
(a) Immediate (b) Urgent
(c) Developed (d) Final★

32. PARALLEL
(a) Divergent ★ (b) Curved
(c) Random (d) Wavy

33. STUBBORN
(a) Willing (b) Consenting
(c) Pliable★ (d) Easy

34. NOVEL
(a) Formal (b) Ancient
(c) Customary (d) Traditional★

35. LIABILITY
(a) Treasure (b) Debt
(c) Assets★ (d) Property

36. MANAGE
(a) Direct (b) Avail
(c) Bungle★ (d) Wild

37. ILLUSORY
(a) Deceptive (b) Real★
(c) Imaginary (d) Certain

38. ARID
(a) Plentiful (b) Productive
(c) Humid★ (d) Agreeable

39. DISPERSE
(a) Collect (b) Assemble★
(c) Hoard (d) Save

40. IMPULSIVE
(a) Cautious ★ (b) Considerate
(c) Clever (d) Cunning

41. AUSPICIOUS
(a) Spicy (b)Unfavourable★
(c) Conspicuous (d) Condemnatory

42. ENGULFED
(a) Encircled (b) Groped
(c) Disfigured (d) Detached★

43. CONVEX
(a) Flat (b) Protuberant
(c) Full (d) Indented★

44. LUXURIANT
(a) Barren★ (b) Small
(c) Ghastly (d) Decaying

45. GLIB
(a) Unwilling Hesitant★
(c) Dumb (d) Modest

46. ZEST
(a) Restive (b) Callous
(c) Indifference (d) Distate★

47. BAROQUE
(a) Direct (b) Straight
(c) Plain★ (d) Strong

48. REPEL
(a) Attract★ (b) Concentrate
(c) Attend (d) Continue

49. CAPRICIOUS
(a) Satisfied (b) Scattered
(c) Steadfast★ (d) Insured

50. FACTITIOUS
(a) Ridiculous (b) Genuine★
(c) Engineered (d) Magnificent

51. SAGACIOUS
(a) Casual (b) Cunning
(c) Foolish★ (d) False

52. EPILOGUE
(a) Conversation (b) Dialogue
(c) Dramatic (d) Prologue★

53. PERSUASIVE
(a) Demoralizing (b) False
(c) Discouraging (d)Unconvincing★

54. BANISH
(a) Abandon (b) Harbour★
(c) Intrude (d) Drop

55. REWARD
(a) Demotion (b) Forfeiture
(c) Penalty★ (d) retribution

56. REJECT
(a) Agree (b) Accept★
(c) Embrace (d) Adopt

57. FOSTER
(a) Repress ★ (b) Curb
(c) Check (d) control

58. WITHIN
(a) Without (b) Past
(c) Over (d) Beyond★

59. BRAZEN
(a) Respectful★ (b) Innocent
(c) Delicious (d) Helpful

60. ADVERSITY
(a) Diversity (b) Affliction
(c) Prosperity★ (d) Catastrophe

61. PALTRY
(a) Strong (b) Worthwhile★
(c) Mean (d) Bitter

62. DORSAL
(a) Inactive (b) Ventral
(c) Peripheral★ (d) Central

63. VAGUE
(a) Known (b) Published
(c) Popular (d) Definite★

64. SUPERVISE
(a) Overlook (b) Misdirect★
(c) Neglect (d) Forget

65. MAGNANIMOUS
(a) Selfish★ (b) Naive
(c) Generous (d) Small

66. CULMINATE
(a) Frustrate (b) Fail
(c) Abort★ (d) Defeat

67. AMENABLE
(a) Stubborn★ (b) Docile
(c) Obedient (d) Offensive

68. ACQUIT
(a) Confirm (b) Blame
(c) Punish (d) Indict★

69. FORBIDDEN
(a) Allowed★ (b) Prohibited
(c) Agreed (d) Foresaken

70. DISSIPATE
(a) Sustain (b) Conserve★
(c) Preserve (d) Maintain

71. EDACIOUS
(a) Smart (b) Gluttonous
(c) Fasting★ (d) Even

72. MORBID
(a) Healthy★ (b) Clever
(c) Upright (d) Sickly

73. ADVANCE
(a) Retreat★ (b) Restrain
(c) Withhold (d) Defend

74. CONSIDERATE
(a) Harsh (b) Infuriated
(c) Opposed (d) Indifferent★

75. ALIEN
(a) Resident (b) Natural
(c) Domiciled (d) Native★

76. HAGGARD
(a) Healthy (b) Animated★
(c) Robust (d) Hearty

77. NUGATORY
(a) Voluptuous (b) Slender
(c) Valuable★ (d) Worthless

78. BOISTEROUS
(a) Calm★ (b) Comfortable
(c) Good (d) Happy

79. EVIDENT
(a) Suspected (b) Disagreed
(c) Doubtful★ (d) Unimportant

80. DESTROY
(a) Invent (b) Make
(c) Produce (d) Create★

81. ESTABLISH
(a) Disrupt (b) Uproot★
(c) Corrode (d) Negate

82. ACCELERATE
(a) Creep (b) Drag
(c) Lag (b) Move slowly★

83. COARSE
(a) Beautiful (b) Soft
(c) Fine★ (d) Attractive

84. DEFIANCE
(a) Dismay (b) Suspicion
(c) Obedience★ (d) Anxiety

85. EVOLVING
(a) Retreating (b) Stifling
(c) Stagnating★ (d) Suffering

86. OVERWEENING
(a) Humble ★ (b) Sedate
(c) Miserly (d) Clever

87. PRESUMPTION
(a) Resumption★ (b) Porosities
(c) Humility (d) Assumption

88. REDOLENT
(a) Stinking ★ (b) Sickly
(c) Yellowish (d) Gloomy

89. KOOK
(a) Illiterate (b) Sane★
(c) Peculiar (d) Foolish

90. CALLOUS
(a) Confident (b) Sentimental
(c) Sensitive★ (d) Capable

91. The General Manager is quite *tactful* and handles the workers union very effectively.
(a) relaxed (b) strict
(c) naive★ (d) disciplined
(e) loose

92. *Repression* in Kashmir has deepened during the past few months.
(a) Regeneration (b) Liberation★
(c) Agitation (d) Expression

93. Zohaib is a *deceitful* man and cannot be relied upon.
(a) honest (b) sincere★
(c) gentle (d) simple

94. We should not *belittle* the value o small things.

(a) expand (b) inflate
(c) praise (d) extol★

95. **My parents were *confident* of my success in the examination.**
(a) worried (b) pessimistic
(c) diffident★ (d) depressed

96. **Sohaib is a *shrewd* person.**
(a) boisterous (b) aggressive
(c) foolish★ (d) intelligent

97. **Nothing has been organised properly and confusion seems *inevitable***
(a) uncertain (b) ineligible
(c) inevident★ (d) inefficient

98. **He *denied* the accusation.**
(a) justified (b) spoke
(c) publicised (d) affirmed★

99. **Everyone could see that it was a *prejudiced* decision.**
(a) unbiased★ (b) candid
(c) helpful (d) logical

100. **I think this would be a *quixotic* project for me.**
(a) wasteful (b) profitable
(c) fantastic (d) practical★

SET 3

1. **The geologists declared that the fossil was *authentic*.**
(a) old (b) fake★
(c) new (d) beautiful

2. **He found it hard to *withstand* the stress of circumstances.**
(a) endure (b) resist
(c) tolerate (d) yield★

3. **Never adopt a *callous* attitude towards your duties.**
(a) cooperative (b) cautious
(c) considerate★ (d) courteous

4. **He *frequently* visits his old uncle in his native village.**
(a) temporarily (b) rarely★
(c) irregularly (d) secretly

5. **Hearing the news, he jumped up in *ecstasy*.**
(a) misery★ (b) beatitude
(c) exaltation (d) rapture

6. **Such comparisons in poetry are now *obsolete*.**
(a) permanent (5) ancient
(c) renovated (d) recent★

7. **Only an *inquisitive* person can gain proper knowledge.**
(a) careless (b) indolent
(c) dull (d) uninterested★

8. **In the interest of one's own reputation one should avoid *ostentation* while entertaining friends.**
(a) innocence (b) purity
(c) simplicity★ (d) miserliness

9. **Pakistan is a land of *abundant* resources.**
(a) enough (b) poor
(c) deficient (d) limited★

10. **Ours is undoubtedly a *morbid* society.**
(a) healthy★ (b) virtuous
(c) liberal (d) progressive

11. **The chairman *rebuked* the accounts officer for not supervising the work of his coordinates.**
(a) praised★ (b) received
(c) awarded (d) invited

12. **The incident *cemented* their relations.**
(a) destroyed (b) wasted
(c) corroded (d) disintegrated★

13. **Many of the propositions he put up at the conference were *ludicrous*.**
(a) obnoxious (b) humorous
(c) praiseworthy★ (d) impractical

14. **We received a *cordial* welcome from our host.**
(a) official (b) cold★
(c) distrustful (d) indifferent

15. **Everyone *admired* his ideas on this issue.**
(a) disappointed (b) discarded
(e) neglected (d) disapproved★

16. **Every move I make seems to *affect* him adversely.**
(a) deeply (b) favourably★
(c) badly (d) internally

17. **The director had a *derisive* attitude towards some of the members of the committee.**
(a) enthusiastic (b) respectful★
(c) deprecatory (d) encouraging

18. **I think this article ought to have been put in a *compact* from.**
(a) expanded (b) enlarged
(c) diffused★ (d) broken

19. **Some people indulge in loud *vulgar* talk.**
(a) simple (b) restrained
(e) graceful (d) refined★

20. **He was the most *eccentric* and difficult patron.**
(a) normal★ (b) sober
(c) genial (d) sociable

21. **The criminal was *detained* by the police.**
(a) protected (b) dismissed
(c) released★ (d) deterred

22. **The long sickness has turned the boy *flimsy*.**
(a) healthy (b) strong★
(c) agile (d) wholesome

23. **His *depressing* attitude became a cause of trouble for us all.**
(a) horrifying (b) uplifting★
(c) bewildering (d) digressing

24. **He failed to *perceive* that his bad habit was having an adverse effect on his son too.**
(a) ignore★ (b) apprehend
(c) conceive (d) create

25. **What he tells me *confirms* my ideas.**
(a) verifies (b) contradicts★
(c) opposes (d) strengthens

26. **He is very *meticulous* in keeping accounts.**
(a) clumsy (b) irregular
(c) careless★ (d) irresponsible

27. **Discipline is being *demoted* in most of the present day institutions.**
(a) uplifted (b) regained
(c) nurtured★ (d) projected .

28. **We had a *delectable* meal yesterday.**
(a) nice (b) tasty
(c) unsavoury★ (d) heavy

29. **He is known for his *uncouth* manners.**
(a) courteous (b) usual★
(e) petty (d) mean

30. **Ahmad is suffering from *benign* tumor.**
(a) contagious (b) infectious
(c) spreading (d) malignant★

31. **The patient looks a little more *cheerful* this morning.**
(a) depressed★ (b) dull
(c) energetic (d) stupid

32. **His logic seemed *absurd*.**
(a) fictional (b) rational★
(c) proportional (d) useless

33. **I can say for sure that this document is *authentic*.**
(a) fictitious (b) duplicate★
(el fallacious (d) erroneous

34. **Don't *scold* the boy over such trifles.**
(a) pacify (b) console
(c) praise★ (d) vituperate

35. **History *abounds* in instances of courge.**
(a) fails (b) suffices
(c) lacks★ (d) shines

36. **Democracy is a government by *conciliation*.**
(a) non-cooperation (b) dispute
(c) confrontation★ (d) irritation

37. **It was *evident* that he was happy.**
(a) doubtful★ (b) clear
(c) unimportant (d) understood

38. ***Feasibility* of the project is under study.**
(a) Unsuitability (b)Impracticability★
(c) Impropriety (d) Cheapness

39. **To *purge* all social evils is really a difficult job.**
(a) promote (b) increase
(c) rehabilitate★ (d) encourage

40. **Mrs. Higgins is a *humble* lady.**
(a) whimsical (b) youthful
(c) vain★ (d) unassuming

41. **Those whose views are *progressive* often meet with formidable impediments when they begin to act.**
(a) outmoded (b) brave
(c) revolutionary (d) retrograde★

42. **Very rich fathers generally have *stingy* sons.**
(a) reckless (b) careless
(c) spendthrift★ (d) miserly

43. **The teacher gave a *vivid* description of the next day's programme.**

(a) obscure★ (b) inanimate
(c) hazy (d) unintelligible

44. The *indignation* of the retreating troops resulted in large scale killings,
(a) displeasure (b) happiness★
(c) orderliness (d) anger

45. He has bought *genuine* pearls.
(a) inexpensive (b) unattractive
(c) spurious★ (d) extraneous

46. The stuffed toy bore a *glassy* look.
(a) obscene (b)dull★
(c) sleek (d) ventilating

47. This area is well known for *plentiful* rain.
(a) poor (b) impoverished
(c) scarce★ (d) miserly

48. It was a *horrible* sight.
(a) pleasing (b) veracious
(c) repulsive (d) attractive★

49. The idea of uniting the two Germanys was *seductive*.
(a) foolish (b) depressive★
(c) unacceptable (d) repulsive

50. The *covalent* compounds consist of discrete molecules.
(a) concrete (b) grouped★
(c) separate (d) convoluted

51. The *mammoth* structure overlooked the building.
(a) affluent (b) tiny★
(,c) huge (d) narrow

52. He felt tired with, the *monotony* of his daily routine.
(a) peacefulness (b) variety★
(c) excitement (d) range

53. Earthquakes are *frequent* in Japan.
(a) extinct (b) unusual
(c) few (d) rare★

54. He was given in to much *fanaticism*.
(a) reason★ (b) kindness
(c) passivity (d) violence

55. I cannot bear with that *niggard* fellow any more.
(a) miserly (b) generous★
(c) extravagant (d) avaricious

56. Never consider your *opponent* to be weaker than you.
(a) friend (b) rival
(c) antagonist (d) ally★

57. She handled the machine with *deft* fingers.
(a) clumsy★ (b) sturdy
(c) delicate (d) quick

58. The teacher instructed the students to draw the *marginal* lines.
(a) central★ (b) fractional
(c) global (d) angular

59. It was a *sagacious* decision on his part.
(a) casual (b) cunning
(c) foolish★ (d) false

60. The children are playing in the *nearby* park.
(a) different (b) close
(c) separate (d) distant★

61. She sat all alone in the party bearing that *sulky* face.
(a) kind (b) loving
(c) mild (d) cheerful★

62. The passing of the Bill was followed by a large scale *retaliation* by the citizens.
(a) procreation
(b) reconciliation★
(c) conciliation
(d) redressal

63. The members of the opposition party made *derogatory* remarks about the policies of the government.
(a) praiseworthy (b) laudatory★
(c) respectable (d) admirable

64. The lady shouted with a loud, *shrill* voice.
(a) feeble (b) blunt
(c) muffled★ (d) inaudible

65. Merit need not be *swamped* while filling vacancies through a quota system.
(a) considered (b) raised★
(c) remembered (d) heeded

66. On the face of it Poirot's glance conveyed *humorous* impatience.
(a) disappointed (b) dejected
(c) pathetic★ (d) dismayed

67. The *intricate* carvings on the panels are notable.

(a) hateful (b) uncommon
(c) ordinary★ (d) clear

68. ***Ostentation*** **is now the life style of big cities.**
(a) Ugliness (b) Poverty
(c) Frugality (d) Modesty★

69. **Lucy is a *smart* girl.**
(a) casual (b) indecent
(c) active (d) lazy★

70. **Mr. Zohaib is a *noted* personality in the town.**
(a) condemned (b) ostracised
(c) notorious (d) obscure★

71. **Their meeting was rather *boisterous*.**
(a) quiet★ (b) business like
(c) noisy (d) calm

72. **The minister was punished with *defection* for his anti-party activities.**
(a) resignation (b) co-operation
(c) invitation (d) joining★

73. **You should quote this example as an *evidence*.**
(a) reveal (b) adduce
(c) restrain (d) contradict★

74. **There is an *obscure* cave on the other side of the hill.**
(a) admired (b) notorious
(c) infamous (d) well-known★

75. **Mr. Sohaib was a *reserved* man.**
(a) talkative (b) defamed
(c) popular★ (d)companionable

76. **She *detests* government jobs.**
(a) approves of (b) is fond of
(c) adores★ (d) is interested in

77. **The officer incharge was quite *humane* in his approach.**
(a) uncultured (b)unsympathetic★
(c) uncivilized (d)uncompromising

78. **The habit of *squandering* money should not be encouraged.**
(a) saving★ (b) collecting
(c) hoarding (d) discarding

79. **Moments of solitude and silence helped the poet to *concentrate* on his poetic combination.**
(a) confound (b) disturb
(c) contradict (d) distract★

80. **All these measures will *augment* employment opportunities.**
(a) constrain (b) restrain
(c) diminish★ (d) circumscribe

81. **Everyone wanted to be the *harbinger* of the good news to the king..**
(a) precursor (b) tender
(c) opponent (d) follower★

82. **The two girls are always together. There is a great *affinity* between them.**
(a) apathy (b) empathy.
(c) antipathy★ (d) sympathy

83. **He *confessed* having done a mistake.**
(a) granted (b) conceded
(c) acknowledged (d) concealed★

84. **M. Ahmad is always *jeered* at by his companions.**
(a) praised★ (b) scorned
(c) mocked (d) mourned

85. **There are reports that many poor people *abandoie* female children,**
(a) like (b) reject
(c) keep★ (d) help

86. **Unity of thought and action has been the basis of India's strength and *stability*.**
(a) Bias (b) Diversity★
(c) Division (d) Weakness

87. **Their team bore *delinquent* participants.**
(a) reverent (b) uncivil
(c) quarrelsome (d) law abiding★

88. **In ancient history, scholars had no interest in political power or *material* growth.**
(a) celestial (b) psychic
(c) spiritual★ (d) internal

89. **It's a rule of the company to *endow* the Manager with all essential perks.**
(a) rob (b) dispossess
(c) divest★ (d) snatch

90. **The story was set up in an *eerie* atmosphere.**
(a) delightful (b) weird
(c) warm (d) canny★

91. **There are four chapters that are *extraneous* to the structure of the book.**
(a) relevant (b) integral★
(c) important (d) needful

92. He makes *occasional* visits to Karachi.
(a) accidental (b) strange
(c) regular★ (d) frivolous

93. They have not been eating *nourisising* food.
(a) heavy (b) undercooked
(c) unhygienic★ (d) poor

94. The plantation workers were on a *collision* course before the labour officer intervened.
(a) circuitous (b) retaliatory
(c) conciliatory★ (d) perfunctory

95. The new officer is a *brash* young man.
(a) polite★ (b) arrogant
(c) kind (d) handsome

96. She decided to finish the work before it became *onerous*.
(a) unfamiliar (b) light★
(c) burdensome (d) unique

97. His *unscrupulous* pursuit of wealth finally landed him in prison.
(a) superfluous (b) single minded
(c) dedicated (d)conscientious★

98. The sudden appearance of the stranger in the cottage despite all doors being closed is *questionable*.
(a) casual (b) surprising
(c) dubious (d) certain★

99. Mr. Ahmad is held in high *esteems* by the residents of the colony.
(a) revere (b) hatred
(c) disdain★ (d) notoriety

100. The inhabitants of the island were *barbarians*.
(a) bad (b) uncivilised
(c) cruel (d) civilised★

SET 4

1. Old people are usually more *conservative* than young people.
(a) reproachful (b) liberal★
(c) dynamic (d) modern

2. His was a *sulky* disposition.
(a) mild (b) cheerful★
(c) loving (d) kind

3. I know you would have to *prolong* your tour; but still I advise you to complete this job also.
(a) obstruct (b) curtail★
(c) hinder (d) restrain

4. He found an *ancient* statue in the village.
(a) fresh (b) new
(c) recent (d) modern★
(e) refreshed

5. This is a *trivial* matter.
(a) difficult (b) easy
(c) small (d) important★

6. Elephants, when they go *wild*, ought to be killed.
(a) tame★ (b) meek
(c) mild (d) domestic

7. Her coming to this place tomorrow is *definite*.
(a) doubtful★ (b) regrettable
(c) questionable (d) unpredictable

8. His knowledge of the subject is *quite* extensive.
(a) ordinary (b) little
(c) limited★ (d) restricted

9. He *abdicated* his post of his own accord.
(a) acquired (b) inherited
(c) seized (d) usurped★

10. They invited him to *sumptuous* lunch.
(a) cheap★ (b) magic
(c) poor (d) nutritious

11. Tuberculosis is *endemic* in this area now a days.
(a) concentrated (b) scattered
(c) limited (d) sporadic★

12. I think you should *undertake* this job; it would really be a profitable venture for you.
(a) refrain★ (b) leave
(c) conceal (d) retrieve

13. That was a *dauntless* action!
(a) devious (b) subtle
(c) secret (d) cowardly★

14. The duty of a true citizen is to *thwart* social evils as untouchability, dowry system etc.
(a) favour (b) sustain
(c) promote★ (d)frustrate

15. **Sunil spent most of his time in *recreation.***
(a) work (b) boredom★
(c) leisure (d) diversion

16. ***Adversity* teaches man to be humble and self- reliant.**
(a) Prosperity★ (b) Curiosity
(c) Animosity (d) Sincerity

17. **He appears to be a *phony* person.**
(a) ugly (b) genuine★
(c) unreal (d) beautiful

18. **There is *scarcity* of milk in Karachi.**
(a) shortage (b) abundance
(c) excess★ (d) sufficiency

19. **Why do you *disparage* him all the time?**
(a) abuse (b) criticise
(c) encourage (d) glorify★

20. **Political differences introduced a note of *discord* into their relationship.**
(a) tranquility (b) familiarity
(c) concord★ (d) benevolence

21. **The guard was given *explicit* orders about whom to admit.**
(a) wrong (b) inadequate
(c) no (d) ambiguous★

22. **Her *modesty* prevented her from making her feelings known to him.**
(a) vanity★ (b) superiority
(c) hypocrisy (d) arrogance

23. **Double-decker buses are still *extant* in some cities.**
(a) unheeded (b) forgotten
(c) destroyed★ (d) extinguished

24. **People understand speech in the context of their *accumulated* experience.**
(a) scattered
(b) dissipated★
(c) partial

25. **Even for the citizens of the East Bloc's most *prosperous* nation, the lure of capitalism is irresistible.**
(a) exploited
(b) under-developed
(c) impoverished★
(d) destitute

26. **Many snakes are *innocuous.***
(a) poisonous (b) harmful★
(c) deadly (d) ferocious

27. **Never be *impulsive* in taking decisions.**
(a) considerable (b) cunning
(c) clever (d) cautious★

28. **The primary duty of our countrymen at present should be to *curb* such social evils**
(a) recommend (b) restore
(c) encourage★ (d) reinstate

29. **The Government empowered itself to *attach* the assets of all the scam suspects.**
(a) detach (b) donate
(c) return★ (d) release

30. **The *comely* young girl proved to be a good receptionist.**
(a) inexperienced (b) unattractive★
(c) gloomy (d) depressed

41. **His interpretation of the poem is *superficial.***
(a) mystical (b) profound★
(c) difficult (d) mysterious.

42. **Should I *communicate* the date of the meeting to all the members?**
(a) yield (b) conceal
(c) refrain (d) withhold★

43. **He has a *superficial* knowledge of the subject.**
(a) wide (b) profound★
(c) sufficient (d) excessive

44. **His style of writing is quite *verbose.***
(a) lucid (b) succinct★
(c) unusual (d) comical

45. **His *smooth* manners endeared him to everyone.**
(a) hard (b) rough
(c) gruff★ (d) tough

46. **Everybody called it a *lavish* party.**
(a) expensive (b) frugal★
(c) wasteful (d) big

47. **This is only the *tenuous* evidence for it.**
(a) abundant★ (b) enough
(c) reasonable (d) less

48. **The dinner set the presented to me was *durable* enough.**
(a) worn out (b) fragile★
(c) light (d) delicate

49. His *meanness* is proverbial
(a) generosity★ (b) pragmatism
(c) timidity (d) kindness

50. *Vigour* and excitement are the prime characteristic of youth.
(a) adolescence (b) teenage
(c) childhood (d) senility★

51. Life in the villages is very *dull*.
(a) serious (b) wasteful
(c) bluffing (d) pleasant★

52. We must *abolish* evil customs.
(a) eradicate (b) restore
(c) revive★ (d) encourage

53. The boy was *accused* of theft.
(a) liberated (b) impeached
(c) exonerated★ (d) sentenced

54. This is not ideology but *pragmatic* language teaching.
(a) impractical★ (b) improper
(c) imperfect (d) impossible

55. The incident *frustrated* all his ambitions.
(a) satiated (b) appeased
(c) cloyed (d) satisfied★

56. When asked whether he was an atheist, he simply *quibbled*.
(a) frowned (b) wavered
(c) affirmed★ (d) denied

57. Everybody was astonished when he used such a *profane* language.
(a) sacred★ (b) pure
(c) profound (d) high

58. My uncle is very wealthy, but rather *parsimonious* in his habits.
(a) extravagant★ (b) generous
(c) careless (d) strict

59. I am somewhat *sceptical* about his claim.
(a) optimistic (b) convinced★
(c) credulous (d) hopeful

60. His writings have been much *eulogised* by Indian scholars.
(a) condemned (b) flouted
(c) disapproved ★ (d) disparaged

61. She was *sceptical* about the safety of the new drug.
(a) sanguine (b) hopeful
(c) certain★ (d) doubtful

62. The members of the Board were impressed by the candidates *urbane* behaviour.
(a) rural (b) indifferent
(c) rude★ (d) negative

63. *Infringement* of law has to be prevented in order to maintain peace and order in the country.
(a) Review (b) Revision
(c) Relaxation (d) Obedience★

64. He get on airs and claims himself to be *omniscient*.
(a) ignorant★ (b) uneducated
(c) unqualified (d) backward

65. It was *altercation* throughout and there was no discussion.
(a) resonance (b) alternative
(c) consonance★ (d) inconsistency

66. Anarchy *emerges* out of the wars of succession.
(a) disappears★ (b) sinks
(c) falls (d) drowns
(e) extinguishes

67. Unlike in Lahore Board, English is an *optional* subject in the Karachi Board.
(a) elementary (b) compulsory★
(c) voluntary (d) necessary

68. He was really *delighted* to see me.
(a) scared (b) disturbed
(c) surprised (d) displeased★

69. This offer has come as a great *boon* to me.
(a) misfortune (b) blemish
(e) curse★ (d) trouble

70. The committee set about making *provisional* arrangements for the annual conference.
(a) unconditional (b) abiding
(c) permanent★ (d) lasting

71. This painting is full of *radiant* colours.
(a) delicate (b) dull★
(e) bright (d) rare

72. She began to *babel* in front of the guests.
(a) quiet★ (b) din
(c) mourn (d) cry

73. She used to *disparage* her neighbour every now and then.

(a) denigrate (b) belittle
(c) praise★ (d) please

74. Soon the boys realised his *peevish* ways and began to avoid him.
(a) amiable★ (b) unpleasant
(c) snappish (d) authoritative

75. The priest would not allow anyone to *desecrate* the sanctity of the temple.
(a) desist (b) integrate
(c) intensify (d) consecrate★

76. The luxurious hotel is a paradise for *hedonists*.
(a) stoics (b) ascetics★
(c) adventurers (d) saints

77. By murdering that woman, he has committed a *hideous* crime.
(a) normal (b) generous
(c) handsome★ (d) fair

78. The last show of the concert at the Ritz Theatre was a *fiasco*.
(a) triumph (b) victory
(c) fruitful (d) success★

79. From his acts of hunting, it can be inferred that he is a *wicked* man.
(a) innocent (b) decent
(c) pious★ (d) peaceful

80. She was in a state of *anxiety* when I met her.
(a) pleasure (b) happiness
(c) relief★ (d) laughter

81. I *worship* him as my ideal.
(a) deify (b) despise★
(c) abuse (d) neglect

82. The influence of political broadcasts on elections is *considerable*.
(a) inadequate★ (b) uninfluential
(c) negligible (d) insignificant

83. There was not a single *bibulous* adventurer in our expedition.
(a) fearful (b) cowardly
(c) sober★ (d) unenergetie

84. Rafique drove to the place by a *circuitous* route.
(a) short (b) roundabout
(c) direct★ (d) obvious

85. The minister *gave* a public speech on the controversial subject to, precipitate the matter.
(a) pull (b) push
(c) defer★ (d) create

86. Only *egalitarianism* can lay the foundations of a strong nation.
(a) dictatorship (b) domination
(c) imperialism (d) eilitism★

87. The stranger who stayed with us was a *ruthless* fellow.
(a) candid (b) sympathetic★
(c) cordial (d) courteous

88. The club meets on the Last Thursday of every month in a *dilapidated* palace.
(a) furnished (b) renovated★
(c) neglected (d) regenerated

89. People who are actually running the system often take a *myopic* view of the situation.
(a) blind (b) visionary
(c) glassy (d) farsighted★

90. His *arrogant* behaviour made him successful in his trade.
(a) flattering (b) humble★
(c) polite (d) pleasant

91. The Principal hardly moaned to give the papers a *cursory* glance.
(a) superficial (b) through
(c) thorough★ (d) curious

92. He exhibited a *comprehensive* approach towards the matter in hand.
(a) slipshod (b) sketchy
(c) exhaustive (d) superficial ★

93. Giving alms to the poor is considered *holy*.
(a) horrible (b) obnoxious
(c) profane★ (d) offensive

94. Mona was often teased as *corpulent* by her friends.
(a) belligerent (b) gaunt★
(c) garrulous (d) fat

95. He received a flattering *compliment* from Arifa immediately after the speech.
(a) disparagement★ (b) eulogy
(c) contempt (d) notoriety

96. The gatekeeper ought to be more *vigilant* these days.
(a) irresponsible (b) ignorant
(c) careless★ (d) innocent

97. The police tried to find out the *rightful* owner of the ornaments left in the train.

(a) indefinite (b) mistaken
(c) unlawful★ (d) claimant

98. **He nurtured in him a strong *craving* for revenge from those criminals.**
(a) mercy (bi) pardon
(c) pity (d) forgiveness★

99. **He was often sent to *foreign* tours by the company.**
(a) native (b) inland★
(c) homely (d) local

100. **The Minister is *optimistic* about the new project just launched.**
(a) stoical (b) dubious
(c) pessimistic★ (d) cynical

SET 5

1. **Though several meetings have been held, yet the members of the Board have not been able to arrive at a *consensus*.**
(a) conflict (b) confusion
(c) crisis (d)disagreement★

2. **One should never be *reckless* in his dealings with others.**
(a) indifferent (b) careful★
(c) imprudent (d) lenient

3. **His short put pointed speech was *applauded* by all sections of the audience.**
(a) welcomed (b) praised
(c) misunderstood (d) disapproved★

4. **The doctor advised us to give him *wholesome* nutrition.**
(a) sickly★ (b) stupendous
(c) depressing (d) fragmentary

5. **He is a good fellow but what I dislike is his *reckless* handling of things.**
(a) intelligent (b) cautious★
(c) dilligent (d) brilliant

6. **I think it would be better if this paragraph is *eliminated*.**
(a) added★ (b) improve
(c) deleted. (d) shortened

7. **It was an *arduous* task for me.**
(a) easy
(b)time consuming
(c) quick
(d) difficult★

8. **Under conditions of anxiety the blood vessels *dilate*.**
(a) squeeze★ (b) swell
(c) constrict (d) shorten

9. **He is quite *industrious*.**
(a) hard working (b) indifferent
(c) lazy★ (d) indisposed

10. **According to a great philosopher, *magnamity* in a man implies many other qualities.**
(a) poverty (b) jealousy
(c) meanness★ (d) enmity

11. **The room was filled with a *delicious* odour.**
(a) bitter (b) repulsive
(c) strange (d) unpalatable★

12. **I suppose you should *authorise* him to do so.**
(a) pulverize (b) prescribe
(c) detach (d) proscribe★

13. **A sage said that *compassion* is more important than truth.**
(a) violence (b) uncivility
(c) callousness★ (d) hardihood

14. **The British policy was not one of domination but that of *suppression*.**
(a) licence (b) liberty
(c) freedom★ (d) charity

15. **She was surprised by his *amiability***
(a) pessimism (b) prudence
(c) sincerity (d) petulance★

16. **A *terrestrial* being can never be immortal.**
(a) abnormal (b) marvellous
(c) amphibious (d) celestial★

17. **He was *dejected* when he heard the news.**
(a) elated★ (b) impressed
(c) hilarious (d) gleeful

18. **You cannot blame him because all his dealings are *above board*.**
(a) under board (b) boring
(c) underhand★ (d) beneath

19. **Overeating can often be *detrimental* to health.**
(a) beneficial★ (b) injurious
(c) useful (d) destructive

20. **His partners felt that it was a *viable* business proposition.**

(a) impracticable★ (b) inviolable
(c) unavailable (d) enviable

21. **Like poverty, affluence can sometimes create its own problems.**
(a) sorrow (b) indigence★
(e) exuberance (d) opulence

22. **On hearing the news he was in a state of *ecstasy*.**
(a) depression★ (b) pain
(c) disappointment (d) trance

23. **Many reactions take place in the blast furnace *simultaneously*.**
(a) invariably (b) contemporarily
(c) separately★ (d) momentarily

24. **This author has *perspicuity* in his style.**
(a) frankness (b) bluntness
(c) obtuseness★ (d) vivacity

25. **The food served at the official dinner was very *bland*.**
(a) inedible (b) spicy★
(c) nutritious (d) tasty

26. **An artisan well is dug upto an *impervious* layer of rocks.**
(a) hidden (b) penetrable★
(c) hard (d) dry

27. ***Miscellaneous* items were discussed at the meeting.**
(a) Minor★ (b) Unrelated
(c) Mixed (d) Classified

28. **He felt *gratified* to the old man for his help.**
(a) depressed (b) discouraged
(c) distressed (d) frustrated★

29. **He tried to *conceal* the secret that they were already married.**
(a) state (b) declare★
(c) reveal (d) announce

30. **As long as he remained in that office, he maintained his *hegemony*.**
(a) predominance (b) poverty
(c) subordination★ (d) chaos

31. **That was an *exquisite* piece of art which won the admiration of one and all.**
(a) ugly★ (b) cheap
(c) old (d) expensive

32. **Silence in this place is *mandatory*.**
(a) optional★ (b) compulsory
(c) imperative (d) irritating

33. ***Expediency* is the guiding factor in politics.**
(a) Novelty (b)Short-sightedness
(c) Unsuitability★ (d) Inconvenience

34. **He holds *extreme* views on education.**
(a) ordinary (b) casual
(c) timid (d) moderate★

35. **His *frivolous* remarks provoked no comments.**
(a) serious★ (b) momentous
(c) frantic (d) fanciful

36. **By warning him prior to action, he has landed himself in a *precarious* situation.**
(a) carefree (b) safe★
(c) easy (d) cautious
(e) harmless

37. **The key words in planning for an future are focus and *flexibility***
(a) complexity (b) tensity
(c) pliability (d) rigidity★

38. **He proved utterly *capricious* in his dealings with his friends.**
(a) helpful (b) steadfast★
(c) understanding (d) obstinate

39. **Rahit is a very *courageous* boy.**
(a) frightened (b) naughty
(c) cowardly★ (d) happy

40. **The inhabitants of the island were *barbarians*.**
(a) bad (b) uncivilised
(c) cruel (d) civilised★

41. **Old people are usually more *conservative* than young people.**
(a) reproachful (b) liberal★
(c) dynamic (d) modern

42. **His was a *sulky* disposition.**
(a) mild (b) cheerful★
(c) loving (d) kind

43. **I know you would have to *prolong* your tour; but still I advise you to complete this job also.**
(a) obstruct (b) curtail★
(c) hinder (d) restrain

44. **He found an *ancient* statue in the village.**
(a) fresh (b) new
(c) recent (d) modern★
(e) refreshed

45. This is a *trivial* matter.
(a) difficult (b) easy
(c) small (d) important★

46. Elephants, when they go *wild,* ought to be killed.
(a) tame★ (b) meek
(c) mild (d) domestic

47. Her coming to this place tomorrow is *definite.*
(a) doubtful★ (b) regrettable
(c) questionable (d) unpredictable

48. His knowledge of the subject is *quite* extensive.
(a) ordinary (b) little
(c) limited★ (d) restricted

49. He *abdicated* his post of his own accord.
(a) acquired (b) inherited
(c) seized (d) usurped★

50. They invited him to *sumptuous* lunch.
(a) cheap★ (b) magic
(c) poor (d) nutritious

51. The heroine's *infidelity* finds no mention in this biography.
(a) loyalty★ (b) innocence
(c) intelligence (d) charity

52. If you read the novel carefully, you will realise that her character is *irreproachable.*
(a) flawed (b) blemished
(c) defective★ (d) deformed

53. Arif's point of view was correct but his behaviour with his father was quite *impertinent.*
(a) impressive (b) smooth
(c) healthy (d) respectful★
(e) inadequate

55. The deliberate behaviour made audience *volatile.*
(a) politeness (b) stable★
(c) stupidity (d) pleasant

55. The attack on the freedom of the press is a *retrograde* step.
(a) aggressive (b) progressive★
(c) punitive (d) stubborn

56. The momentum *slackened* in course of time.
(a) recovered (b) multiplied
(c) quickened★ (d) stopped

57. Her *debonair* manners were noticed by everyone present in the city.
(a) stiff (b) cheerless★
(c) courteous (d) pleasant

58. *Misogynists* are not applauded in society.
(a) Philanderers (b) Philologists
(c) Philanthropists (d) Philogynists★

59. There was no *altruistic* motive that prompted him to help her.
(a) wicked (b) brutal
(c) inhuman (d) selfish★

60. He was *exonerated* of the charge of theft when the woman gave an evidence in his favour.
(a) imprisoned (b) complained
(c) expelled (d) accused★

61. Her *impetuous* behaviour. was attributed to her upbringing.
(a) poised (b) rash
(c) quiet and gentle★ (d) sluggish

62. His book has a short but useful *introduction.*
(a) deduction (b) end
(c) termination (d) conclusion★

63. He has been *acquitted* of the charge of theft.
(a) punished (b) convicted★
(c) released (d) exonerated

64. Her new hair style looks very *attractive.*
(a) unblooming (b) grand
(c) unbecoming★ (d) fascinating

65. Everything about him, especially his talkative nature, *proclaims* his effeminacy.
(a) boorishness★ (b) manliness
(c) aggressiveness (d) attractiveness

66. He harvested a rich crop from the *fecund* land.
(a) fertile (b) obsolete
(c) barren★ (d) fruitless

67. He said it would be *convenient* for him to meet me there.
(a) inadvisable (b) objectionable
(c) troublesome★ (d) desirable

68. His *tardy* manners were a great impediment in the path of his success.

(a) quick★ (b) enthusiastic
(c) sluggish (d) progressive

69. The unsual *adulation* of the officers must end.
(a) back-biting (b) flattery
(c) condemnation★ (d) praise

70. He *harboured* a feeling of malice towards his younger brother.
(a) love. (b) rancour
(c) spite (d) goodwill ★

71. They had an *insipid* conversation.
(a) curious (b) loud
(c) argumentative (d) lively★

72. Self-reliance has been *adopted* as an important objective of economic.
(a) discarded (b) denied
(c) forsaken★ (d) refused

73. I found my views to be *congruous* to those of my father.
(a) irregular (b) mismatch
(c) inconsistent (d) disagreeing★

74. The leader might have had some *covert* reason for the change of his political affiliations.
(a) flimsy (b) inexplicable
(c) obvious★ (d) unjustifiable

75. The fifteenth century witnessed an era of *Renaissance* in Europe.
(a) pestilence (b) decadence★
(c) immorality (d) prehistory

76. The Chief Minister was given a warm welcome at the *onset* of the function.
(a) hindrance (b)commencement
(c) finale★ (d) conclusion

77. It, is surprising to find her *condoning* such an act.
(a) disparaging (b) condemning★
(c) disliking (d) forbidding

78. His conduct on the stage was applauded *unanimously*.
(a) booed★ (b) silenced
(c) hated (d) disturbed

79. Worldly-wise people find it prudent to adopt a morally *flexible* attitude towards current behaviour patterns.
(a) weak (b)uncompromising★
(c) hostile (d) neutral

80. At least some students are in the habit of doing their exercises in a *slovenly* manner.
(a) neat (b) proper
(c) decent★ (d) correct

81. SUPERFICIAL
(a) Artificial (b) Deep★
(c) Shallow (d) Real

82. EFFETE
(a) Adamant (b) Strong★
(c) Courageous (d) Bold

83. COMMEND
(a) Suspend (b) Admonish
(c) Hate (d) Dislike★

84. SERENE
(a) Jovial (b) Moving
(c) Agitated★ (d) Nervous

85. ANTIPATHY
(a) Fondness ★ (b) Obedience
(c) Agreement (d) Admiration

86. DAUNTLESS
(a) Cautious (b) Thoughtful
(c) Weak (d) Adventurous★

87. CHAFFING
(a) Expensive (b) Achieving
(c) Capitalistic (d) Serious★

88. TRAGIC
(a) Funny (b) Comic★
(c) Light (d) Humorous

89. EXODUS
(a) Restoration (b) Return
(c) Home-coming (d) Influx★

90. PREVENT
(a) Excite (b) Support★
(c) Invite (d) Incite

91. PALTRY
(a) Strong (b) Worthwhile★
(c) Mean (d) Bitter

92. DORSAL
(a) Inactive (b) Ventral
(c) Peripheral★ (d) Central

93. VAGUE
(a) Known (b) Published
(c) Popular (d) Definite★

94. SUPERVISE
(a) Overlook (b) Misdirect★
(c) Neglect (d) Forget

95. MAGNANIMOUS
(a) Selfish★ (b) Naive
(c) Generous (d) Small

96. CULMINATE

(a) Frustrate (b) Fail
(c) Abort★ (d) Defeat

97. **AMENABLE**
(a) Stubborn★ (b) Docile
(c) Obedient (d) Offensive

98. **ACQUIT**
(a) Confirm (b) Blame
(c) Punish (d) Indict★

99. **FORBIDDEN**
(a) Allowed★ (b) Prohibited
(c) Agreed (d) Foresaken

100. **DISSIPATE**
(a) Sustain (b) Conserve★
(c) Preserve (d) Maintain

IDIOMS & IDIOMATIC PHRASES

Direction: In the following questions four alternatives are given for the idiom/phrase italicized and underlined in the sentence. Choose the alternative which best expresses the meaning of idiom/phrase.

1. It is high time that Pakistan did something about the population problem.
(a) already late★
(b) appropriate time
(c) desired occasion
(d) auspicious moment

2. He is always standing up for the weak and oppressed.
(a) Boosting the claims of
(b) Championing the cause of★
(c) Seeking help of others for
(d) Moving about with

3. We should give a wide berth to bad characters.
(a) give publicity to
(b) publicly condemn
(c) keep away from★
(d) not sympathise with

4. Turban is in vogue in some communities.
(a) in fashion★ (b) out of use
(c) vaguely used (d) never used

5. The old man was cut to the guick when his rich son refused to recognise him.
(a) surprised
(b) hurt intensely★
(c) annoyed
(d) irritated

6. I requested him to put in a word for me.
(a) introduce (b) assist
(c) support (d) recommend★

6. He is out and out a reactionary,
(a) no more (b) thoroughly★
(c) in favour of (d) deadly against

7. I did not mind what he was saying, he was only through his hat.
(a) talking nonsense★
(b) talking ignorantly
(c) talking irresponsibly
(d) talking insultingly

8. It was he who put a spoke in my wheel.
(a) tried to cause an accident
(b) helped in the execution of the plan
(c) thwarted in the execution of the plan★
(d) destroyed the plan

9. It is no longer easy to strike gold in Shakespeare's research since much work has already been done on him.
(a) Hit a golden spot
(b) Come across gold
(c) Come across the word "gold"
(d) Uncover or find a valuable line of argument or information★

10. Saeed is very different about passing the Civil Services Examination this year.
(a) Dead sure of
(b) Very hopeful of
(c) Lacking self-confidence about★
(d) Reasonably certain of

11. Why must you look a gift horse in the mouth?
(a) welcome a gift
(b) find fault with a gift★
(c) be fastidious
(d) examine a gift carefully

12. Dowry is a burning guestion of the day.
(a) a widely debated issue★

(b) a dying issue
(c) a relevant problem
(d) an irrelevant issue

13. Leaders should not only make speeches they should also be prepared to bell the cat.
(a) To take lead in danger★
(b) To tie bell to a cat's neck
(c) To be alert of the enemy
(d) To make noise

14. The popularity of the yesterday's superstar is on the wane.
(a) at its peak(b) at rock bottom
(c) growing more (d) growing less★

15. He is leaving the country for a good.
(a) for better prospects
(b) for a good cause
(c) for ever★
(d) for others good

16. He is an interesting speaker but tends to go off at a tangent.
(a) change the subject immediately★
(b) forget things in between
(c) go on at great length
(d) become boisterous

17. He sold his house for a song.
(a) at a reasonable price
(b) at a discount
(c) very cheaply★
(d) at a premium

18. The case was held over due to the great opposition to it.
(a) stopped (b) postponed★
(c) dropped (d) cancelled

19. In the organised society of today no individual or nation can plogh a lonely furrow.
(a) remain unaffected
(b) do without the help of others★
(c) survive in isolation
(d) remain non-aligned

20. Despite the trust bestowed on the minister; he turned out to be a snake in the grass during the revolution.
(a) a secret enemy★
(b) a treacherous person
(c) an unforeseen danger
(d) an unexpected misfortune

21. Women should be paid the same as men when they do the same job, for, surely what is sauce for the goose is sauce for the gander.
(a) What is thought suitable pay for a man should also be for a woman★
(b) Goose and the gender eat the same sauce
(c) Both goose and gander should be equally treated
(d) The principle of equal treatment should be implemented

22. The party stalwarts have advised the President to take it lying down for a while.
(a) to be cautious
(b) to be on the defensive
(c) to take rest
(d) to show no reaction★

23. The thief took to his heels when he saw a policeman on the beat.
(a) had some pain in his heels
(b) ran away from the scene★
(c) confronted the policeman
(d) could not decide what to do

24. Sitar could be easily arrested because the police were tipped off in an advance.
(a) Toppled over
(b) Bribed
(c) Given advance information★
(d) Threatened

25. I met him after a long time, but he gave me the cold shoulder.
(a) scolded me (b) insulted me
(c) abused me (d) ignored me★

26. He passed himself off as a noble man.
(a) Was regarded as
(b) Pretended to be★
(c) Was thought to be
(d) Was looked upon

27. This matter has been hanging fire for the last many months and must therefore be decided one way or the other.
(a) going on slowly★
(b) hotly debated
(c) stuck up
(d) ignored

28. In the armed forces, it is considered a great privilege to die in harness.

(a) die on a horse back
(b) die in the battlefield
(c) die while still working★
(d) die with honour

29. The cricket match proved to be a draw.
(a) a keen contest
(b) a huge attraction★
(c) a lovely spectacle
(d) a game without any result

30. When he heard that he had once again not been selected he lost heart.
(a) became desperate
(b) felt sad
(c) became angry
(d) became discouraged★

31. He was undecided. He let the grass grow under his feet.
(a) loitered around sat unmoving★
(b) stayed out
(c) sat unmoving
(d) moved away

32. Although he has examination, he is influence to get the job.
(a) Political influence
(b) Backing influence
(c) Deserving and proper influence
(d) Secret and unfair influence★

33. Companies producing goods play to the gallery to boost their sales,
(a) advertise
(b) cater to the public taste
(c) attempt to appeal to popular taste★
(d) depend upon the public for approval

34. Since he knew what would happen, he should be left to stew in his own juice.
(a) Make a stew
(b) Boil
(c) Suffer in his own juice
(d) Suffer for his own act★

35. The project did not appear to hold out bright prospects.
(a) highlight (b) show
(c) offer★ (d) promise

36. He struck several bad patches before he made good.
(a) came across bad soil
(b) Had a bad time
(c) Went through many illness
(d) Had many professional difficulties★

37. The accounts of the murder made her flesh creep.
(a) Made her sad
(b) Surprised her
(c) Made her cry bitterly
(d) Fill her with horror★

38. I hope it will not put you out If I am late,
(a) harm you (b) irritate you★
(c) please you (d) worry out

39. Ahmad has left his country for good.
(a) for better opportunities
(b) on an important mission
(c) forever★
(d) to return soon

40. Saeed was the real power behind the throne and all politicians were aware of this.
(a) The person who had the real control and power★
(b) The acknowledged leader
(c) The person who controlled the monarch
(d) The person who advised the queen

41. His friends let him down.
(a) failed★ (b) comforted
(c) succeeded (d) stood by

42. How long will the people put up with the increasing economic hardships?
(a) welcome
(b) take easily
(c) remain satisfied with
(d) tolerate★

43. The teacher warned the student once for all that no mischief shall be tolerated in the class.
(a) authoritatively (b) finally★
(c) angrily (d) coldly

44. Some people now wonder whether we just pay lip-service or genuinely subscribe to democracy.
(a) pay oral tribute
(b) attach no value
(c) remain indifferent
(d) show only outward respect★
(d) To take an alternative route

45. The recent film "Secular India" has tried to keep the pot of Muslim women's Bill boiling.
(a) Earning enough to keep body and soul together
(b) Keep a controversy alive★
(c) Boil the bill
(d) Boil something in a pot

46. The robber took to his heels when the police arrived.
(a) opened fire (b) hid himself
(c) ran off★ (d) surrendered

47. You cannot have your cake and eat it too.
(a) Enjoy forever
(b) Have it both ways★
(c) Run away from responsibility
(d) Absolve yourself of guilt

48. The rebels held out for about a month
(a) waited (b) retreated
(c) bargained (d) resisted★

49. The new economic policy is likely to run into rough weather.
(a) create problems
(b) encounter difficulties★
(c) confuse matters
(d) makes things difficult

50. The old father brought home the moral of unity by asking each of his sons to break the bundle of sticks.
(a) emphas;sed★ (b) voiced
(c) declared (d) suggested

IDIOMS & PHRASES

Direction: In the following questions four/ three alternatives are given for the idiom/phrase. Choose the alternative which best expresses the meaning of idiom/phrase.

1. "Very well" can mean the same as:
(a) no (b) later
(c) giving consent★

2. To "vote down" is to: something.
(a) accept (b) defeat★
(c) propose

3. To "veg out" means to:
(a) get angry (b) get excited
(c) relax★

4. If someone talks about "vibes", they are talking about:
(a) feelings★ (b) experiences
(c) desires

5. If you "walk off with", something you it.
(a) steal★ (b) forget
(c) borrow

6. "I'm feeling abit under the weather" means you are:
(a) walking in thurain,
(b) walking under the clouds,
(c) you are feeling a bit ill, sad or you lack energy.★

7. "Shahid is a good egg" means:
(a) that there is a chicken by the name of Shahid that lays good eggs,
(b) Shahid is a person who can be relied on,★
(c) Shahid is smart.

8. "Don't jump the gun" means:
(a) you start doing something before the appropriate time,
(b) you do something but don't finish it,★
(c) you are committing suicide.

9. "You're in a pickle now for not paying your electricity bill" means:
(a) you are in some trouble or mess,★
(b) you're in good terms,
(c) you're bad.

10. "Now we're Even Stevens again" means:
(a) something that is equal between two people,★
(b) two people named Steven,
(c) All of the above

11. To make clean breast of:
(a) To gain prominence
(b) To praise oneself
(c) To confess without of reserve★
(d) To destroy before it blooms

12. To keeps one's temper:

(a) To become hungry
(b) To be in good mood★
(c) To preserve ones energy
(d) To be aloof from

13. "It happened in a flash" means:
(a) it happens very quickly★
(b) it happens when there is lightening,
(c) all of the above.

14. "The older you get the sooner you will give up the ghost" means:
(a) you'll eventually die★
(b) to try halfheartedly,
(c) to give up completely.

15. To catch a tarter:
(a) To trap wanted criminal with great difficulty
(b) To catch a dangerous person★
(c) To meet with disaster
(d) To deal with a person who is more than one's watch

16. To drive home:
(a) To find one's roots
(b) To return to place of rest
(c) Back to original position
(d) To emphasize★

17. To be the question:
(a) To refer to
(b) To take for granted★
(c) To raise objections
(d) To be discussed

18. A black sheep
(a) An unlucky person
(b) A negro
(c) An ugly person
(d) A partner who takes no share of the profits
(e) None of these★

19. To have an axe to grind:
(a) A private end to serve★
(b) To fail to arouse interest
(c) To have no result
(d) To work for both sides

20. To cry wolf:
(a) To listen eagerly
(b) To give false alarm★
(c) To turn pale
(d) To keep off starvation

21. To end in smoke:
(a) To make completely understand:
(b) To ruin oneself★
(c) To excite great applause
(d) To overcome someone

22. To be above board:
(a) To have a good height
(b) To be honest in any business deal★
(c) They have no debts
(d) To try to be beautiful

23. To put one's hand to plough:
(a) To take up agricultural farming
(b) To take a difficult task★
(c) To get entangled into unnecessary things
(d) Take interest in technical work

24. To do oneself justice:
(a) To dispense justice on our won
(b) To treat others with due respect
(c) To defends one's point of view
(d) To follow the path of truth and justice
(e) None of these★

25. To pick holes:
(a) To find some reason to quarrel
(b) To destroy something
(c) To criticise someone★
(d) To cut some part of an item
(e) None of these

26. To leave someone in the lurch:
(a) To come to compromise with someone
(b) Constant source of annoyance to someone
(c) To put someone at ease
(d) To desert someone in his difficulties★

27. "Zero hour" means:
(a) a time when something important is about to begin,★
(b) GMT hour,
(c) Midnight hour

28. "Are you trying to keep up with the Joneses?" means:
(a) you are friendly and responsible,
(b) you are competitive about material possessions and you are trying to have the best and latest things,★
(c) you imitate others.

29. "John Doe" refers to:
(a) an unidentified male,★

(b) a famous historical figure,
(c) to the actor John Doe.

30. "He has misunderstood everything, indeed he has gone off the rails":
(a) the persons train has derailed,
(b) the person got off the railway track,
(c) the person has lost track of reality.★

31. "I'm still on the phone, so keep your pants on!" means:
(a) not to over-react or get angry,★
(b) don't take their pants off, .
(c) come back later.

32. "A bit" means:
(a) some thing to eat
(b) to help someone
(c) a small amount★

33. "About time" means:
(a) at the right time (b) soon
(c) at last★

34. "Across the board" means:
(a) everyone or everything is included★
(b) to travel between countries
(c) uninteresting

35. To "act up" means:
(a) to share an idea
(b) to behave badly★
(c) to pretend to be rich

36. To "back out" means:
(a) to support someone
(b) to be trapped
(c) to get out of an agreement★

37. A "bad trip" means:
(a) to lose money
(b) an unpleasant drug experience★
(c) to be unsuccessful

38. "He didn't bat an eye" means the same as:
(a) he didn't see
(b) he wasn't happy
(c) he didn't show surprise★

39. To "bear in mind" means:
(a) to forget something
(b) to be crazy
(c) to remember something★

40. To "beat around the bush" means:
(a) to not know
(b) to avoid a question★
(c) to go on a hike

41. To "beef up" means:
(a) to go crazy
(b) to have fun
(c) to make something stronger★

42. "Behind the scenes" means:
(a) in a different place
(b) privately
(c) in a difficult position

43. "Below the belt" means:
(a) good (b) secretly
(c) unfairly★

44. To "call it a day" means:
(a) to quit★
(b) it becomes evening
(c) to say good morning

45. To "call the tune" means:
(a) to sing a song
(b) to give orders★
(c) to give advice

46. To "carry off" means:
(a) to move★ (b) to kill
(c) to drop

47. To put the "cart before the horse" means:
(a) to plan ahead
(b) that you can't do something
(c) to do things in the wrong order★

48. To "catch on" means:
(a) to understand★
(b) to be punished
(c) to grab something

49. To "be caught short" means:
(a) to be in an embarrassing situation
(b) to take a short sleep
(c) not to have enough of something when needed★

50. "Cheap skate" means:
(a) a winter sports activity
(b) someone who doesn't spend much money
(c) something that'isn't expensive

51. To "check up" means:
(a) to search
(b) to investigate★
(c) to make a mark to show something has been counted

52. A man "after my own heart" means:
(a) liking the same things as me★

(b) looks like me
(c) follows me

53. "Against the clock" means:
(a) a new record
(b) a test of speed or time★
(c) an impossible task

54. "All along" means:
(a) all the time★ (b) to agree
(c) altogether

55. All hours" means:
(a) at regular times
(b) at irregular times★
(c) every hour

56. "Along in years" means:
(a) getting old★ (b) getting tired
(c) becoming successful

57. "And then some" means:
(a) not many (b) and only a few
(c) and a lot more★

58. A "babe in the woods" means:
(a) someone who cuts trees
(b) someone who is young
(c) someone who is innocent★

59. To "back down" means:
(a) to give up a claim★
(b) to sit down
(c) to fight for something

60. To "cheer up" means:
(a) to become happy★
(b) to become sad
(c) to become lost

61. "Chicken feed" means:
(a) a lot of food
(b) a small amount of money★
(c) A group of people gathering together

62. I "dare say" means:
(a) I don't know at all
(b) I definitely know
(c) I suppose★

63. To "dash off' means:
(a) to do, make, or draw something quickly
(b) to be deeply asleep★
(c) to be precise

64. "Dead tired" means:
(a) no longer living
(b) very tired★
(c) someone doesn't have long to live

65. To be in "deep water" means:
(a) to be lazy
(b) to be in serious trouble★
(c) to not care about things

66. If something "dies down", it means it:
(a) falls over (b) dies quickly
(c) fades away★

67. To "die out" means:
(a) to fail (b) to die quickly
(c) to disappear slowly★

68. A "dime a dozen" means:
(a) it is expensive
(b) something is unusual
(c) something is easy to get★

69. To "dish out" means:
(a) to serve★ (b) to gossip
(c) to make

70. To "do away with" something means:
(a) to treat something
(b) to stop something★
(c) to hide something

FOREIGN PHRASES

1. Which phrase is used for 'one at a time' or 'given in order"?
(a) Sic (b) Quod vide
(c) Sine die (d) Seriatim★

2. What is the use of word Sic?
(a) Thus, it is regretted
(b) Write in this way
(c) Don't write in this way
(d) Thus; that's the way it was written (to show an error)★

3. What is meant by Sine die?
(a) Definitely (b) Till death
(c) Indefinitely★ (d) Till order

4. Ad infinitum stands for:

(a) for ever (b) without limit
(c) Both of them★ (d) None of them

5. Alibili stands for:
(a) on the way
(b) famous law case
(c) along the way
(d) At another place★

6. Which phrase is used for 'in proportion'?
(a) Pro forma (b) proxima
(c) Pro rata ★ (d) Prima facie

7. Which of the following refers to 'for the time being'?
(a) Proximo
(b) Loco citato
(c) Pro tern, (Pro tempore)★
(d) Albeit

8. What is referred by Proximo (Prox)?
(a) In the next week
(b) In the next month★
(c) In the next year
(d) In the near future

9. Which phrase's meaning is 'other things being equal'?
(a) Ceteris Peribus★ (b) Confer
(c) et. al (d) Carte blanche

10. Which phrase refers to "compare"?
(a) Carfe Blanche
(b) Circa
(c) ad hoc
(d) *cf, cf,* (confer)★

11. Which phrase refers to 'around a given date, 'approximately'?
(a) albeit (b) cul-de-rac
(c) circa 'ca'★ (d) bonafide

12. Pick out the meaning of cul-de-sac?
(a) a without outlet
(b) a passage with many outlet
(c) a passage with only one outlet★
(d) confused passage

13. Which of the following is the phrase for 'course of one's life a resume'?
(a) esprit de crops
(b) en masse
(c) Curriculum Vitae (C. V.)★
(d) None of these

14. De facto means 'existing, but not brought into being by law', what does mean by de jure?
(a) In a group
(b) Not Existing person
(c) Existing by legal establishment★
(d) Existing by legal acts

15. What is double-entendre?
(a) a term with two meanings★
(b) a wife of two men
(c) a husband of two wives
(d) second life

16. The phrase Perse stands for:
(a) essentially (b) by itself
(c) as such (d) all of them★

17. What does mean by Prima facie?
(a) Before further examination
(b) At first view
(c) Both of them★
(d) None of them

18. The meaning of e g, (exempli gratia) is:
(a) give example
(b) example not given
(c) for example★
(d) as a whole

19. What does mean by en bloc?
(a) as a whole (b) together
(c) both of them ★ (d) None of them

20. What does mean by en masse?
(a) in a group (b) all together
(c) both of them ★ (d) none of them

21. Pick out the phrase for 'on the way', 'along the way'?
(a) en bloc (b) en masse
(c) en route★ (d) en way

22. Which phrase's meaning is sense of pride shared by those in a group?
(a) esprit de crops★ (b) en masse
(c) dejure (d) none of these

23. Which phrase is used for 'and others'?
(a) en block (b) in virtue
(c) fait acompli (d) et al. (et ail)★

24. For what the phrase ex officio is used?
(a) Existing by legal establishment
(b) A real officer
(c) By virtue of the office held
(d) None of these★

25. For what the phrase fait accompli is used?
(a) Which is written already?
(b) A term with two meaning
(c) Let the buyer beware
(d) Something already done (opposition is useless)★

26. Prefers to:
(a) and the following pages★
(b) brought forward
(c) front format
(d) final feasibility

27. 'habeas coipis' refers to:
(a) arrest warrants
(b) physically present
(c) illegal detention
(d) a write ordering a person to be brought to court★

28. What is referred by the phrase ibid, ibid, (ibidem)?
(a) in the same place
(b) in the same book
(c) both of them★
(d) none of them

29. What does man by the phrase a prior
(a) deducing from general to specific★
(b) be specific
(c) be short
(d) before time

30. What is meant by ad hoc?
(a) add more
(b) at risk
(c) for this occasion only★
(d) permanent

31. What is referred by the phrase "ad infinitum" (ad inf)
(a) forever
(b) endlessly, without limit★
(c) for this occasion only
(d) none of these

32. Which of the following phrases refers to the point of disgust?
(a) ad hoc (b) Alfresco
(c) ad nauseum★ (d) Albeit

33. Pick out the phrase for 'in proportion to the value'?
(a) ad valorem (ad val) ★
(b) Albeif
(c) Al fresco
(d) Cafe blache

34. Albeit means
(a) although (b) even though
(c) Both of them★ (d) Nonofthem

35. Al fresco, means:
(a) outdoors (b) in the open air
(c) Both of them ★ (d) None of them

36. The phrase bona fide refers to:
(a) authentic (b) in good faith
(c) Both of them ★ (d) None of them

37. Mention the phrase for a free hand'?
(a) Confer (b) Albeit
(c) Circa (d) ca'le blanche★

38. Meaning of the cause celebre is ——.
(a) a controversy
(b) a famous law case
(c) Both of them★
(d) None of them

39. In absentia means:
(a) although not present ★
(b) without jurisdiction
(c) after death
(d) in total

40. Aliundi stands for:
(a) from court (b) from Law
(c) from elsewhere★ (d) from everywhere

41. Which of the following is referred by consensus ad idem?
(a) A term with two meanings
(b) Agreement of opposing parties
(c) Agreement as to the same things★
(d) None of these

42. Corpus stands for:
(a) body ★ (b) cloth
(c) complete (d) solid

43. Corpus delicit stands for:
(a) A guardian of morals
(b) Public offence
(c) The body of the offence★
(d) Write in this way

44. Custos morum stands for:
(a) at the end
(b) public offence
(c) at the beginning
(d) a guardian of morals★

45. What is Ei incumbit Probatio qui?

(a) At the beginning
(b) The onus of proving a fact rests upon the man.★
(c) At the place
(d) So far

46. Pro tanto stands for:
(a) So far★ (b) Willing
(c) Right (d) Population

47. In futoro stands for:
(a) At the beginning (b) At the place
(c) In the future★ (d) Public offence

48. In limine stands for:
(a) At the end
(b) At the outset★
(c) At the place
(d) At the beginning

49. In Pleno stands for:
(a) In good faith (b) In fact
(c) In full★ (d)

50. What does mean by volens?
(a) Agreed (b) Willing★
(c) Consent (d) Unwilling

51. What does mean by Talis qualis?
(a) From outside
(b) Word by word★
(c) From inside
(d) Such as it is

52. Public Juris stands for:
(a) Public offence (b) Public opinion
(c) Of public right★ (d) None of these

53. Which term refers to 'as a whole'?
(a) Inter alia (b) Magnum opus
(c) Loco citato (d) In toto★

54. Which term refers to 'among other things'?
(a) savoir-faire (b) sine die
(c) proximo (d) inter alia★

55. What is Joie de vivre?
(a) Joy of living (b) Zest for life
(c) both of them★ (d) none of them

56. What does mean by Laissez-faire?
(a) A policy of interference
(b) A policy of government control
(c) A policy of non-interference★
(d) A policy of honesty

57. What does mean by Ab extra?
(a) From outside★
(b) From inside
(c) From the beginning
(d) Forever

58. What does mean by Ab inito?
(a) Famous law case
(b) From the beginning★
(c) From inside
(d) From outside

59. For what the phrase loc. Cit. (loco citato) is used?
(a) Above mentioned
(b) Later mentioned
(c) In the place cited★
(d) In the page cited

60. For what the phrase magnum opus is used?
(a) manner of getting alones
(b) in a group
(c) a big news
(d) a great work or undertaking★

61. Which of the following phrases is used for the way in which something is done?
(a) modus Vivendi
(b) per se
(c) modus operandi, M.O.★
(d) proximo

62. What is meant by modus vivendi?
(a) Compromise
(b) Manner of getting along
(c) both of them★
(d) None of them

63. What is meant by 'mutatis mutandis'?
(a) without change
(b) do not change
(c) with many changes
(d) With necessary changes★

64. What is referred by Q.E.O (quod erat demonstradum)?
(a) Which has proved
(b) Proved in court
(c) Evidence needed
(d) Which was to be proved★

65. What is meant by qua?
(a) In the capacity of
(b) In the function of
(c) Both of them★
(d) None of them

66. Quaid pro quo' means:
(a) in absence
(b) one thing in return for another, substitute★
(c) because of this
(d) due to this reason

67. Qvor q.v. (quod vide) means:
(a) in this manner
(b) which of them
(c) which see★
(d) reasons unknown

68. R.S. V.P. (repondez s'il vous plait) means:
(a) Please Tell (b) Please reply★
(c) Please Come (d) At the Place

69. Mention the phrase for 'reason for being' or Justification for existence'?
(a) Raison d'etre★ (b) Sine die
(c) ad hoc (d) ad museum

70. Mention the phrase for 'tact, good at knowing what to say'?
(a) Seria tim (b) Savoir - faire★
(c) Sine die (d) Sic

SENTENCE COMPLETION

1. The significance of the Magna Carta lies not in its _____ provisions, but in its broader impact: it made the king subject to the law.
a) specific ★ b) revolutionary
c) implicit d) controversial
e) finite

2. The theory of cosmic evolution states that the universe, having begun in a state of simplicity and _____, has _____ into great variety.
a) equilibrium. modulated
b) homogeneity. differentiated ★
c) contrast. metamorphosed
d) proportion. accelerated
e) intelligibility. developed

3. Not wishing to appear _____, the junior member of the research group refrained from _____ any criticism of the senior members' plan for dividing up responsibility for the entire project.
a) reluctant. evaluating
b) inquisitive. offering
c) presumptuous. venturing ★
d) censorious. undercutting
e) moralistic. observing

4. In the British theater young people under thirty-five have not had much _____ getting recognition onstage, but offstage-in the ranks of playwrights, directors, designers, administrators-they have mostly been relegated to relative obscurity.
a) trouble ★ b) satisfaction
c) curiosity about d) success at
e) fear of

5. An institution concerned about its reputation is at the mercy of the actions of its members, because the misdeeds of individuals are often used to _____ the institutions of which they are a part.
a) reform b) coerce
c) honor d) discredit ★
e) intimidate

6. Since many casual smokers develop lung cancer and many _____ smokers do not, scientists believe that individuals differ in their _____ the cancer-causing agents known to be present in cigarette smoke.
a) heavy. susceptibility to ★
b) chronic. concern about
c) habitual. proximity to
d) devoted. reliance upon
e) regular. exposure to

7. We accepted the theory that as people become more independent of one another, they begin to feel so isolated and lonely that freedom becomes _____ condition that most will seek to _____.
a) a permanent. postpone
b) a common. enter
c) a negative. escape ★
d) a political. impose
e) an irreparable. avoid

8. If animal parents were judged by human standards, the cuckoo would be one of nature's more _____ creatures, blithely laying its eggs in the nests of other birds,

and leaving the incubating and nurturing to them.

a) Mettlesome b) industrious
c) domestic d) lackluster
e) feckless ★

9. The current penchant for _____ a product by denigrating a rival, named in the advertisement by brand name, seems somewhat _____: suppose the consumer remembers only the rival's name?
a) criticizing. inefficient
b) touting. foolhardy ★
c) enhancing. insipid
d) evaluating. cumbersome
e) flaunting. gullible

10. His imperturbability in the face of evidence indicating his deliberate fraud failed to reassure supporters of his essential _____; instead, it suggested a talent for _____ that they had never suspected.
a) culpability. intrigue
b) wisdom. reproof
c) remorse. loquacity
d) probity. guile ★
e) combativeness. compromise

SENTENCE COMPLETION PRACTICE 1

1. According to some experts, modern science as it emerged in the seventeenth century was essentially a _____ calling: the culture of science was more a _____ than a departure from ecclesiastical traditions.
A. scholarly . . recapitulation of
B. skeptical . . return to
C. religious . . continuation of★
D. solemn . . recantation of
E. technical . . modification of

2. We first became aware that his support for the new program was less than _____ when he declined to make a speech in its favor.
A. qualified B. haphazard
C. fleeting D. unwarranted
E. wholehearted★

3. Because of the excellent preservation of the fossil, anatomical details of early horseshoe crabs were _____ for the first time, enabling experts to_____ the evolution of the horseshoe crab.
A. scrutinized . . ensure
B. verified . . advance
C. identified . . dirt
D. obscured . . illustrate
E. clarified . . reassess★

4. Nothing _____ his irresponsibility better than his_____ delay in sending us the items he promised weeks ago.
A. justifies . . conspicuous
B. characterizes . . timely
C. epitomizes . . unnecessary★
D. reveals . . conscientious
E. conceals . . inexplicable

5. The few dozen gray seals that have thus far died of canine distemper can, at least for now, be considered _____, since most of the remaining 200,000 gray seals appear uninfected by the disease.
A. unexceptional B. immune
C. anomalous★ D. endangered
E. contagious

6. A century ago the physician's word was _____: to doubt it was considered almost sacrilegious.
A. inevitable B. intractable
C. incontrovertible★ D. objective
E. respectable

7. So much of modern fiction in the United States is autobiographical, and so much of the autobiography fictionalized, that the _____ sometimes seem largely _____
A. authors . . ignored
B. needs . . unrecognized
C. genres . . interchangeable★
D. intentions . . misunderstood
E. misapprehensions . . uncorrected

8. Prior to the work of Heckel, illustrations of fish were often beautiful but rarely _____; this cat, combined with the_____ nature of most nineteenth-century taxonomic descriptions, often kept scientists from recognizing differences between species.
A. impressive . . inaccurate
B. realistic . . detailed
C. traditional . . progressive
D. precise . . inexact★
E. distinctive . . sophisticated

9. Because modern scientists find the ancient Greek view of the cosmos outdated and irrelevant, they now perceive it as only of _____ interest.
   A. historical★ B. intrinsic
   C. astronomical D. experimental
   E. superfluous

10. The challenge of interpreting fictional works written under politically repressive regimes lies in distinguishing what is _____ to an author's beliefs, as opposed to what is _____ by political coercion.
   A. innate . . understood
   B. organic . . imposed★
   C. contradictory . . conveyed
   D. oblique . . captured
   E. peripheral . . demanded

SENTENCE COMPLETION PRACTICE 2

1. In scientific studies, supporting evidence is much more satisfying to report than are discredited hypotheses, but, in fact, the _____ of errors is more likely to be _____ than is the establishment of probable truth.
   A. formulation . . permitted
   B. correction . . ignored
   C. detection . . useful★
   D. accumulation . . agreeable
   E. refinement . . conditional

2. Although skeptics say financial problems will probably _____ our establishing a base on the Moon, supporters of the project remain _____, saying that human curiosity should overcome such pragmatic constraints.
   A. beset . . disillusioned
   B. hasten . . hopeful
   C. postpone . . pessimistic
   D. prevent . . enthusiastic★
   E. allow . . unconvinced

3. The state of a nation's science determines its prosperity and political power, and scientists should not _____ this relationship even if their own interest in science is of a less practical nature.
   A. overlook★ B. consider
   C. overestimate D. rely on
   E. notice

4. All _____ biological traits fall into one of two categories: those giving their possessors greater _____the environment and those rendering them more independent of it.
   A. widespread . . detachment from
   B. beneficial . . control over★
   C. successful . . freedom from
   D. neutral . . compatibility with
   E. harmful . . advantage in

5. Most histories of science are success stories that conclude on _____ note with the final _____ of a theory that is the basis of subsequent inquiries by later researchers.
   A. a retrospective . .extrapolation
   B. an analytic . . rebuttal
   C. an objective . . rationalization
   D. a positive . . refutation
   E. a triumphal . . ascendancy★

6. Whereas the Elizabethans struggled with the transition from a medieval _____ experience to modern individualism, we confront an electronic technology that seems likely to reverse the trend, rendering individualism obsolete and interdependence mandatory.
   A. literary B. intuitive
   C. corporate★ D. heroic
   E. spiritual

7. The attempt to breed suitable varieties of jojoba by using hybridization to _____ favorable traits was finally abandoned in favor of a simpler and much faster _____: the domestication of flourishing wild strains.
   A. eliminate . . alternative
   B. reinforce . . method★
   C. allow . . creation
   D. reduce . . idea
   E. concentrate . . theory

8. In spite of the increasing _____ of their opinions, the group knew they had to arrive at a consensus so that the award could be presented.
   A. impartiality B. consistency
   C. judiciousness D. incisiveness
   E. polarity★

9. Supporters praised the mayor's action as speedy and judicious, but critics condemned it as _____ and unfairly influenced by recent events.
   A. innocuous B. fortuitous
   C. beguiling D. discreet
   E. premature★

10. Although frequent air travelers remain unconvinced, researchers have found that, paradoxically, the _____ orientation inherent in jet lag also may yield some mental health _____
   A. temporal . . benefits★
   B. acquired . . hazards
   C. somatic . . disorders
   D. random . . deficiencies
   E. typical . . standards

SENTENCE COMPLETION PRACTICE 3

1. Some artists immodestly idealize or exaggerate the significance of their work, yet others, _____ to exalt the role of the artist, reject a transcendent view of art.
   A. appearing B. disdaining★
   C. seeking D. failing
   E. tending

2. Calculus, though still indispensable to science and technology, is no longer _____; it has an equal partner called discrete mathematics.
   A. preeminent★ B. pertinent
   C. beneficial D. essential
   E. pragmatic

3. Usually the first to spot data that was inconsistent with the findings, in this particular experiment she let a number of _____ results slip by in this particular experiment
   A. inaccurate B. verifiable
   C. redundant D. salient
   E. anomalous★

4. Despite its_____, the book deals _____with a number of crucial issues.
   A. optimism . . cursorily
   B. importance . . needlessly
   C. virtues . . inadequately★
   D. novelty . . strangely
   E. completeness . . thoroughly

5. Because the most recent research has _____ earlier criticism of her work, one has to conclude that scientists who persist in dismissing her contribution are either _____ the latest findings or simply obstinate.
   A. disparaged . . satisfied with
   B. refined . . preoccupied with
   C. rejuvenated . . unmoved by
   D. confirmed . . opposed to
   E. invalidated . . ignorant of★

6. Babcock's criticism of the business practices of fellow merchants was colored by _____: the more successful the other entrepreneurs, the more bitterly they were _____
   A. sensitivity . . courted
   B. jealousy . . castigated★
   C. admiration . . admonished
   D. ambivalence . . dismissed
   E. blame . . exonerated

7. Though his contemporaries tended to fixate on the politician's supposed _____, his personal correspondence _____ a surprising largesse.
   A. charity . . confirms
   B. parsimony . . contradicts
   C. avarice . . betrays★
   D. integrity . . reveals
   E. generosity . . bespeaks

8. In contrast to more _____ publications of ever narrower purview, the journal Antiquity has remained as _____ as it was when it began, continuing to serve the broader interests of the discipline of archaeology.
   A. atypical . . anomalous
   B. specialized . . eclectic★
   C. diverse . . idiosyncratic
   D. irrelevant . . superfluous
   E. authoritative . . autocratic

9. If the theory is self-evidently true, as its proponents assert, then why does _____ it still exist among well-informed people?
   A. support for B. excitement about
   C. regret for D. resignation about
   E. opposition to★

10. Being a religious philosopher, Henry More derived his conception of an infinite universe from the Infinite God in whom he believed, a benevolent God of _____ whose nature was to create _____.
A. plenitude . . abundance★
B. vengeance . . justice
C. indifference . . suffering
D. indulgence . . temperance
E. rectitude . . havoc

TEST 1

1. In the months and years ahead, we intend to build both kinds of strengths; during times of ___ as well as tension, during periods of cooperation as well as conflict, until the world w pass on to our children is truly ___ and fosters diversity and freedom to flourish.
a) Peace...insidious
b) Détente...safe★
c) Perdition...conducive
d) Tranquility...perfidious
e) Safety...insular

2. The Malays in South-East Asia have ____ the English language with priceless words such as "amok" – a word which has been in the language so long that it is hardly ___ to be of Asian origin.
a) Impoverished...apparent
b) Endowed...inconspicuous
c) Supplied...observed
d) Enriched...suspected★
e) Improved...obvious

3. For ten years, candidates have been going through the big food bazaars grinning ___ and shaking hands with astounded females in the ___ belief that somehow this would assure the women's vote.
a) Infectiously...scurrilous
b) Fatuously...dubious★
c) Ceremoniously...wanton
d) Seductively...calculated
e) Abominably...tedious

4. If you wish to be a rapid, efficient reader, you must give up your ___ attention to detail, your compulsive reference to minor points and you must be willing to develop a mindset that ___ on the central themes.
a) Excessive...concentrates★
b) Undue...dwells
c) Aphoristic...centres
d) Elaborate...reflect
e) Perfunctory...hinges

5. The generally high level of ___ of legal systems is not the only reason social orders are unlikely to ___ through the general failure of social systems.
a) Effectiveness...collapse★
b) Vulnerability...fail
c) Effectiveness...grow
d) Predictability...perpetuate
e) Efficiency...fortify

TEST 2

1. Though some of the information the author reveals about Russian life might surprise Americans, her major themes are _____ enough.
A. familiar ★ B. thorough
C. vital D. original
E. interesting

2. Du Bois' foreign trips were the highlight, not the _____, of his travels; he was habitually on the go across and around the United States.
A. idiosyncrasy B. result
C. precursor D. culmination
E. totality ★

3. Biologists _____ isolated oceanic islands like the Galapagos, because in such small, laboratory-like settings, the rich hurly-burly of continental plant and animal communities is reduced to a scientifically _____ complexity.
A. explore....diverse
B. desert...manageable
C. exploit...intimidating
D. Reject...intricate
E. Prize...tractable; ★

4. Ethologists are convinced that many animals survive through learning: but learning that is _____ their genetic programming, learning as thoroughly _____ as the most instinctive of behavioral responses.
A. superseded by.... Primitive
B. compatible with... transient

C. complementary to... familiar
D. derived from ... inventive
E. dictated by... stereotyped; ★

5. While nurturing parents can compensate for adversity, cold or inconsistent parents may _____ it.
A. exacerbate ★ B. neutralize
C. eradicate D. ameliorate
E. relieve

6. The natural balance between prey and predator has been increasingly _____, most frequently by human intervention.
A. celebrated B. predicted
C. observed D. disturbed ★
E. questioned

7. There is perhaps some truth in that waggish old definition of a scholar: a siren that calls attention to a fog without doing anything to _____ it.
A. describe B. cause
C. analyze D. dispel ★
E. thicken

TEST 3

1. He was regarded by his followers as something of _____, not only because of his insistence on strict, discipline, but also because of his_____ adherence to formal details.
A. a martinet. .rigid ★
B. an authority. .sporadic
C. a tyrant. .reluctant
D. a fraud, .conscientious
E. an acolyte. .maniacal

2. Even after _____ against the _____ of popular sovereignty were included, major figures in the humanistic disciplines remained skeptical about the proposal to extend suffrage to the masses.
A. recommendations. .continuation
B. safeguards. .excesses ★
C. arguments. .introduction
D. provisions. .advantages
E. laws. ..creation

3. The sale of Alaska was not so much an American coup as a matter of_____ for an imperial Russia that was short of cash and unable to_____ its own continental coastline.
A. negligence. .fortify
B. custom. .maintain
C. convenience. .stabilize
D. expediency. .defend ★
E. exigency...reinforce

4. A common argument claims that in folk art, the artist's subordination of technical mastery to intense feeling_____ the direct communication of emotion to the viewer.
A. facilitates★ B. averts
C. neutralizes D. implies
E. represses

5. If duty is the natural _____of one's _____ the course of future events, then people who are powerful have duty placed on them whether they like it or not.
A. correlate...understanding of
B. outgrowth. .control over★
C. determinant. .involvement in
D. mitigant ... pre-occupation with
E. arbiter. .responsibility

6. There are no solitary, free-living creatures; every form of life is _____ other forms.
A. segregated from
B. parallel to
C. dependent on ★
D. overshadowed by
E. mimicked by

7. William James lacked the usual _____ death; writing to his dying father, he spoke without _____ about the old man's impending death.
A. longing for. .regret
B. awe of. .inhibition ★
C. curiosity about. ..rancor
D. apprehension of. .eloquence
E. anticipation of. .commiseration

TEST 4

1. Famous among job seekers for its _____, the company, quite apart from generous salaries, bestowed on its executives annual bonuses and such_____ as low-interest home mortgages and company cars.
A. magnanimity. .reparations
B. inventiveness...benefits

C. largesse. .perquisites ★
D. discernment. .prerogatives
E. altruism. .credits

2. The sheer bulk of data from the mass media seems to overpower us and drive us to _____ accounts for an easily and readily digestible portion of news.
A. insular B. investigative
C. synoptic ★ D. subjective
E. sensational

3. Created to serve as perfectly as possible their workaday _____, the wooden storage boxes made in America's Shaker communities are now_____ for their beauty.
A. environment. .accepted
B. owners. .employed
C. function. .valued ★
D. reality...transformed
E. image. .seen

4. In eighth-century Japan, people who _____ wasteland were rewarded with official ranks as part of an effort to overcome the shortage of _____ fields.
A. conserved. .forested
B. reclaimed. .arable ★
C. cultivated. .domestic
D. irrigated. .accessible
E. located, desirable.

5. While not completely nonplussed by the unusually caustic responses from members of the audience, the speaker was nonetheless visibly _____ by their lively criticism.
A. humiliated B. discomfited ★
C. deluded D. disgraced
E. tantalized

6. Because they had expected the spacecraft Voyager 2 to be able to gather data only about the planets Jupiter and Saturn, scientists were _____ the wealth of information it sent back from Neptune twelve years after leaving Earth.
A. disappointed in
B. concerned about
C. confident in
D. elated by ★
E. anxious for

7. The Gibson's were little given to _____ in any form; not one of them was afraid *of* of being and seeming unlike their neighbors.
A. humility. .absurdity
B. excellence. .mediocrity
C. anger. .confrontation
D. conformism...singularity ★
E. ostentation. .eccentricity

TEST 5

1. Opponents of the expansion of the market economy, although in _____, continued to constitute _____ political force throughout the century.
A. error... an inconsequential
B. retreat. .a powerful ★
C. disarray. ,a disciplined
D. jeopardy...an ineffective
E. command. .a viable

2. Just as astrology was for centuries _____ faith, countering the strength of established churches, so today believing in astrology is an act of _____the professional sciences.
A. an individual...rebellion by
B. an accepted.. .antagonism toward
C. an underground...defiance against ★
D. a heretical. ..support for
E. an unknown.. .concern about

3. The belief that science destroys the arts appears to be supported by historical evidence that the arts have _____only when the sciences have been _____.
A. declined. ..attacked
B. flourished. ..neglected ★
C. matured.. .unconcerned
D. succeeded. ..developed
E. floundered.. .constrained

4. In the design of medical experiments, the need for _____ assignment of treatments to patients must be _____ the difficulty of persuading patients to participate in an experiment in which their treatment is decided by chance.
A. independent.. .amended by
B. competent... emphasized by
C. mechanical. ..controlled by

D. swift.. .associated with
E. random. ..reconciled with ★

5. Thomas Paine, whose political writing was often flamboyant, was in private life a surprisingly _____ man: he lived in rented rooms, ate little, and wore drab clothes.
A. Simple ★ B. controversial
C. sordid D. comfortable
E. discourteous

6. Though dealers insist that professional art dealers can make money in the art market, even an _____knowledge is not enough: the art world is so fickle that stock-market prices are _____ by comparison.
A. amateur's. .sensible
B. expert's. .erratic
C. investor's. .booming
D. insider's. .predictable
E. artist's. .irrational ★

7. Linguists have now confirmed what experienced users of ASL (American Sign Language) _____ have always implicitly known: ASL is a grammatically language in that it is capable of expressing every possible syntactic relation.
A. limited B. economical
C. complete ★ D. shifting
E. abstract

TEST 6

1. A recent survey shows that, while ninety-four percent of companies conducting management-training programs open them to women, women are _____ only seventy-four percent of those programs.
A. protesting against
B. participating in ★
C. displeased by
D. allowed in
E. refused by

2. The action and characters in a melodrama can be so immediately _____ that all observers can hiss the villain with an air of smug but enjoyable _____.
A. spurned. .boredom
B. forgotten. .condescension
C. classified. .self-righteousness ★
D. plausible. .guilt
E. gripping. .skepticism

3. Though dealers insist that professional art dealers can make money in the art market, even an _____ knowledge is not enough: the art world is so fickle that stock-market prices are _____ by comparison.
A. amateur's. .sensible
B. expert's. .erratic
C. investor's. .booming
D. insider's. .predictable ★
E. artist's. .irrational

4. The newborn human infant is not a passive figure, nor an active one, but what might be called an actively _____ one, eagerly attentive as it is to sights and sounds.
A. adaptive B. selective
C. inquisitive D. receptive ★
E. intuitive

5. Scholars' sense of the uniqueness of the central concept of "the state" at the time when political science became an academic field quite naturally led to striving for a correspondingly _____ mode of study.
A. thorough B. distinctive ★
C. dependable D. scientific
E. dynamic

6. Despite the fact that the two council members belonged to different political parties, they _____ the issue of how to *finance* the town debt.
A. complicated B. avoided
C. attested to D. reported on
E. agreed on ★

7. Although his attempts to appear psychotic were so _____ as to be almost _____, there is evidence that Ezra Pound was able to avoid standing trial for treason merely by faking symptoms *of* mental illness.
A. spontaneous. ..amusing
B. contrived... believable
C. clumsy.. Ludicrous ★
D. stylized.. distressing
E. sporadic. .premeditated

TEST 7

1. Many educators believe that bilingual education has proved to have definite ___ education in any one tongue.
   a) Correlation with
   b) Limitations on
   c) Advantages over★
   d) Connections for
2. Language, culture and personality may be considered independently of each other in thought but they are ____ in fact.
   a) Equivocal b) Persuasive
   c) Inseparable★ d) Autonomous
3. The people of Europe came to India ___ for riches followed quickly by the desire to rule.
   a) Basically b) Fundamentally
   c) Primarily★ d) Seemingly
4. The orator was so soporific that the audience became ____ .
   a) Elated b) Drowsy★
   c) Affable d) Riotous
5. You may wonder how the expert on fossil remains is able to trace descent through teeth which seem ___ pegs upon which to hang whole ancestries.
   a) Reliable b) Inadequate★
   c) Novel d) Spacious
6. The columnist was very gentle when he mentioned his friends, but he was bitter and even ____ when he discussed people who irritated him.
   a) Acerbic★ b) Remorseful
   c) Stoical d) Laconic
7. With the few exception, explorers now are not individuals setting out alone or in pairs to some remote destinations, instead member of ___ often international undertaking.
   a) A singular b) A private
   c) An insular d) A collaborative★
8. The ____ successfully repelled every ___ on the city.
   a) Defenders – commitment
   b) Citizens – onslaught
   c) Thieves – robbery
   d) Judge - criticism★
9. He was ___ very clever, but he ___ performed excellently.
   a) Certainly – obviously
   b) Never – also
   c) Not – always★
   d) Rarely – seldom
10. A ___ analysis of these substances will show that they differ ___
   a) Random – minutely
   b) Detailed – essentially
   c) Careful – completely★
   d) Final – structurally

MATHEMATICS

UNIT NO. 1

1. A person starts from a point A and travels 3 km eastwards to B and then turns left and travels thrice that distance to reach C. He again turns left and travels five times the distance he covered between A and B and reaches his destination D. The shortest distance between the starting point and destination is
   (a) 18 km (b) 16 km
   (c) 15 km ★ (d) 12 km
2. What is the maximum number of pieces of 5 cm x 5 cm x 10 cm cake that can be cut from a big cake of 5 cm x 30 cm x 30 cm size?
   (a) 10 (b) 15
   (c) 18 ★ (d) 30
3. The marked price on a book is Rs.50. A discount of 10% is allowed. What is the sale price?
   (a) 45 Rs★ (b) 90 Rs
   (c) 35 Rs (d) 49 Rs
4. What percentage of 0.84m in 15cm?
   (a) 81% (b) 82%
   (c) 64% (d) 17.86% ★
5. The price of a T.V set increases from Rs.4500 to Rs.8000, what is the percentage increase?
   (a) 77.78% ★ (b) 90%
   (c) 40% (d) 14%
6. The price of a book increases from Rs.120 to Rs.150. What is the percentage increases?
   (a) 35% (b) 25% ★
   (c) 15% (d) 251%
7. The price of a glass set increases from Rs.600 to Rs.710 What is the percentage increases?
   (a) 18.33% ★ (b) 17.33%
   (c) 10% (d) 14%
8. The original price of a gift pack is 80 Rs. A discount of 15% is allowed in shop. What is the sale price.
   (a) 65 Rs (b) 68 Rs ★
   (c) 61 Rs (d) 50 Rs
9. A man buys calculators at Rs.120 each and sells them at Rs.150 each. What percentage of profit does he make on the sale of each calculator?
   (a) 50% (b) 30%
   (c) 10% (d) 25% ★
10. A man buys shirts at Rs.80 each and sells them at Rs.100 each. What percentage of profit does he make on the sale of each. What percentage of profit does he make on the sale of each shirt?
    (a) 25%★ (b) 40%
    (c) 28% (d) 80%
11. Ahmed bought a shirt for Rs.500 and sold it Rs.525. What profit did he get?
    (a) Rs.75 (b) Rs.50
    (c) Rs.25★ (d) Rs.200
12. Shani bought a table for Rs.200 and sold it Rs.175. How much loss did he get?
    (a) Rs.25★ (b) Rs.40
    (c) Rs.410 (d) Rs.200
13. Rashid bought a shirt for Rs.350 and sold it Rs.300. How much loss did he get?
    (a) Rs.40 (b) Rs.50 ★
    (c) Rs.20 (d) Rs.80
14. Rabia bought a practical copy Rs.60 and sold it Rs.40. How much loss did he get?
    (a) Rs.600 (b) Rs.60
    (c) Rs.40 (d) Rs.20 ★
15. Asim bought a T.V. Rs.8000 and sold it Rs.7000. How much loss did he get?
    (a) Rs.1000 ★ (b) Rs.2000
    (c) Rs.3000 (d) Rs.4000
16. A tailor spends Rs.200 in getting on "Awami suit" prepared and sells the same for R's.300. Find his profit in percent?
    (a) 50%★ (b) 40%
    (c) 70% (d) 80%
17. If the price of a television set is increased by 25%. then by what percentage should the new price be reduced to bring the price back to the original level?
    (a) 15% (b) 25%
    (c) 20%★ (d) 30%
18. If $A = x^2 - y^2$. $B = 20$ and $x + y = 10$, tnen

(a) A is greater than B
(b) B is greater than A
(c) A is equal to B
(d) It is not possible to compare A and B as the data provided is inadequate★

19. Ahmed spends Rs.400 in getting a good table and sells it at Rs.600. Find the % in profit?
(a) 90% (b) 45%
(c) 50% ★ (d) 80%

20. Ali spends Rs.500 to get a good shirt and sells it at Rs.800. Find the % in profit?
(a) 59% (b) 60% ★
(c) 63% (d) 40%

21. Ahmed spends a Rs.44, 000 to get a car and sells it at Rs.48, 000: Find its % in profit?
(a) 12% (b) 9.09% ★
(c) 14% (d) 80%

22. Kiran spends Rs.33, 000 to get a new computer. After few days, the price of computer rises and she sells it at Rs.35, 000. How much profit, she gets in %?
(a) 82% (b) 90%
(c) 46% (d) 6.06% ★

23. Find the average of 8, 16, 32, 49, 51?
(a) 48.9 (b) 31.2
(c) 62.4 (d) 71.06 ★

24. Find the average of 110, 216, 419, 810?
(a) 419.76 (b) 310.61
(c) 388.75★ (d) 840.68

25. Find the average of 57, – 2, – 4, – 6, – 8, – 10, –12?
(a) 69.70 (b) 41.63
(c) 2.78 (d) 2.14 ★

26. Find the average of 81, – 79, 3, 7, –4?
(a) 1.6★ (b) 6.1
(c) 16.1 (d) 61.1

27. Find the average of 49; 51, 29?
(a) 90 (b) 69
(c) 41 (d) 43 ★

28. Find the average of 24, 31, 43, 56, 61, 62, 69?
(a) 51.21 (b) 49.43
(c) 63.46 (d) 69.74 ★

29. Find the average of 205, – 101, 202, –104?
(a) 63.60 (b) 57.43
(c) 50.5★ (d) 61.41

30. The average monthly income of a person in a certain family of 5 is Rs. 1000. What will be the monthly average income of a person in the same family if the income of one person increased by Rs. 12,000 per year?
(a) Rs. 1200 (b) Rs. 1600
(c) Rs. 2000 (d) Rs. 3400★

31. In the series POQ, SRT, VUW,?
The blank space refers to
(a) XYZ (b) XZY
(c) YXZ★ (d) YZX

32. There are three drawers in a table. One contains two gold coins, another two silver coins, and the third, a silver coin and a gold coin. One of the drawers is pulled out and a coin is taken out. It turns out to be a silver coin. What is the probability of drawing a gold coin, if one of the other two drawers is pulled out next and one of the coins in it is drawn at random?
(a) 37.5% (b) 50%★
(c) 62.5% (d) 75%

33. When three coins are tossed together the probability that all coins have the same face up is
(a) $\frac{1}{3}$ (b) $\frac{1}{6}$
(c) $\frac{1}{8}$ (d) None★

34. If the number representing volume and surface area of a cube are equal, then the length of the edge of the cube in terms of the unit of measurement will be
(a) 3 (b) 4
(c) 5 (d) 6★

35. The length, breadth and height of a room are 1, b and h respectively. The perimeter of the ceiling expressed as a percentage of the total area of the four walls is
(a) 100 h (b) 100/h★
(c) h (d) h/100

36. A boat which has a speed of 5 km/hr in still water crosses a river of width 1 km along the shortest possible path in 15 minutes. The velocity of the river water in km/hr is
(a) 1★ (b) 3
(c) 4 (d) $\sqrt{41}$

37. The number of times in a day the Hour-hand and the Minute-hand of a clock at right angles is

(a) 44 (b) 48
(c) 24★ (d) 12

38. Find the average of 2a, – 3a, 4a, 6a, 11a, 13a?
(a) 16.5a★
(b) 18.7a
(c) 8.01a
(d) No one is correct

39. Find the average of 4a, – 4a, 8a, – 8a?
(a) 10 (b) 0 ★
(c) 8 (d) 6

40. Find the average of $\frac{1}{2}, \frac{1}{4}, \frac{1}{6}, \frac{1}{8}$?
(a) 0.389 (b) 0.260 ★
(c) 0.416 (d) 0.419

41. Find the average of $\frac{3}{2}, \frac{13}{2}, \frac{23}{2}$?
(a) 6.5 ★ (b) 81.04
(c) 43.46 (d) 51.49

42. Find the average of 2x, 6x, 8x, 10x, 12x?
(a) 21x (b) 19x ★
(c) 34x (d) 51x

43. What is the total cost of 5 ½ meters of cloth if 1 meter costs Rs.24.50?
(a) 134.75 Rs ★ (b) 130.75 Rs
(c) 129.75 Rs (d) 419.32 Rs

44. If 1 meter of cloth costs Rs.528.What is the cost of $1\frac{2}{3}$?
(a) 1875 Rs (b) 880 Rs ★
(c) 529 Rs (d) 460 Rs

45. Find the average of 3x, – 3x, 6x, 2y, 8x?
(a) 7x + 4y (b) 7x – 3y
(c) 7x + y★ (d) 6x – 8y

46. Find the average of 4x + 1, 2x + 1, 6x + 1, 8x + 1?
(a) 10x + 4y (b) 10x + 2 ★
(c) 2(5x3) (d) 2(5x + 2)

47. Find the average of 2x + y, 3x + y, 4x + y, 6x + y?
(a) $\frac{15x + 4y}{2}$ ★ (b) $\frac{17x + y}{3}$
(c) $\frac{4x - 3y}{2}$ (d) $\frac{25x - 2y}{4}$

48. A man purchases two clocks A and B at a total cost of Rs. 650. He sells A with 20% profit and B at a loss of 25% and gets the same selling price for both the clocks. What are the purchasing prices of A and B respectively?
(a) Rs. 225; Rs. 425
(b) Rs. 250; Rs. 400★
(c) Rs. 275; Rs. 375
(d) Rs. 300; Rs. 350

49. If 15 pumps of equal capacity can fill a tank in 7 days, then how many extra pumps will be required to fill the tank in 5 days?
(a) 6★ (b) 7
(c) 14 (d) 21

50. Out of the three annual examinations, each with a total of 500 marks, a student secured average marks of 45% and 55% in the first and second annual examinations. To have an overall average of 60%, how many marks does the student need to secure in the third annual examination?
(a) 450 (b) 400★
(c) 350 (d) 300

51. One local and another express train were proceeding in the same direction on parallel tracks at 29 km/hour and 65 km/hour respectively. The driver of the former noticed that it took exactly 16 seconds for the faster train to pass by him. What is the length of the faster train?
(a) 60 m (b) 120 m
(c) 160 m★ (d) 240 m

52. In a family, a couple has a son and a daughter. The age of the father is three times that of his daughter and the age of the son is half of his mother. The wife is nine years younger to her husband and the brother is seven years older than his sister. What is the age of the mother?
(a) 40 years (b) 45 years
(c) 50 years★ (d) 60 years

53. The missing fraction in the series given below is:

$$\frac{4}{9}, \frac{9}{20}, \ldots\ldots, \frac{39}{86}$$

(a) $\frac{17}{40}$ b. $\frac{19}{42}$ ★
c. $\frac{20}{45}$ d. $\frac{19}{53}$

54. There are 50 students admitted to a nursery class. Some students can speak only English and some can speak only Urdu. 10 students

can speak both English and Urdu. If the number of students who can speak English is 21, then how many students can speak Urdu, how many can speak only Urdu and how many can speak only English?

(a) 21, 11 and 29 respectively
(b) 28, 18 and 22 respectively
(c) 37, 27 and 13 respectively
(d) 39, 29 and 11 respectively★

55. An accurate clock shows the time as 3.00. After hour hand has moved 135°, the time would be

(a) 7.30★ (b) 6.30
(c) 8.00 (d) 9.30

56. If the cost of a loaf is 5.50Rs. What is the cost of $1\frac{2}{3}$ loaves of bread?

(a) 471.68 Rs (b) 529.76 Rs
(c) 13.75 Rs ★ (d) 15.0 Rs

57. If the cost of 1 dozen mangos is P.s.20 what is the cost of $3\frac{1}{2}$

(a) 85Rs (b) 49Rs
(c) 68Rs (d) 70Rs ★

58. If the cost of 1 meter fine cloth is 421Rs. What is the cost of $1\frac{3}{5}$?

(a) 673.6 Rs ★ (b) 721 Rs
(c) 154.80 Rs (d) 522.68 Rs

59. The whole journey in a walking competition is 15km. Ali has completed 9km. What percentage of the whole journey has he completed?

(a) 60%★ (b) 70%
(c) 75% (d) 64%

60. The total distance for a long walk is 25km. Asim covered a distance of 10km. What percentage of the whole walk has he completed?

(a) 60% (b) 40% ★
(c) 70% (d) 50%

61. Saima, scored 178 matte out of 300 marks in a certain text. What percentage of marks did she score?

(a) 48% (b) 52.41%
(c) 61.41% (d) 59.33% ★

62. The total distance from school to house is 35km. Arif covered a distance of 17km. What Percentage of the whole distance has he covered?

(a) 314% (b) 219%
(c) 48.57% ★ (d) 103.57%

63. This road is only 50km long. We covered a distance of 20km. What percentage of distance have we covered?

(a) 40%★ (b) 69%
(c) 48% (d) 53%

64. We covered a 150km distance of Islamabad road. The total distance is 370km. What percentage of distance have we covered?

(a) 30% (b) 40.54% ★
(c) 67% (d) 41%

65. Ali gained 510 marks in matriculation examination. What percentage of marks did he gain?

(a) 60%★ (b) 57%
(c) 71% (d) 73%

66. A man is standing on the 8 m long shadow of a 6 m long pole. If the length of his shadow is 2.4 m, what is the height of the man?

(a) 1.4m (b) 1.6m
(c) 1.8m ★ (d) 2.0m

67. If the angles of a triangle are in the ratio of 4: 3: 2, then the triangle

(a) is obtuse
(b) has one angle greater than 80°
(c) is a right triangle
(d) is acute ★

68. The surface area of a spherical dome-shaped roof of a cylindrical water tank shown in the figure is

(a) 60 n m^2 (b) 109 n m^2★
(c) 120 n m^2 (d) 300 n m^2

69. If $X + 2Y = 2X + Y$, then X^2 / Y^2 is equal to

(a) 0 (b) 1 ★
(c) 2 (d) 4

70. A hemispherical bowl is filled to the brim with a beverage. The contents of a bowl are transferred into a cylindrical vessel whose radius is 50% more than its height. If the diameter is same for both bowl and cylinder, then the volume of the beverage in the, cylindrical vessel will be

(a) 66(2/3)%
(b) 78½%
(c) 100% ★
(d) more than 100% (that is, some liquid will still be left in the bowl)

71. A hunter aims his gun at a point between the eyebrows of a monkey sitting on a branch of a tree. Just as he fires, the monkey jumps down. The bullet will
(a) hit the monkey at the point aimed ★
(b) hit the monkey below the point aimed
(c) hit the monkey above the point aimed
(d) miss the monkey altogether

72. The area of an ellipse is twice that of a circle. The major diameter of the ellipse is twice that of the minor diameter. The radius of the circle is
(a) 50% of minor diameter of the ellipse★
(b) 50% of major diameter of the ellipse
(c) minor diameter of the ellipse
(d) major diameter of the ellipse

73. Amar, Akbar and Anthony are friends, being looked after by a matron Farah. Amar weighs 50% more than Akbar and Anthony weighs 25% less than Amar. Farah weighs a third of the combined weight of the three boys. All four together weigh 232 kg. The correct arrangement of the persons in the ascending order of their weights is
(a) Anthony, Akbar, Farah, Amar
(b) Anthony, Akbar, Amar, Farah
(c) Akbar, Anthony, Amar, Farah
(d) Akbar, Anthony, Farah, Amar ★

74. A basketball team won 18 out of 30 games played. What percentage of marks did he score?
(a) 60%★ (b) 40%
(c) 43% (d) 87%

75. Arif gained 8 marks in test what percentage of marks he gained?
(a) 48% (b) 80%
(c) 72% (d) 48% ★

76. Ali gained 18 numbers in monthly test who consist of 50 marks what percentage of marks he gained?
(a) 36%★ (b) 48%
(c) 51% (d) 64%

77. I covered 8km distance out of 1000m what percentage of distance I covered?
(a) 51.89% (b) 80% ★
(c) 67% (d) 41%

78. What percentage of 2m in 10 cm.
(a) 50%★ (b) 50%
(c) 60% (d) 80%

79. If the average of three numbers is V. If one of the numbers is Z and another is Y, what is the remaining number?
(a) ZY – V (b) Z/V – 3 – Y
(c) Z/3 – V – Y (d) 3V- Z – Y★

80. What percentage of $\frac{3}{4}$ m in 10cm?
(a) 133.3% (b) 40%
(c) 13.33% ★ (d) 48%

81. What percentage of 5m in 20cm?
(a) 4%★ (b) 40%
(c) 70% (d) 80%

82. What percentage of 20m in 120cm?
(a) 5% (b) 6% ★
(c) 63% (d) 71%

83. What percentage of 0.5m in 10cm?
(a) 23% (b) 27%
(c) 20%★ (d) 41%

84. What percentage of 0.5m in 30cm?
(a) 60% ★ (b) 29%
(c) 34% (d) 80%

85. Two wires have their lengths, diameters and resistivities, all in the ratio of 1: 2. If the resistance of the thinner wire is 10 ohms, the resistance of the thicker wire is
(a) 10 ohms (b) 5 ohms
(c) 20 ohms ★ (d) 40 ohms

86. Within biological communities, some species are important in determining the ability of a large number of other species to persist in the community. Such species are called
(a) Keystone species
(b) Allopatric species
(c) Sympatric species ★
(d) Threatened species

87. Two chairs and one table cost Rs.400, while one table and one chair cost Rs.300. What is the price of the table?
(a) Rs.100 (b) Rs.200★
(c) Rs.300 (d) Rs.400

88. By selling a fan for Rs. 475, a person loses 5%. To get a gain of 5%, he should sell the fan for:
(a) Rs. 500 (b) Rs. 525★
(c) Rs. 535 (d) Rs. 575

89. A rectangular water tank measures 15 m x 6 m at top and is 10 m deep. It is full of water. If water is drawn out lowering the level by 1

metre, how much of water has been drawn out?

(a) 45,000 litres (b) 90,000 litres★
(c) 4,500 litres (d) 900 litres

90. An accurate clock shows 8 O'clock in the morning. Through how many degrees will the hour hand rotate when the clock shows 2 O'clock in the afternoon?

(a) 150° (b) 144°
(c) 168° (d) 180° ★

91. The monthly income of Komal and Asha are in the ratio of 4: 3. Their monthly expenses are in the ratio of 3: 2. However, both save Rs. 600 per month. What is their total monthly income?

(a) Rs. 8,400 (b) Rs. 5,600
(c) Rs. 4,200 ★ (d) Rs. 2,800

92. If $X = -2$, then $X^3 - X^2 - X - 1$ is equal to

(a) 1 (b) -3
(c) -11 ★ (d) -15

93. Examine the following relationships among members of a family of six persons A, B, C, D, E and F.

I. The number of males equals that of females.
II. A and E are sons of F.
III. D is the mother of two, one boy and one girl.
IV. B is the son of A.
V. There is only one married couple in the family at present.

Which one of the following inferences can be drawn from the above?

(a) A, B and C are all females
(b) A is the husband of D★
(c) E and F are children of D
(d) D is the grand-daughter of F

94. The given diagram shows the number of students who failed in an examination comprising papers in English, Hindi and Mathematics. The total number of students who took the test is 500. What is the percentage of students who failed in at least two subjects?

(a) 6.8 (b) 7.8 ★
(c) 34 (d) 39

95. In a class there are 18 boys who are over 160 cm tall. If these boys constitute three-fourths of the boys and the total number of boys is two-third of the number of students in the class, then what is the number of girls in the class?

(a) 6 (b) 12 ★
(c) 18 (d) 24

96. A rectangular piece of iron sheet measuring 50 cm by 100 cm is rolled into a cylinder of height 50 cm. If the cost of painting the cylinder is Rs. 50 per square metre, then what will be the cost of painting the outer surface of the cylinder?

(a) Rs. 25.00 ★ (b) Rs. 37.50
(c) Rs. 75.00 (d) Rs. 87.50

97. In an examination, every candidate took Physics or Mathematics or both. 65.8% took Physics and 59.2% took Mathematics. The total number of candidates was 2000. How many candidates took both Physics and Mathematics?

(a) 750 (b) 500 ★
(c) 250 (d) 125

98. A bag contains 20 balls. 8 balls are green, 7 are white and 5 are red. What is the minimum number of balls that must be picked up from the bag blind-folded (without replacing any of it) to be assured of picking at least one ball of each colour?

(a) 4 (b) 7
(c) 11 (d) 16 ★

99. Which one of the following has a greater perimeter than the rest?

(a) A square with an area of 36 sq cm
(b) An equilateral triangle with a side of 9 cm
(c) A rectangle with 10 cm as length and 40 sq cm as area ★
(d) A circle with a radius of 4 cm

100. A club has 108 members. Two-thirds of them are men and the rest are women. All members are married except for 9 women members. How many married women are there in the club?

(a) 20 (b) 24
(c) 27 ★ (d) 30

UNIT NO. 2

1. A steel rod has a diameter of 2.25cm Express its diameter in millimeter?

(a) 22.5mm ★ (b) 0.25min
(c) 0.46mm (d) 0.49m

2. The original price of a perfume is Rs.250. The discount is allowed 25% in sale. What is the sale price?
   (a) 187.5 Rs ★ (b) 210 Rs
   (c) 1870 Rs (d) 130 Rs
3. Two cyclists start biking from a trail's start 3 hours apart. The second cyclist travels at 10 miles per hour and starts 3 hours after the first cyclist who is traveling at 6 miles per hour. How much time will pass before the second cyclist catches up with the first from the time the second cyclist started biking?
   (a) 2 hours (b) 4 ½ hours★
   (c) 5 ¾ hours (d) 6 hours
4. A complete cycle of a traffic light takes 60 seconds. During each cycle the light is green for 25 second, yellow for 5 second and red for 30 second. At a randomly chosen time, the probability that the light will not be green is
   (a) 1/3 (b) 1/4
   (c) 5/12 (d) 7/12★
5. A solid cube just gets completely immersed in water when a 0.2 kg mass is placed on it. If the mass is removed, the cube is 2 cm about the water level. What is the length of each side of the cube?
   (a) 12 cm (b) 10 cm★
   (c) 8 cm (d) 6 cm
6. Solve the given equations:
   $x^2 + y^2 = 34$
   $x^4 - y^4 = 544$
   The values of x and y are
   (a) ± 4, ± 3 (b) ± 5, ± 3 ★
   (c) ±3, ±5 (d) ±3, ±4
7. A worker reaches his factory 3 minutes late if his speed from his house to the factory is 5 km/hr. If he walks at a speed of 6 km/hr, then he reaches the factory 7 minutes early. The distance of the factory from his house is
   (a) 4 km (b) 5 km ★
   (c) 6 km (d) 7 km
8. A conveyer belt delivers baggage at the rate of 3 tons in 5 minutes, and a second conveyer belt delivers baggage at the rate of 1 ton in 2 minutes. How much time will it take to get 33 tons of baggage delivered using both the conveyer belts?
   (a) 25 minutes and 30 seconds ★
   (b) 30 minutes
   (c) 35 minutes
   (d) 40 minutes and 45 seconds
9. Water is filled in a container in such a manner that its volume doubles after every five minutes. If takes 30 minutes for the container to be full, in how much time will it be one-fourth full?
   (a) 7 minutes and 30 seconds ★
   (b) 10 minutes
   (c) 20 minutes
   (d) 25 minutes
10. A city has a population of 3,00,000 out of which 1,80,000 are males. 50% of the population is literate. If 70% of the males are literate, the number of literate females is
    (a) 24,000 (b) 30,000
    (c) 54,000 ★ (d) 60,000
11. A certain number when divided by 899 gives a remainder 63. What is the remainder when the same number is divided by 29?
    (a) 25 (b) 5★
    (c) 27 (d) 31
12. A man engaged a servant on the condition that he would pay him Rs. 90 and also give him a turban after service of one year. He served only for nine months and received a turban and Rs. 65. Find the value of the turban in rupees
    (a) 10★ (b) 9
    (c) 0 (d) 2.50
13. A can do a piece of work in 24 days which B can do it in 16 days. With the help of C, they finish the work in 8 days. C alone can do the work in____
    (a) 48 days★ (b) 36 days
    (c) 32 days (d) 40 days
14. A garrison of 500 men had provisions for 24 days. However reinforcement of 300 men arrived. The food will now last for ____.
    (a) 18 days (b) 15 days★
    (c) 17 1/2 days (d) 16 days
15. If 3 men with 4 boys can earn Rs.210 in 7 days and 11 men with 13 boys can earn Rs.810 on 8 days in what time will men with 9 days earn Rs.1100?
    (a) 6 days (b) 10 days
    (c) 12 days (d) 16 days★
16. In a business, A invests half as much as B and B invests twice as much as C. If C invests Rs. 563, then A's investment is _____
    (a) Rs.1126 (b) Rs.1689
    (c) Rs.563★ (d) None

17. The ratio between two numbers is 3:5. If each number is increased by 5, the ratio becomes 4:5, difference between the numbers is ____
(a) 1 (b) 2★
(c) 3 (d) 4

18. In a mixture of 28 litres, the ratio of milk and water is 5:2. Another 2 litres of water is added to the mixture then the ratio of milk and water in the resulting mixture is ____.
(a) 7:2 (b) 1:2
(c) 5:4 (d) 2:1★

19. The average of 13 results is 68. The average of first seven is 63 and that of the last seven is 70; the seventh result is ____.
(a) 73.5 (b) 94
(c) 47★ (d) 69

20. A school has enough food for 400 children for 12 days. How long will the food last if 80 more children join them?
(a) 6 days (b) 7 days
(c) 10 days★ (d) 8 days

21. In a survey, it was found that 80% of those surveyed owned a car while 60% of those surveyed owned a mobile phone. If 55% owned both a car and a mobile phone, what per cent of those surveyed owned a car or a mobile phone or both?
(a) 65% (b) 80%
(c) 85% (d) 97.5% ★

22. A circle of 1 m radius is drawn inside a square as shown in the figure given above. What is the area of the shaded portion in m2?
(a) (4 - π) (b) 1 + (π/2)
(c) (1/4) - (π/4) ★ (d) 1 - (π/4)

23. A person travels from X to Y a speed of 40 kmph and returns by increasing his speed by 50%. What is his average speed for both the trips?
(a) 36 kmph★ (b) 45 kmph
(c) 48 kmph (d) 50 kmph

24. Consider the following climatic and geographical phenomena:
1. Condensation
2. High temperature and humidity
3. Orography
4. Vertical wind
Thunder Cloud development is due to which of these phenomena?
(a) 1 and 2★ (b) 2, 3 and 4
(c) 1, 3 and 4 (d) 1, 2, 3 and 4

25. A trader fixed the price of an article in such a way that by giving a rebate of 10% on the price fixed he made a profit of 15%. If the cost of the article is Rs 72, the price fixed on it is
(a) Rs 82.80 (b) Rs 90.00
(c) Rs 92.00★ (d) Rs 97.80

26. A physical length consists of 20m. Express it in centimeter?
(a) 2.04 cm (b) 2000 cm ★
(c) 4.06cm (d) 4.09cm

27. A physical quantity consists of 14.49cm. Express it in millimeter?
(a) 1 .449 mm (b) 1449 min
(c) 144.9 mm ★ (d) 15.19 min

28. A book has a diameter of 2.56cm. Express its diameter in meter?
(a) 0.00256m (b) 0.0256m ★
(c) 0.0265m (d) 0.00265m991

29. Express 5000×10^{-9}m in millimeter?
(a) 5.00×10^{-3}mm
(b) 5000×10^{-6} mm ★
(c) 5.00×10^{2}m
(d) 5.00×10^{3} mm

30. Express 0.024×10^{-3} in milimeter?
(a) 0.244 mm ★
(b) 0.024×10^{6}mm
(c) 2.4×10^{3}mm
(d) No one is correct.

31. Mary is reviewing her algebra quiz. She has determined that one of her solutions is incorrect. Which one is it?
(a) 2x + 5 (x-1) = 9, x = 2
(b) p – 3(p-5) = 10, p = 2.5
(c) 4 y + 3 y = 28, y = 4
(d) 5 w + 6 w – 3w = 64, w = 8
E. t – 2t – 3t = 32, t = 8★

32. What simple interest rate will Susan need to secure to make $2,500 in interest on a $10,000 principal over 5 years?
(a) 4% (b) 5%★
(c) 6% (d) 7%

33. Jim can fill a pool carrying buckets of water in 30 minutes. Sue can do the same job in 45 minutes. Tony can do the same job in 1 ½ hours. How quickly can all three fill the pool together?

(a) 12 minutes (b) 15 minutes★
(c) 21 minutes (d) 23 minutes

34. A study reported that in a random sampling of 100 women over the age of 35 showed that 8 of the women were married 2 or more times. Based on the study results, how many women in a group of 5,000 women over the age of 35 would likely be married 2 or more times?
(a) 55 (b) 150
(c) 200 (d) 400★

35. John is traveling to a meeting that is 28 miles away. He needs to be there in 30 minutes. How fast does he need to go to make it to the meeting on time?
(a) 25 mph (b) 37 mph
(c) 56 mph★ (d) 49 mph

36. If Steven can mix 20 drinks in 5 minutes, Sue can mix 20 drinks in 10 minutes, and Jack can mix 20 drinks in 15 minutes, how much time will it take all 3 of them working together to mix the 20 drinks?
(a) 2 minutes and 44 seconds★
(b) 2 minutes and 58 seconds
(c) 3 minutes and 10 seconds
(d) 3 minutes and 26 seconds

37. If Sam can do a job in 4 days that Lisa can do in 6 days and Tom can do in 2 days, how long would the job take if Sam, Lisa, and Tom worked together to complete it?
(a) 0.8 days (b) 1.09 days★
(c) 1.23 days (d) 1.65 days

38. A train of length 150 metres, moving at a speed of 90 km/hr can cross a 200 metre bridge in
(a) 8 seconds (b) 14 seconds★
(c) 6 seconds (d) 15 seconds

39. The age of a man is three times the sum of the ages of his two sons. Five years hence, his age will be doubled of the sum of the ages of his sons. The father's present age is
(a) 40 years (b) 45 years★
(c) 50 years (d) 55 years

40. The length of the longest pole that can be placed in a room 12 m long and 9 m wide and 8 m high is
(a) 12 m (b) 14 m
(c) 17 m★ (d) 21 m

41. The mass of an object is 56.32g. Express this mass microgram?
(a) 5.32×10^{11} g (b) 56320000g ★
(b) $563.2g \times 10^{-3}$ (d) 56.32×10^{5} g

42. 0.000024g figure in microgram?
(a) 24000 g (b) 0.0024 g
(c) 240 g (d) 24 g ★

43. Jim has 5 pieces of string. He needs to choose the piece that will be able to go around his 36-inch waist. His belt broke, and his pants are falling down. The piece needs to be at least 4 inches longer than his waist so he can tie a knot in it, but it cannot be more that 6 inches longer so that the ends will not show from under his shirt. Which of the following pieces of string will work the best?
(a) 3 feet (b) 3 ¾ feet
(c) 3 ½ feet★ (d) 3 ¼ feet

44. The last week of a month a car dealership sold 12 cars. A new sales promotion came out the first week of the next month and the sold 19 cars that week. What was the percent increase in sales from the last week of the previous month compared to the first week of the next month?
(a) 58%★ (b) 119%
(c) 158% (d) 175%

45. If two planes leave the same airport at 1:00 PM, how many miles apart will they be at 3:00 PM if one travels directly north at 150 mph and the other travels directly west at 200 mph?
(a) 50 miles (b) 100 miles
(c) 500 miles★ (d) 700 miles

46. During a 5-day festival, the number of visitors tripled each day. If the festival opened on a Thursday with 345 visitors, what was the attendance on that Sunday?
(a) 345★ (b) 1,035
(c) 1,725 (d) 3,105

47. If the length of a rectangular plot is reduced to 3/5th of its original length what will be the ratio of original area to the reduced area?
(a) 5:3★ (b) 2:3
(c) 4:3 (d) 6:3

48. 5 workers, working 8 hours a day, finished painting a house in 2 days. If an identical house has to be painted completely in a day by 8 workers, how many hours should they work?
(a) 9 (b)★10
(c) 11 (d) 13

49. Twelve men take 6 hours to finish a piece of work. After the 12 men have worked for 1

hour, the contractor decides to call in 8 more men. How many more hours would 20 men take to complete the remaining work?

(a) 2 (b) 3★
(c) 4 (d) 5

50. Population of a district is 2,96,000 out of which 1,66,000 are male. 50% of the population is literate. If 70% males are literate, the number of women, who are literate is_.

(a) 32,200 (b) 66,400
(c) 31,800★ (d) 48,000

51. Two ladies simultaneously leave cities A and B connected by a straight road and travel towards each other. The first lady travels 2 km/hr faster than the second lady and reaches B one hour before the second lady reaches A. The two cities A and B are 24 km apart. How many kilometers does each lady travel in one hour?

(a) 5 km, 3 km (b) 7 km, 5 km
(c) 8 km, 6 km★ (d) 16 km, 14 km

52. Amir started a business by investing Rs. 30,000. Rahat joined the business after some time and invested Rs. 20,000. At the end of the year, profit was divided in the ratio of 2: 1. After how many months did Rahat joined the business?

(a) 2 (b) 3★
(c) 4 (d) 5

53. The time in the wall-clock is 3.25 the acute angle between the hours-hand and the minutes-hand is

(a) 60° (b) 52 ½°
(c) 47 ½°★ (d) 42°

54. A car travels the first one-third of a certain distance with a speed of 10 km/hr, the next one-third distance with a speed of 20 km/hr and the last one-third distance with a speed of 60 km/hr. The average speed of the car for the whole journey is

(a) 18 km/hr★ (b) 24 km/hr
(c) 30 km/hr (d) 36 km/hr

55. 'A' walks around a circular field at the rate of one round per hour while 'B' runs around it at the rate of six rounds per hour. They start in the same direction from the same point at 7.30 a.m. They shall first cross each other at

(a) 8.30 a.m. (b) 8.10 a.m.
(c) 7.48 a.m. (d) 7.42 a.m. ★

56. Four different candles, which can last for 5 hours, 4 hours. 3 hours and 2 hours of burning, respectively, are lit in a room at the same instant and allowed to burn till such time that the three candles in the room get extinguished. The cost of burning each one of these candles is 75 paise per hour. The cost involved is:

(a) Rs. 2.75 (b) Rs. 3.75
(c) Rs. 9.75★ (d) Rs. 12.50

57. Asma starts walking towards the east and, after covering a distance of 20 m, she turns left and runs for 15 m. She, then, turns to her right and moves 25 m. From there, she again turns right and walks for 15 m. How far is she from her starting point?

(a) 40 m (b) 45 m ★
(c) 50 m (d) 60 m

58. Atif is as much younger to Asma as he is older to Latif. If the sum of ages of Asma and Latif is 48 years, how old is Atif?

(a) 20 (b) 24 ★
(c) 28 (d) 32

59. From one o'clock in the morning till 12 noon, how many times will the pendulum of a wall clock strike?

(a) 78 ★ (b) 87
(c) 68 (d) 86

60. The ratio of Asif's age to his mother's age is 4:7. The difference between their ages is 33 years. How old is Asif today?

(a) 4 4 ★ (b) 3 3
(c) 2 2 (d) 11

61. The ratio of Saima and her brother's age is 3 : 4. If there are still eight months for her to complete 25 years, how old is her brother.

(a) 14 (b) 15 ★
(c) 16 (d) 18

62. Total time taken by a person in going to a place by walking and returning on cycle is 5 hours 45 minutes. He would have gained 2 hours by cycling both ways. The time taken by him to walk both ways is

(a) 6 hours 45 minutes
(b) 7 hours 45 minutes★
(c) 8 hours 15 minutes
(d) 8 hours 30 minutes

63. There are 6 persons: A, B, C, D, E and F
A has 3 items more than C

D has 4 items less than B

E has 6 items less than F

C has 2 items more than E

F has 3 items more than D

Which one of the following figures cannot be equal to the total number of items possessed by all the 6 persons?

(a) 41 (b) 47

(c) 53 (d) 58★

64. Ten identical particles are moving randomly inside a closed box. What is the probability that at any given point of time all the ten particles will be lying in the same half of the box?

(a) ½ (b) 1/5★

(c) 2/9 (d) 2/11

65. An equilateral triangular plate is to be cut into n number of identical small equilateral triangular plates. Which one of the following can be possible value of n?

(a) 196 (b) 216★

(c) 256 (d) 296

66. There are 10 identical coins and each one of them has 'H' engraved on its one face and "T" engraved on its other face. These 10 coins are lying on a table and each one of them has 'H' face as the upper face.

In one attempt, exactly four (neither more nor less) coins can be turned upside down. What is the minimum total number of attempts in which the "T" faces of all the 10 coins can be brought to be the upper faces?

(a) 4★ (b) 7

(c) 8 (d) Not possible

67. Three students are picked at random from a school having a total of 1000 students. The probability that these three students will have identical data and month of their birth is:

(a) 3/1000 (b) 3/365★

(c) $1/(365)^2$ (d) $1/(365)^2$

68. Left pan of a faulty balance weights 100 gram more than its right pan. A shopkeeper keeps the weight measure in the left pan while buying goods but keeps it in the right pan while selling his goods. He uses only 1 kg weight measure. If he sells his goods at the listed cost price, what is his gain?

(a) 200/11%★ (b) 100/11%

(c) 100/9% (d) 200/9%

69. On a railway route between two places A and B there are 10 stations on the way. If 4 new stations are to be added, how many types of new tickets will be required if each ticket is issued for a one way journey?

(a) 14 (b) 48★

(c) 96 (d) 108

70. A big rectangular plot of area 4320m2 is divided in to 3 square-shaped smaller plots by fencing parallel to the smaller side of the plot. However some area of land was still left as a square could not be formed. So, 3 more square-shaped plots were formed by fencing parallel to the longer side of the original plot such that no area of the plot was left surplus. What was the dimensions of the original plot?

(a) 160 m x 27 m (b) 240 mx 18 m

(c) 120 m x 36 m★ (d) 135 m x 32 m

71. 2 men and 1 women board a bus in which 5 seats are vacant. One of these five seats is reserved for ladies. A woman may or may not sit on the seat reserved for ladies but a man cannot sit on the seat reserved for ladies. In how many different ways can the five seats be occupied by these three passengers?

(a) 15 (b) 36★

(c) 48 (d) 60

72. A square is divided into 9 identical smaller squares. Six identical balls are to be placed in these smaller squares such that each of the three rows gets at least one ball (one ball in one square only). In how many different ways can this be done?

(a) 27 (b) 36

(c) 54 (d) 81★

73. There are 6 persons-A, B, C, D, E and F. They are to be seated in a row such that B never sits any where ahead of A and C never sits any where ahead of B. In how many different ways can this be done?

(a) 60 (b) 72

(c) 120★ (d) None

74. In a tournament each of the participants was to play one match against each of the other participants. 3 players fell ill after each of them had played three matches and had to leave the tournament. What was the total number of participants at the beginning, if the total number of matches played was 75?

(a) 8 (b) 10

(c) 12 (d) 15★

75. P, Q, R, S and T reside in a 5-storeyed

(Ground + 4) building, and each of them resides on a separate floor. Further,

I. T does not reside on the top-most floor.

II. Q does not reside on the ground floor.

III. S resides on one storey above that of P and one storey below that of R.

To know as to which one of the five persons reside on the ground floor which of the above statements are sufficient/insufficient?

(a) I and III are sufficient.

(b) II and III are sufficient.

(c) I, II and III are sufficient.

(d) I, II and III are insufficient. ★

76. A box contains five set of balls while there are three balls in each set. Each set of balls has one colour which is different from every other set. What is the least number of balls that must be removed from the box in order to claim with certainly that a pair of balls of the same colour has been removed?

(a) 6★ (b) 7

(c) 8 (d) 9

77. There are three parallel straight lines. Two points A and B are marked on the first line, points C and D are marked on the second lines and points E and F are marked on the third line. Each of these six points can move to any position on its respective straight line.

Consider the following statements:

I. The maximum number of triangles that can be drawn by joining these points is 18.

II. The maximum number of triangles that can be drawn by joining these points is zero.

Which of the statements given above is/are correct?

(a) I only (b) II only★

(c) Both I and II (d) Neither I nor II

78. A mixed doubles tennis games is to be played between two teams (each team consists of one male and one female). There are four married couples. No team is to consist of a husband and his wife. What is the maximum number of games that can be played?

(a) 12 (b) 21

(c) 36 (d) 42★

79. In an office, the number of persons who take tea is twice the number of persons who take only coffee. The number of persons who take coffee is twice the number of persons who take only tea. Consider the following statement:

I. The sun of the number of persons who take either tea or coffee or both in four times the number of persons who take both coffee and tea.

II. The sun of the number of persons who take only coffee and those who take only tea is twice the number of persons who take both tea and coffee.

Which of the statements given above is/are correct?

(a) I only (b) II only★

(c) Both I and II (d) Neither I nor II

80. 3 digits are chosen at random from 1, 2, 3, 4, 5, 6, 7, 8 and 9 without repeating any digit. What is the probability that their product is odd?

(a) 2/3 (b) 5/108

(c) 5/42★ (d) 7/48

81. Each of the five persons A, B, C, D and E possesses unequal number (<10) of similar items. A, B and C possess 21 items in all, while C, D and E posses 7 items in all. How many items do A and B possess in all?

(a) 15

(b) 17

(c) 18

(d) Data is insufficient★

82. There are 8 equidistant points A, B, C, D, E, F, G and H in the clock wise direction on the periphery of a circle. In a time interval t, a person reaches from A to C with uniform motion while another person reaches the point E from the point B during the same time interval with uniform motion. Both the persons move in the same direction along the circumference of the circle and start at the same instant. How much time after the start, will the two persons meet each other?

(a) $4t$ (b) $7t$★

(c) $9t$ (d) Never

83. Consider the following statements:

I. Free and compulsory education to the children of 6-14 years age group by the State was made a Fundamental Right by the Constitution of Pakistan.

II. Pakistan Education Front seeks to provide computer education even in rural areas.

III. Education was included in the Concurrent List by the Constitution of Pakistan.

Which of the statements given above are correct?

(a) I, II and III (b) I and II only
(c) II and III only★ (d) I and III only

84. In a question paper, there are four multiple-choice questions. Each question has five choices with only one choice for its correct answer. What is the total number of ways in which a candidate will not get all the four answers correct?

(a) 19 (b) 120
(c) 624★ (d) 1024

85. Ali has five friends: 3 girls and 2 boys. Ali wife also has 5 friends: 3 boys and 2 girls. In how many maximum number of different ways can they invite 2 boys and 2 girls such that two of them are Ali friends and two are his wife's?

(a) 24 (b) 38
(c) 46★ (d) 58

86. Five balls of different colours are to be placed in three different boxes such that any box contains at least one ball. What is the maximum number of different ways in which this can be done?

(a) 90 (b) 120
(c) 150★ (d) 180

87. All the six letters of the name SACHIN are arranged to form different words without repeating any letter in any one word. The words so formed are then arranged as in a dictionary. What will be the position of the word SACHIN in that sequence?

(a) 436 (b) 590
(c) 601★ (d) 751

88. Three dice (each having six faces with each face having one number from 1 to 6) are rolled. What is the number of possible outcomes such that at least one dice shows the number 2?

(a) 36 (b) 81
(c) 91★ (d) 116

89. Ali has five friends: 3 girls and 2 boys. Ali wife also has 5 friends: 3 boys and 2 girls. In how many maximum number of different ways can they invite 2 boys and 2 girls such that two of them are Ali friends and two are his wife's?

(a) 24 (b) 38
(c) 46★ (d) 58

90. Five balls of different colours are to be placed in three different boxes such that any box contains at least one ball. What is the maximum number of different ways in which this can be done?

(a) 90 (b) 120
(c) 150★ (d) 180

91. All the six letters of the name SACHIN are arranged to form different words without repeating any letter in any one word. The words so formed are then arranged as in a dictionary. What will be the position of the word SACHIN in that sequence?

(a) 436 (b) 590
(c) 601★ (d) 751

92. Three dice (each having six faces with each face having one number from 1 to 6) are rolled. What is the number of possible outcomes such that at least one dice shows the number 2?

(a) 36 (b) 81
(c) 91★ (d) 116

93. Groups each obtaining 3 boys are to be formed out of 5 boys—A, B, C, D and E such that no one group contains both C and D together. What is the maximum number of such different groups?

(a) 5 (b) 6
(c) 7★ (d) 8

94. Six faces of a cube are numbered from 1 to 6, each face carrying one different number. Further,

1. The face 2 is opposite to the face 6.
2. The face 1 is opposite to the face 5.
3. The face 3 is between the face 1 and the face 5.
4. The face 4 is adjacent to the face 2.

Which one of the following is correct?

(a) The face 2 is adjacent to the face 3★
(b) The face 6 is between the face 2 and the face 4
(c) The face 1 is between the face 5 and the face 6
(d) None of the above

95. Each of the 3 persons is to be given some identical items such that product of the numbers of items received by each of the three persons is equal to 30. In how many maximum different ways can this distribution e done?

(a) 21 (b) 24
(c) 27★ (d) 33

96. 6 equidistant vertical lines are drawn on a board. 6 equidistant horizontal lines are also drawn on the board cutting the 6 vertical lines, and the distance between any two consecutive horizontal lines is equal to that between any two consecutive vertical lines. What is the maximum number of squares thus formed?
(a) 37 (b) 55
(c) 126 (d) 225★

97. A person has to completely put each of three liquids: 403 litres of petrol, 465 litres of diesel and 496 litres of Mobile Oil in bottles of equal size without mixing any of the above three types of liquids such that each bottle is completely filled. What is the least possible number of bottles required?
(a) 34 (b) 44★
(c) 46 (d) None

98. Amit starts from a point A and walks to another point B, and then returns from B to A by his car and thus takes a total time of 6 hours and 45 minutes. If he had driven both ways in his car, he would have taken 2 hours less. How long would it take for him to walk both ways?
(a) 7 hours 45 minutes
(b) 8 hours 15 minutes
(c) 8 hours 30 minutes
(d) 8 hours 45 minutes★

99. A train completes a journey with a few stoppages in between at an average speed of 40 km per hour. If the train had not stopped anywhere, it would have completed the journey at an average speed of 60 km per hour. On an average, how many minutes per hour does the train stop during the journey?
(a) 20 minutes per hour★
(b) 18 minutes per hour
(c) 15 minutes per hour
(d) 10 minutes per hour

100. What is the average distance (approximate) between the Sun and the Earth?
(a) 70 x 105 km (b) 100 x 105 km
(c) 110 x 106 km (d) 150 x 106 km★

UNIT NO. 3

1. Four wires of same material and of dimensions as under are stretched by a load of same magnitude separately. Which one of them will be elongated maximum?
(a) Wire of 1 m length and 2 mm diameter
(b) Wire of 2 m length and 2 mm diameter
(c) Wire of 3 m length and 1.5 mm diameter
(d) Wire of 1 m length and 1 mm diameter★

2. The average salary of 100 employees in an office is Rs 16,000 per month. The management decided to raise salary of every employee by 5% but stopped a transport allowance of Rs 800 per month which was paid earlier to every employee. What will be the new average monthly salary?
(a) Rs 16,000★
(b) Rs 16,500
(c) Rs 16,800
(d) Data are insufficient

3. If all the numbers from 501 to 700 are written, what is the total number of times does the digit 6 appear?
(a) 138★ (b) 139
(c) 140 (d) 141

4. A and B can complete work together in 5 days. If A works at twice his speed and B at half of his speed, this work can be finished in 4 days. How many days would it take for A alone to complete the job?
(a) 10★ (b) 12
(c) 15 (d) 18

5. In the series AABABCABCDABCDE...
Which letter occupies the 100th position?
(a) H (b) I ★
(c) J (d) K

6. What is the number of terms in the series 117, 120, 123, 126, ..., 333?
(a) 72 (b) 73 ★
(c) 76 (d) 79

7. In how many different ways can four books A, B, C and D be arranged one above another in a vertical order such that the books A and B are never in continuous position?
(a) 9 (b) 12
(c) 14 (d) 18 ★

8. Carpenter A can make a chair in 6 hours,

carpenter B in 7 hours and carpenter C is 8 hours. If each carpenter works for 8 hours per day, how many chairs will be made in 21 days?

(a) 61 (b) 67
(c) 73 ★ (d) 79

9. A person purchases 100 pens at a discount of 10%. The net amount of money spent by the person to purchase the pens is Rs 600. The selling expenses incurred by the person are 15% on the net cost price. What should be the selling price for 100 pens in order to earn a profit of 25%?

(a) Rs 802.50 (b) Rs 811.25
(c) Rs 862.50 (d) Rs 875 ★

10. A schoolteacher has to select the maximum possible number of different groups of 3 students out of a total of 6 students. In how many groups any particular student will be included?

(a) 6 (b) 8
(c) 10 ★ (d) 12

11. In an examination, 70% of the students passed in the Paper I, and 60% of the students passed in the Paper II. 15% of the students failed in both the papers while 270 students passed in both the papers. What is the total number of students?

(a) 600 ★ (b) 580
(c) 560 (d) 540

12. A person travels 12 km due North, then 15 km duo East, after that 15 km due West and then 18 km due South. How far is he from the starting point"?

(a) 6 km★ (b) 12 km
(c) 33 km (d) 60 km

13. Six persons A, B, C, D, E and F are standing in a row. C and D are standing close to each other alongside E. B is standing beside A only. A is fourth from P. Who are standing on the extremes?

(a) A and F (b) B and D
(c) B and F★ (d) None

14. While adding the first few continuous natural numbers, a candidate missed one of the numbers and wrote the answer as 177. What was the number missed?

(a) 11 (b) 12
(c) 13★ (d) 14

15. Four metal rods of lengths 78 cm, 104 cm, 117 cm and 169 cm are to be cut into parts of equal length. Each part must be as long as possible. What is the maximum number of pieces that can be cut?

(a) 27 (b) 36★
(c) 43 (d) 480

16. In an examination, there are three subjects A, B and C. A student has to pass in each subject. 20% students failed iv A, 22% students failed in B and 16% failed in C. The total number of students passing the whole examination lies between

(a) 42% and 84%
(b) 42% and 78%★
(c) 58% and 78%
(d) 58% and 84%

17. There is a family of 6 persons A, B, C, D, E and F. There are two married couples in the family. The family members are lawyer, teacher, salesman, engineer, accountant and doctor. D, the salesman is married to the lady teacher. The doctor is married to the lawyer. F, the accountant is the son of B and brother of E. C, the lawyer is the daughter-in-law of A. E is the unmarried engineer. A is the grandmother of F. How is E related to F?

(a) Brother
(b) Sister
(c) Father
(d) Cannot be established (cannot be determined) ★

18. How many times are an hour hand and a minute hand of a clock at right angles during their motion from 1.00 p.m. to 10.00 p.m.?

(a) 9 (b) 10
(c) 18★ (d) 20

19. There are 240 balls and n number of boxes B1, B2, B3, ... , Bn. The balls are to be placed in the boxes such that should contain 4 balls more than B2, B2 should contain: 4 balls more than B3, and so on. Which one of the following cannot be the possible value of n?

(a) 4 (b) 5
(c) 6 (d) 7 ★

20. A person has 4 coins each of different denomination. What is the number of different sums of money the person can form (using one or more coins at a time)?

(a) 16 (b) 15★
(c) 12 (d) 11

21. How many numbers lie between 300 and 500 in which 4 comes only one time?

(a) 99★ (b) 100
(c) 110 (d) 120

22. How many letters of the English alphabet (capitals) appear same when looked at in a mirror?
(a) 9 (b) 10
(c) 11★ (d) 12

23. How many three-digit numbers can be generated from 1, 2, 3, 4, 5, 6, 7, 8, 9 such that the digits are in ascending order
(a) 80 (b) 81
(c) 83 (d) 84 ★

24. There are four persons A, B, C, D; and A has some coins. A gave half of the coins to B and 4 more besides. B gave half of the coins to C and 4 more besides. C gave half of the coins to D and 4 more besides. Both B and D end up with same number of coins. How many coins did A have originally?
(a) 96 (b) 84
(c) 72★ (d) 64

25. A man fills a basket with eggs in such a way that the number of eggs added on each successive day is the same as the number already present in the basket. This way the basket gets completely filled in 24 days. After how many days the basket was $1/4^{th}$ full?
(a) 6 (b) 12
(c) 17 (d) 22 ★

26. The diameters of two circular coins are in the ratio of 1:3. The smaller coin is made to roll around the bigger coin till it returns to the position from where the process of rolling started. How many times the smaller coin rolled around the bigger coin?
(a) 9 (b) 6
(c) 3 ★ (d) 1.5

27. The difference between the simple interest received from two banks on Rs. 500 for two years is Rs. 2-50. What is the difference between their rates?
(a) 0.25% ★ (b) 0.5%
(c) 1% (d) 2.5%

28. When ten persons shake hands with one another, in how many ways is it possible?
(a) 20 (b) 25
(c) 40 (d) 45 ★

29. A candidate attempted 12 questions and secured full marks in all of them. If he obtained 60% in the test and all questions carried equal marks, then what is the number of questions in the test?
(a) 36 (b) 30
(c) 25 (d) 20 ★

30. In how many ways can four children be made to stand in a line such that two of them, A and B are always together?
(a) 6 (b) 12 ★
(c) 18 (d) 24

31. What should be the maximum value of B in the following equation? 5A9-7B2+9C6=823
(a) 5 (b) 6
(c)★7 (d) 9

32. A man can row with the stream at 10 km/hr. and against the stream at 5 km/hr. Man's rate in still water is?
(a) 5 km/hr (b) 2.5 km/hr
(c)★7.5km/hr (d) 15km/hr

33. Ariana airline belongs Afghanistan to and Ural Airlines belongs to
(a) Russia★ (b) America
(c) Iran (d) Ireland

34. A train of 150 meters long is running with a speed of 30 km/hr. when will pass a standing man?
(a) 18 sec★ (b) 45sec.
(c) 12sec (d) 5sec

35. The speed of a car is 75 m/sec. Find the speed in km/hr?
(a) 135 km/hr (b) 270 km/hr★
(c) 200km/hr (d) 250km/hr

36. If a:b = 2 : 5 and b : c = 5 : 6 what is a : b : c?
(a) 2 : 5 : 6★ (b) 2 : 6 : 5
(c) 5 : 6 : 2 (d) 6 : 5 : 2

37. If three numbers in the ration 3 : 2 : 5 be such that the sum of their squares is equal to 1368. What is the middle one?
(a) 12★ (b) 16
(c) 19 (d) 24

38. If a : b = 3 : 4 and b : c = 2 : 3 what is a : b : c?
(a) 3 : 4 : 6★ (b) 9 : 2 : 3
(c) 6 : 8 : 6 (d) 9 : 12 : 6

39. The least number exactly divisible by 12,15,20,54 is:
(a) 532 (b) 220
(c) 540★ (d) 500

40. If a train passes two men walking in the same direction beside a track with a speed of 2 km

and 4 km in 9 sec and 10 sec respectively, then the length of the train is.

(a) 50 mtrs★ (b) 75 mtrs
(c) 100 mtrs (d) 150 mtrs

41. Papa ate 1/6 of bunch of banana. Then Mummy ate 1/5 of remaining bananas. Then brother ate 1/4 of remaining and sister ate 1/3 of remaining bananas. Everybody is eating banana, so I also ate 1/2 of remaining bananas and left 6 bananas in a bunch. So, how many bananas where there in a bunch before papa ate?
(a) 48 (b) 36★
(c) 12 (d) 30

42. If the volumes of two cubes are in the ratio 8:1,the ratio of the edge is --------
(a) 2:1★ (b) 4:2
(c) 6:3 (d) 8:4

43. The difference between 5 times and 3 times of a number is 36. Find the number----------
(a) 10 (b) 12
(c) 15 (d) 18 ★

44. When 5 is added to three times a number, the number becomes 29. The number is ----------
(a) 8 (b) 7
(c) 14★ (d) 12

45. The bankers gain on a bill due 1 year hence at 5% is R.s 1.The true discount is _____
(a) 15 (b) 20★
(c) 25 (d) 5

46. The greatest number which divides the number 105, 1001, 2436 is _____
(a) 3 (b) 7★
(c) 11 (d) 21

47. A shopkeeper bought bicycle for R.s 600 and sold it for R.s 720.find the gain percent.
(a) 15% (b) 18%
(c) 20%★ (d) 25

48. The difference in selling prices of a heater at gains of 5% and 7.5% is rupees 1.25.then the cost prize of heater is_____
(a) 45 (b) 50★
(c) 52.50 (d) 53.75

49. Among A, B, C, D and E each scoring different marks in a test, C scored more than D but not as much as E. E scored more than A who scored less than B. Who score third highest marks?
(a) A
(b) B
(c) C
(d) Data inadequate★

50. Find 250% of 36
(a) 90★ (b) 80
(c) 60 (d) 20

51. In a given academy, 720 of the 960 new students will study arithmetic during their first year. What percentage of the new students will study arithmetic during their first year?
(a) 25% (b) 50%
(c) 75%★ (d) 100%

52. An investment pays 8% simple interest per year. If the investment earns 84 interests in the first year, then how much money was originally invested?
(a) 1050★ (b) 1010
(c) 1025 (d) 1000

53. If Aslam wants to finish a 16 kilometer race in no more than 2 hours, then what is the minimum distance in kilometers that she should run every 15 minutes?
(a) 5 kilometers
(b) 2kilometers★
(c) 8 kilometers
(d) 3 kilometers

54. Round to the nearest hundredth: 6.4562
(a) 6.45 (b) 6.46★
(c) 6.47 (d) 6.48

55. Which of the following will not be a number of the series 1,8,27,64,125,.....?
(a) 256 (b) 512★
(c) 729 (d) 1000

56. Which term of the series 5,10,20,40,_____.is 1280?
(a) 10th (b) 9th★
(c) 8th (d) none of these

57. In the series 2,6,18,54,___.what will be the 8th term?
(a) 4370★ (b) 4374
(c) 7443 (d) 7434

58. In how many different ways can the letters of the word 'ARISE' be arranged?
(a) 90 (b) 60
(c) 180 (d) 120★

59. A man takes loans of Rs.1000 at the beginning of each year at 5% per annum

compound interest. Find the accumulated amount to the nearest rupee, he will thus have at the end of 3 years.

(a) Rs. 3714.63 (b) Rs. 3154.63
(c) Rs. 3310.13★ (d) Rs. 3745.73

60. Rashid bought a shirt for Rs.350 and sold it Rs.300. How much loss did he get?

(a) Rs.40 (b) Rs.50★
(c) Rs.20 (d) Rs.80

61. 5 out of 2250 parts of earth is sulphur. What is the percentage of sulphur in earth?

(a) 11/50 (b) 2/9★
(c) 1/45 (d) 2/45

62. 45 x? = 25% of 900

(a) 16.20 (b) 500
(c) 4 (d) 5★

63. 218% of 1674 =?x 1800

(a) 4 (b) 0.5
(c) 6 (d) None★

64. 13937.869 ÷ 199.54 + 15% of 201=?

(a) 150 (b) 90
(c) 80 (d) 100★

65. 63% of 25/7 is?

(a) 2.25★ (b) 2.40
(c) 2.50 (d) 2.75

66. If 30 % of a number is 12.6, then the number is?

(a) 41 (b) 51
(c) 52 (d) 42★

67. 5% of (25% of Rs. 1600) is?

(a) Rs. 5 (b) Rs. 17.50
(c) Rs. 20★ (d) Rs. 25

68. (25/3) % of? = 150

(a) 1250 (b) 1800★
(c) 1700 (d) 1400

69. 35% of 30=25% of? +1

(a) 28 (b) 38★
(c) 42 (d) 32

70. ?% of 6144 = 5/2 x 245.76

(a) 16 (b) 20
(c) 5 (d) 10★

71. The price of sugar increases by 32%. A family reduces its consumption so that the expenditure of the sugar is up by 10% only. If the total consumption of sugar before the price rise was 10. kg per month, then the consumption of sugar per month at present (in kg) is

(a) 8.33★ (b)8.5
(c)8.75 (d)9

72. A ball pen factory decided to reduce its production by 10% over that of previous month for next 3. months starting from February 1994. In January 1994, it produced 3000 ball pens. How many ball pens were produced in March 1994?

(a) 2700 (b) 2430
(c) 2187★ (d) 2400

73. A building worth Rs 133,100. is constructed on land worth Rs. 72,900. After how many years will the value of both be the same if land appreciates at 10% pa. and building depreciates at 10% p.a.?

(a)2.5 (b) 2
(c) 1.5 (d) 3★

74. A man's basic pay for a 40 hour week is Rs. 2000. Overtime is paid for at 25% above the basic rate. In a certain week, he worked overtime and his total wage was Rs. 2500. He, therefore, worked for a total of:

(a)45. hours (b) 47. Hours
(c) 48. hours★ (d) 50. hours

75. Salaries of A, B and C are in the ratio 1:2:3. Salary of B and C together is Rs. 60000. By what percent is salary of C more than that of A?

(a) 300 (b) 600
(c) 100 (d) 200★

76. The price of a table is Rs. 400. more than that of a chair. If 6.tables and 6. chairs together cost Rs. 4800, by what percent is the price of the chair less than that of the table?

(a) 200 (b) 400
(c) 100 (d) None★

77. The length and breadth of a square are increased by 40% and 30% respectively. The area of the resulting rectangle exceeds the area of the square by?

(a)42% (b) 62%
(c) 82%★ (d) None

78. The length of a rectangle is increased by 20% and the width is decreased by 20%. The area decreases by

(a)0.8% (b) 1.2%
(c) 4%★ (d) 8%

79. The length of a rectangle is increased by 60%. By what percent would the width have to be decreased to maintain the same area?
(a)37. %★ (b) 60%
(c) 75% (d) None

80. In a market survey, 20% opted for product A whereas 60% opted for product B. The remaining individuals were not certain. If the difference between those who opted for product B and those who were uncertain was 720, how many individuals were covered in the survey?
(a)3600
(b) 1440
(c) 1800★
(d) Data inadequate

81. Ali gave a portion of the money he had to Jameel. Jameel in turn gave 40% of what he got from Ali to Danish. How much money did Danish get? To find out the answer, which of the following information's given in statements (P) and (Q) is/are sufficient 7
P : Ali had Rs. 4,000. with him.
Q : The difference between the amounts of Jameel and Danish was Rs. 500.
(a) Only Q is sufficient. ★
(b) Only P is sufficient.
(c) Either P or Q is sufficient.
(d) Both P and Q together are needed.

82. 02=?%
(a) 20 (b)2★
(c) 0.02 (d)0.2

83. 5. out of 2250. parts of earth is sulphur. What is the percentage of sulphur in earth?
(a)11/50 (b)2/9★
(c)1/45 (d)2/45

84. 45. x? = 25% of 900
(a) 16.20 (b) 500
(c) 4 (d) 5★

85. 218% of 1674. =? x 1800
(a)4 (b) 0.5
(c) 6 (d) None★

86. 13937.869. ÷ 199.54. + 15% of 201=?
(a)150 (b) 90
(c) 80 (d) 100★

87. 63% of 25/7. is?
(a)2.25★ (b) 2.40
(c) 2.50 (d) 2.75

88. If 30. % of a number is 12.6, then the number is?
(a)41 (b) 51
(c) 52 (d) 42★

89. 5% of (25% of Rs. 1600) is?
(a)Rs. 5 (b) Rs. 17.50
(c) Rs. 20★ (d) Rs. 25

90. (25/3) % of? = 150
(a)1250 (b) 1800★
(c)1700 (d) 1400

91. 35% of 30=25% of? +1
(a) 28 (b) 38★
(c) 42 (d) 32

92. ?% of 6144 = 5/2 x 245.76
(a) 16 (b) 20
(c) 5 (d) 10★

93. (30% of 80)/? =24
(a) 3/10 (b) 3/17
(c) 1★ (d) 2

94. 45% of? + 30% of 90 = 30% of 210.
(a) 120 (b) 80★
(c) 60 (d) 90

95. One fourth of one third of two fifth of a number is 15. What will be 40% of that number?
(a) 120 (b) 350
(c) 270 (d) 180★

96. If 37% of a number is 990.86, what will be approximately 19% of that number?
(a) 600 (b) 400
(c) 500★ (d) 700

97. If 15% of 40 is greater than 25% of a number by 2, the number is?
(a) 16★ (b) 20
(c) 24 (d) 32

98. What will be 160% of a number whose 200% is 140?
(a) 200 (b) 160
(c) 140 (d) 112★

99. If 75% of a number is added to 75, the result is the number itself. Then, the number is?
(a) 400 (b) 300★
(c) 60 (d) 50

100. Subtracting 40% of a number from the number, we get the result as 30. The number is?
(a) 28 (b) 50★
(c) 52 (d) 70

UNIT NO. 4

1. Which number will come next?
   3. 5, 7, 10,12,14, 24, 26,_____
   (a) 52 (b) 30
   (c) 28★ (d) 48
2. Twelve men take 6 hours to finish a piece of work. After the 12 men have worked for 1 hour, the contractor decides to call in 8 more men. How many more hours would 20 men take to complete the remaining work?
   (a) 2 (b) 3★
   (c) 4 (d) 5
3. If a car is sold for Rs.50000 the profit is 17 percent, what would be profit percentage if sold for Rs. 47000.
   (a) 14.85% (b) 15.98%★
   (c) 16.20% (d) 14.50%
4. Sadiq purchased a plot for Rs. 8,000. He sells the plot to Abid at a profit of 20%. Abid in turn sells that plot to Arif at a loss of 20%. The plot costs Arif.
   (a) Rs. 12,000 (b) Rs. 10,000
   (c) Rs. 8670 (d) Rs. 7680★
5. A's mother is twice as old as A's brother. A is 6 years younger than his brother but 4 years older than his sister. If A's sister is 15 his mother's age is:
   (a) 40 (b) 45
   (c) 42 (d) 50★
6. If 12 years are added to 2/3 age ofRani, she will be three years older than today. What is Rani's present age?
   (a) 25 (b) 27★
   (c) 26 (d) 29
7. Three families, P, Q and R, share 480 kg of rice, Q receives twice as much rice as P and R receives half as much rice as Q. How much rice does family Q gets?
   (a) 220 kg (b) 230 kg
   (c) 240 kg★ (d) 250 kg
8. Six men working 8 hours a day earn Rs 720 per week. 8 men working 6 hours a day will earn per week
   (a) Rs. 540 (b) Rs. 720★
   (c) Rs.960 (d) Rs.1080
9. In the exam 45% students failed and 550 students were successful. The total number of students who appeared in the exam were:
   (a) 1000★ (b) 900
   (c) 1500 (d) 800
10. 10 men can complete a job in 14 days. How long will it take 4 men to finish the same job if they work? At the same rate?
    (a) 33 days (b) 35 days★
    (c) 37 days (d) 39 days
11. The length of a rectangle is increased by 20% and the width is decreased by 20%. The area decreases by:
    (a) 0.8% (b) 1.2%
    (c) 4%★ (d) 8%
12. The length of a rectangle is increased by 60%. By what percent would the width have to be decreased to maintain the same area?
    (a) 37 %★ (b) 60%
    (c) 75% (d) None
13. In a market survey, 20% opted for product A whereas 60% opted for product B. The remaining individuals were not certain. If the difference between those who opted for product B and those who were uncertain was 720, how many individuals were covered in the survey?
    (a) 3600
    (b) 1440
    (c) 1800★
    (d) Data inadequate
14. Anjum gave a portion of the money he had to Jameel in turn gave 40% of what he got from Anjum to Danesh. How much money did Dinesh get? To find out the answer, which of the following information's given in statements (P) and (Q) is/are sufficient 7
    P: Anjum had Rs. 4,000 with him.
    Q : The difference between the amounts of Jameel and Danesh was Rs. 500.
    (a) Only Q is sufficient. ★
    (b) Only P is sufficient.
    (c) Either P or Q is sufficient.
    (d) Both P and Q together are needed
15. .02=?%
    (a) 20 (b) 2★
    (c) 0.02 (d) 0.2
16. 5 out of 2250 parts of earth is sulphur. What is the percentage of sulphur in earth?
    (a) 11/50 (b) 2/9★
    (c) 1/45 (d) 2/45
17. 45 x? = 25% of 900
    (a) 16.20 (b) 500
    (c) 4 (d) 5★
18. 218% of 1674 =?x 1800

(a) 4 (b) 0.5
(c) 6 (d) None★

19. 13937.869 ÷ 199.54 + 15% of 201=?
(a) 150 (b) 90
(c) 80 (d) 100★

20. 63% of 25/7 is?
(a) 2.25★ (b) 2.40
(c) 2.50 (d) 2.75

21. If 30 % of a number is 12.6, then the number is?
(a) 41 (b) 51
(c) 52 (d) 42★

22. 5% of (25% of Rs. 1600) is?
(a) Rs. 5 (b) Rs. 17.50
(c) Rs. 20★ (d) Rs. 25

23. (25/3) % of? = 150
(a) 1250 (b) 1800★
(c) 1700 (d) 1400

24. 35% of 30=25% of? +1
(a) 28 (b) 38★
(c) 42 (d) 32

25. ?% of 6144 = 5/2 x 245.76
(a) 16 (b) 20
(c) 5 (d) 10★

26. Two successive discounts of 20% and 20% are equivalent to a single discount of
(a) 42% (b) 36%★
(c) 40% (d) 34%

27. A number is increased by 10% and then decreased by 10%. The net change in the number is
(a) no increase or decrease
(b) 2% decrease
(c) 1% increase
(d) 1% decrease★

28. A seller marks his goods 30% above the cost price but allows a discount of 15% from the marked price. His percentage of profit is
(a) 10.5★ (b) 15
(c) 9 (d) 8.5

29. The sum of a positive integer and its square is 2450. The positive integer is
(a) 45 (b) 48
(c) 49★ (d) 50

30. If the cost price of 10 chairs be equal to selling price of 16 chairs, then the loss percentage will be
(a) 9.6 (b) 17.5
(c) 20 (d) 37.5★

31. The perimeter of a rhombus is 68cm and one of its diagonal is 16cm. Find its Area?
(a) 260sqrcm★ (b) 240sqrcm
(c) 280sqrcm (d) 220sqrcm

32. The diagonals of a rhombus are 15cm and 20cm.Find its area?
(a) 120sqcm (b) 300sqcm
(c) 150sqcm★ (d) 480sqcm

33. P and Q started business with Rs.15000 and Rs.10000 respectively. Find the share of P in an annual profit of Rs. 25000.
(a) Rs.8000 (b) Rs.6000
(c) Rs.10000 (d) Rs.15000★

34. Find the gain percentage if cost price is Rs.400 and selling price is Rs.500.
(a) 20% (b) 15%
(c) 25%★ (d) 10%

35. The percentage of 210 in 420 is?
(a) 27 (b) 28
(c) 29 (d) 50★

36. An amount doubles itself in 5 years with simple interest. What is the rate of interest?
(a) 20★ (b) 25
(c) 33 (d) 35

37. In a cricket match five batsmen A,B,C,D and E scored an average of 36 runs. D scored 5 more than E;E scored 8 fewer than A;B scored as many as D and E combined; and B and C scored 107 between them. How many runs did E score?
(a) 62 (b) 45
(c) 28 (d) 20★

38. Two numbers X and Y are respectively 20% and 28% less than a third number Z. By what percentage is the number Y less than the number X?
(a) 12% (b) 11%
(c) 10%★ (d) 9%

39. In a group of 15 people, 7 read French, 8 read English while 3 of them read none of these two. How many of them read French and English both?
(a) 0 (b) 3★
(c) 4 (d) 5

40. In a town 65% people watched the news on television,40% read a newspaper and 25%

read a newspaper and watched the news on the television also. What percent of neither watched the news on television nor read a newspaper?

(a) 5 (b) 10
(c) 15 (d) 20★

41. A father is now three times as old as his son. Five years back, he was four times as old as his son. The age of the son is.

(a) 12 (b) 15★
(c) 18 (d) 20

42. The age of a father is twice that of the elder son. Ten years hence the age of the father will be three times of that of the younger son. If the difference of ages of the two sons is 15years, the age of the father is

(a) 50years★ (b) 55years
(c) 60years (d) 70years

43. In a class, there are 18 boys who are over 16cm tall. If these constitute three-fourths of boys and the total number of boys is two-thirds of the total number of students in the class, what is the number of girls in the class?

(a) 6 (b) 12★
(c) 14 (d) 18

44. A bus starts from X. The number of women in the bus is half of the number of men. In city Y, 10 men leave the bus and five women enter. Now, number of men and women is equal. In the beginning, how many passengers entered in the bus.

(a) 15 (b) 30
(c) 36 (d) 45★

45. In a class, 20% of the members own only two cars each,40% of the remaining own three cars each and the remaining members own only one car each. Which of the following statements is definitely true from the given statements?

(a) 20% of the total members own three cars each.
(b) 48% of the total members own only one car each.★
(c) 60% of the total members own at least two cars each.
(d) 80% of the total members own at least one car

46. If $x_y = 6$ and $x + y = 16$. Then?

(a) x = 5andy = 3
(b) x = 8andy = 5
(c) x = 10andy = 3
(d) x = 11andy = 5★

47. If A completes a particular work in 10 days, and B completes the same work in 15 days while working separately. Then how many days they will take in working together?

(a) 5 (b) 6 ★
(c) 7 (d) 8

48. $|_4| + (_4)^1 + (_4)^2 = ?$

(a) 0 (b) 1
(c) 8 (d) 16 ★

49. The price of sugar increases by 32%. A family reduces its consumption so that the expenditure of the sugar is up by 10% only. If the total consumption of sugar before the price rise was 10 kg per month, then the consumption of sugar per month at present (in kg) is

(a) 8.33★ (b) 8.5
(c) 8.75 (d) 9

50. A ball pen factory decided to reduce its production by 10% over that of previous month for next 3 months starting from February 1994. In January 1994, it produced 3000 ball pens. How many ball pens were produced in March 1994?

(a) 2700 (b) 2430
(c) 2187★ (d) 2400

51. A building worth Rs 133,100 is constructed on land worth Rs. 72,900. After how many years will the value of both be the same if land appreciates at 10% p.a. and building depreciates at 10% p.a.?

(a) 2.5 (b) 2
(c) 1.5 (d) 3★

52. A man's basic pay for a 40 hour week is Rs. 2000. Overtime is paid for at 25% above the basic rate. In a certain week, he worked overtime and his total wage was Rs. 2500. He, therefore, worked for a total of:

(a) 45 hours (b) 47 hours
(c) 48 hours★ (d) 50 hours

53. Salaries of A, B and C are in the ratio 1:2:3. Salary of B and C together is Rs. 60000. By what percent is salary of C more than that of A?

(a) 300 (b) 600
(c) 100 (d) 200★

54. The price of a table is Rs. 400 more than that of a chair. If 6 tables and 6 chairs together cost Rs. 4800, by what percent is the price of the chair less than that of the table?
(a) 200 (b) 400
(c) 100 (d) None★

55. The length and breadth of a square are increased by 40% and 30% respectively. The area of the resulting rectangle exceeds the area of the square by?
(a) 42% (b) 62%
(c) 82%★ (d) None

56. The length of a rectangle is increased by 20% and the width is decreased by 20%. The area decreases by
(a) 0.8% (b) 1.2%
(c) 4%★ (d) 8%

57. The length of a rectangle is increased by 60%. By what percent would the width have to be decreased to maintain the same area?
(a) 37 %★ (b) 60%
(c) 75% (d) None

58. In a market survey, 20% opted for product A whereas 60% opted for product B. The remaining individuals were not certain. If the difference between those who opted for product B and those who were uncertain was 720, how many individuals were covered in the survey?
(a) 3600
(b) 1440
(c) 1800★
(d) Data inadequate

59. Arun gave a portion of the money he had to Gopal. Gopal in turn gave 40% of what he got from Arun to Dinesh. How much money did Dinesh get? To find out the answer, which of the following information's given in statements (P) and (Q) is/are sufficient 7
P: Arun had Rs. 4,000 with him.
Q : The difference between the amounts of Gopal and Dinesh was Rs. 500.
(a) Only Q is sufficient. ★
(b) Only P is sufficient.
(c) Either P or Q is sufficient.
(d) Both P and Q together are needed

60. .02=?%
(a) 20 (b) 2★
(c) 0.02 (d) 0.2

61. If three fifth of a number is 40 more than 40% of the same number. What is the number?
(a) 100 (b) 150
(c) 200★ (d) 400

62. A number, on subtracting 15 from it, reduces to its 80% What is 40% of that number?
(a) 60 (b) 45
(c) 30★ (d) 90

63. The population of a town has increased from 133575 to 138918. The percent increase in population is?
(a) 2.5 (b) 3
(c) 3.5 (d) 4★

64. If x% of y is the same as 4/5 of 80, then the value of xy is
(a) 320 (b) 400
(c) 640 (d) None★

65. Subtracting 6% of x from xi s equivalent to multiplying x by how much?
(a) 0 .94★ (b) 9.4
(c) 0.094 (d) 94

66. If 8% of x=4% of y, then 20% of x is?
(a) 10% of y (b) 16% of y
(c) 80% of y (d) None of these★

67. (x % of y+ y % of x) is?
(a) x % of y (b) y% of x
(c) 2 % of xy★ (d) xy % of 3

68. It is known that 20% of the mangoes are rotten. If number of rotten mangoes is 35, then the total number of mangoes is
(a) 150 (b) 175★
(c) 180 (d) 185

69. A student has to secure 40% marks to pass. He gets 178 marks and fails by 22 marks. The maximum marks are?
(a) 200 (b) 500★
(c) 800 (d) 1000

70. A house-owner was having his house painted. He was advised that he would require 25 kg of paint. Allowing for 15% wastage and assuming that the paint is available in 2kg cans, what would be the cost of paint purchased, if one can cost Rs. 16?
(a) Rs. 240★ (b) Rs. 180
(c) Rs. 160 (d) Rs. 360

71. A reduction of 12.5% in the price of a dining table brought down its price to Rs. 4375.The original price (in Rs.) if the table was?
(a) 6000 (b) 5400
(c) 5200 (d) 5000★

72. In a library, 20% books are Italian , 50% of the remaining are in English and the remaining 9000 are in various other languages. What is the total number of books in English?
(a) 4000 (b) 3000
(c) 2250 (d) None of these★

73. Peter spends 30% of his income on scooter petrol, ¼ of the remaining on house rent and the balance on food. If he spends Rs. 300 on petrol then what is the expenditure on house rent?
(a) Rs 525 (b) Rs. 1000
(c) Rs 675 (d) Rs. 175★

74. The price of jute has been reduced by 20%.If the reduced price is Rs. 800 per quintal, the original price per quintal was?
(a) Rs. 900 (b) Rs. 640
(c) Rs. 960 (d) Rs. 1000★

75. Sandy spends 40% of his salary on food articles and one third of the remaining on transport. If he saves Rs. 450 per month which is half of the balance after spending on food items and transport, what is his monthly salary?
(a) Rs. 4500 (b) Rs. 2250★
(c) Rs. 1125 (d) Rs. 2500

76. In an examination, 1100 boys and 900 girls appeared. 50% of the boys and 40% of the girls passed the examination. The percentage of candidates failed is?
(a) 45 (b) 45.5
(c) 54.5★ (d) 59.2

77. Alex secured 50% marks in Hindi, 60% in English and 70% in Maths as well as in Science. What were his total marks if the maximum marks obtainable in each of these 4 subjects was 50?
(a) 125★ (b) 120
(c) 250 (d) 150

78. In a city, 35% of the population is composed of migrants, 20% of whom are from rural areas. Of the local population, 48% is female while this figure for rural and urban migrants is 30% and 40% respectively. If the total population of the city is 728400, what is its female population 7
(a) 324138 (b) 349680
(c) 509940 (d) None★

79. A's marks in Biology are 20 less than 25% of the total marks obtained by him in Biology, Maths and Drawing. If his marks in Drawing be 50, what are his marks in Maths?
(a) 40
(b) 45
(c) 50
(d) Can't be determined★

80. An increase of Rs. 60 in the monthly salary of Madan made it 50% of the monthly salary of Kamal. What is Madan's present monthly salary?
(a) Rs. 180
(b) Rs. 240
(c) Rs. 300
(d) Data inadequate★

81. A man bought a house for Rs. 5 lakhs and rents it. He puts 12.5% of each month's rent aside for repairs, pays Rs. 1660 as annual taxes and realises 10% on his investment thereafter. The monthly rent of the house is?
(a) Rs. 5000 (b) Rs. 4920★
(c) Rs. 2500 (d) Rs. 2460

82. In a public school, 1/5th of girls and 1/4th of boys are under 12 years of age. If the total strength of the school is 1000 and number of girls is 2/5th of the total, what part of the total strength of the school is accounted for by those which are 12 years or more of age?
(a) 23% (b) 45%
(c) 55% (d) 77%★

83. A debtor can pay 87 paise in the rupee, but if his creditors would take 20% of his debts, he could pay them and have Rs. 42 left. His debts and assets respectively are?
(a) Rs. 600, Rs. 522★
(b) Rs. 500, Rs. 521
(c) Rs. 400, Rs. 520
(d) Rs. 1000, Rs. 525

84. 300 grams of sugar solution has 40% sugar in it. How much sugar should be added to make it 50% in the solution?
(a) 10 gms (b) 40 gms
(c) 60 gms★ (d) 80 gms

85. The price of an article is cut by 20%.To restore it to the former value, the new price must be increased by?
(a) 20% (b) 25 %★
(c) 16 (d) 24%

86. In an examination, there are 3 papers of Mathematics of 100 marks each. A boy

secures 60% in the first paper and 70% in the second paper.In order to secure 70% in the aggregate the percentage of marks he should secure in third paper will be?

(a) 90% (b) 80%★
(c) 75% (d) 70%

87. 5% of income of A is equal to 15% of income of B and 10% of income of B is equal to 20% of income of C. If income of C is Rs. 2000, then total income of A, B & C is?

(a) Rs. 6000 (b) Rs. 18000★
(c) Rs. 20000 (d) Rs. 14000

88. In an examination, A got 10% marks less than B, B got 25% marks more than C and C got 20% less than D. If A got 360 marks out of 500, the percentage of marks obtained by D was?

(a) 70 (b)75
(c) 80★ (d) 85

89. In an examination, 80% of the students passed in English, 85% in Mathematics and 75% in both English and Mathematics. If 40 students failed in both the subjects, the total number of students is

(a) 200 (b) 400★
(c) 600 (d) 800

90. In an examination, 35% candidates failed in one subject and 42% failed in another subject while 15% failed in both the subjects. If 2500 candidates appeared at the examination, how many passed in either subject but not in both?

(a) 325 (b) 1175★
(c) 2125 (d) None of these

91. In an election between two candidates, one got 55% of total valid votes. 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got was

(a) 2700★ (b) 2900
(c) 3000 (d) 3100

92. At an election involving two candidates, 68 votes were declared invalid. The winning candidate scores 52% and wins by 98 votes. The total number of votes polled is?

(a)2518★ (b) 2450
(c) 2382 (d) None of these

93. A's income is 25% more than B's income. B income in terms of A's income is?

(a) 75% (b) 80 % ★
(c) 90% (d) 96%

94. Water tax is increased by 20% but its consumption is decreased by 20%. Then, the increase or decrease in the expenditure of the money is

(a)No change (b) 5% decrease
(c)4% increase (d) 4% decrease★

95. On increasing the price of T.V. sets by 30%, their sale decreases by 20%. What is the effect on the revenue receipts of the shop?

(a)4% increase★ (b) 4% decrease
(c)8% increase (d) 8% decrease

96. The price of sugar increases by 20%. By what percent must a house wife reduce the consumption of sugar, so that the expenditure on sugar is the same as before?

(a)16.66★ (b)20
(c) 80 (d) 83.33

97. The price of sugar is increased by 20%. As a result, a family decreases its consumption by 25%. The expenditure of the family on sugar will be decreased by

(a) 10%★ (b) 5%
(c) 14% (d) 15%

98. In a competitive examination in State A, 6% candidates got selected from the total appeared candidates. State B had an equal number of candidates appeared and 7% candidates got selected with 80 more candidates got selected than A. What was the number of candidates appeared from each State?

(a) 7600 (b) 8000★
(c) 8300 (d) 4000
(e) 5000

99. The price of a car is Rs. 3,25,000. It was insured to 85% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received?

(a) Rs. 60,000 (b) Rs. 49,000
(c) Rs. 76,375★ (d) Rs. 82,250
(e) Rs. 75,000

100. The sum of the number of boys and girls in a school is 150.If the number of boys is x, then the number of girls becomes x% of the total number of students. The number of boys is:

(a) 51 (b) 65
(c) 60 ★ (d) 95
(e) 70

UNIT NO. 5

1. In an examination of n questions, a student replied 15 out of the first 20 questions correctly. Of the remaining questions, he answered one third correctly. All the questions have the same credit. If the student gets 50% marks, the value of n is:
   (a) 30 (b) 67
   (c) 50 ★ (d) 82
   (e) 60
2. The salaries of A and B together amount to Rs. 2000. A spends 95% of his salary and B, 85% of his. If now, their savings are the same, what is A's salary?
   (a) Rs. 850 (b) Rs. 1350
   (c) Rs. 1500★ (d) Rs. 1800
   (e) Rs. 1550
3. Five-eighth of three-tenth of four-ninth of a number is 45. What is the number?
   (a) 470 (b) 550
   (c) 560 (d) 540★
   (e) None of these
4. Which of the following numbers should be added to 11158 to make it exactly divisible by 77?
   (a) 9 (b) 8
   (c) 6 (d) 5
   (e) 7 ★
5. If n is odd, $(11)^n + 1$ is divisible by:
   (a) 11 + 1★ (b) 11 − 1
   (c) 11 (d) 10 + 1
   (e) 10 − 1
6. Find unit digit in $(515)^{31} + (515)^{90}$:
   (a) 0 ★ (b) 5
   (c) 1 (d) 4
   (e) None of these
7. The number 899 is:
   (a) a number with 5 factors
   (b) a number with 4 factors ★
   (c) a number with more than 4 factors
   (d) a perfect cube
   (e) a number with 3 factors
8. A batsman has a certain average of runs for 16 innings. In the 17th innings, he makes a score of 85 runs, thereby increasing his average by 3.What is the average after the 17th innings?
   (a) 60 (b) 37★
   (c) 38 (d) 27
   (e) 68
9. In Ajmal's opinion his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Ajmal and he thinks that Ajmal's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all of them are correct in their estimation, what is the average of different probable weights of Arun?
   (a) 71 kg (b) 67 kg★
   (c) 73 kg (d) 58 kg
   (e) 52 kg
10. The ratio between the present ages of M and N is 5 : 3 respectively. The ratio between M's age 4 years ago and N's age after 4 years is 1 : 1. What is the ratio between M's age after 4 years and N's age 4 years ago?
    (a) 6 : 1 (b) 3 : 1★
    (c) 4 : 1 (d) 4 : 5
    (e) 2 : 3
11. Price of sugar is increased by 25%. The percentage of consumption to be decreased so that there would be no increase in the expenditure is
    (a) 18% (b) 20 %★
    (c) 22% (d) 24%
12. A group of students volunteered to finish a construction work in 25 days. 1Q of the students did not come and the work could be finished in 35 days. The original number of students in the group was
    (a) 25.00 (b) 32.00
    (c) 35.00★ (d) 37.00
13. A man bought a flat for Rs. 8, 20,000. He borrowed 55% of this money from a bank. How much money did he borrow from the bank?.
    (a) Rs. 4, 51,000★ (b) Rs. 4, 52,000
    (c) Rs. 4, 53,000. (d) Rs. 4, 54,000
14. A primary school had an enrollment of 850 pupils in January 1970. In January 1980 the enrollment was 1,120; What was the percentage increase for the enrollment?
    (a) 31.76%★' (b) 33.50%
    (c) 30,65% (d) 34.76%
15. The number, whose 7% is 42, is
    (a) 300 (b) 400
    (c) 500 (d) 600★

16. Which number will come next?
3. 5, 7, 10,12,14, 24, 26,_____
(a) 52 (b) 30
(c) 28★ (d) 48

17. Twelve men take 6 hours to finish a piece of work. After the 12 men have worked for 1 hour, the contractor decides to call in 8 more men. How many more hours would 20 men take to complete the remaining work?
(a) 2 (b) 3★
(c) 4 (d) 5

18. If a car is sold for Rs..50000 the profit is 17 percent, what would be profit percentage if sold for Rs. 47000.
(a) 14.85% (b) 15.98%★
(c) 16.20% (d) 14.50%

19. Sadiq purchased a plot for Rs. 8,000. He sells the plot to Abid at a profit of 20%. Abid in turn sells that plot to Arif at a loss of 20%. The plot costs Arif.
(a) Rs. 12,000 (b) Rs. 10,000
(c) Rs. 8670 (d) Rs. 7680★

20. A's mother is twice as old as A's brother. A is 6 years younger than his brother but 4 years older than his sister. If A's sister is 15 his mother's age is:
(a) 40 (b) 45
(c) 42 (d) 50★

21. If 12 years are added to 2/3 age ofRani, she will be three years older than today. What is Rani's present age?
(a) 25 (b) 27★
(c) 26 (d) 29

22. Three families, P, Q and R, share 480 kg of rice, Q receives twice as much rice as P and R receives half as much rice as Q. How much rice does family Q gets?
(a) 220 kg (b) 230 kg
(c) 240 kg★ (d) 250 kg

23. Six men working 8 hours a day earn Rs 720 per week. 8 men working 6 hours a day will earn per week
(a) Rs. 540 (b) Rs. 720★
(c) Rs.960 (d) Rs.1080

24. In the exam 45% students failed and 550 students were successful. The total number of students who appeared in the exam were:
(a) 1000★ (b) 900
(c) 1500 (d) 800

25. Nasir read 60 pages of *a* book on the first day. This was 20% more than the number of pages he read on the second day. Given that he read 1/6 of the book on the second day, find the number of pages in the book he had read.
(a) 300★ (b) 290
(c) 325 (d) 345

26. Mr. Rehraan ordered a car worth Rs.600.000 and was given a discount. Given that he paid Rs.57,0000 for his new *car,* calculate the percentage discount he received:
(a) 5%★ (b) 7%
(c) 9% (d) 10%

27. Which is the greatest number?
(a) 1/4 of 236 (b) 1/16 of 1028
(c) 1/9 of 504 (d) 1/3 of 741★

28. 10 men can construct a building in 40 days. How long will it take 20 men to do this work?
(a) 20 days★ (b) 30 days
(c) 40 days (d) 50 days

29. Rashid bought a shirt for Rs.350 and sold it Rs.300. How much loss did he get?
(a) Rs.40 (b) Rs.50★
(c) Rs.20 (d) Rs.80

30. NASIR bought a practical copy Rs.60 and sold it Rs.40. How much loss did he get?
(a) Rs.600 (b) Rs.60★
(c) Rs.40 (d) Rs.20

31. The number, whose 17% is 51, is
(a) 200 (b) 100
(c) 300★ d)210

32. A car washer can wash 8 cars in 18 minutes. At this rate how many cars can be washed, in three hours?
(a) 13 (b) 40
(c) 80★ (d) 125

33. There are four numbers. Average of the first three is 15 and that of the last three is 16. If the last number is 19 find the first number:
(a) 16★ (b) 18
(c) 20 (d) 21

34. 10 men can complete a job in 14 days. How long will it take 4 men to finish the same job if they work? at the same rate?
(a) 33 days (b) 35 days★
(e) 37 days (d) 39 days

35. A man takes 50 minutes to cover a certain distance at a speed of 6 km/hr. If he walks with a speed of 1 0 km/hr. he covers the same distance
(a) 1 hour (c) 20 minutes
(b) 30 minutes★ (d) 10 minutes

36. A man pays 10% of his income as income tax. If his income tax amounts to Rs.1500, what is his income?
(a) Rs.13000 (b) Rs.15000★
(c) Rs.17000 (d) Rs.19000

37. A can do a piece of work in 10 days and B can do it in 15 days. The number of days required by them to finish it, working together is:
(a) 8 (b) 7
(c) 6★ (d) 4.

38. A carton contains 10 boxes, each box containing one dozen cubes. How many cartons are needed to fill 960 cubes?
(a) 7 (b) 8★
(c) 9 (d) 12

39. 16 men build a house in 10 days. How much time will it take 8 men to do this work?
(a) 25 days (b) 20 days★
(c) 30 days (d) 32 days

40. Naveed Ahmed spends Rs.400 in getting a good table and sells it at Rs.600. Find the percentage of profit?
(a) 90% (b) 45%
(c) 50%★ (d) 80%

41. All spends Rs.500 to get a good shirt and sells it at Rs.800. Find the percentage of Profit?
(a) 59% (b) 60%★
(c) 63% (d) 40%

42. Insert the missing number 5? 14 10 97
(a) 18★ (b) 16
(c) 14 (d) 12

43. Insert the missing number:
341 (250)466 282 ( )398
(a) 228 (b) 232★
(c) 226 (d) 240

44. Insert the missing number: 7 14 10 12 14 9
(a) 19★ (b) 17
(c) 14 (d) 15

45. Nasir read 60 pages of *a* book on the first day. This was 20% more than the number of pages he read on the second day. Given that he read 1/6 of the book on the second day, find the number of pages in the book he had read.
(a) 300★ (b) 290
(c) 325 (d) 345

46. Insert the missing number:
172 84 40 18
(a) 7★ (b) 10
(c) 12 (d) 16

47. 20 men can construct a building in 40 days. How long will it take 10 men to do this work?
(a) 50 days (b) 60 days
(c) 70 days (d) 80 days★

48. A man saves Rs.500 which is 15% of his annual income. How much does he earn in one year?
(a) 3542.50 (b) 3333.33★
(c) 3132.30 (d) 3075.75

49. Muhammad Aslam bought a TV Rs.8000 and sold it Rs.7000. How much loss did he get?
(a) Rs.1000★ (b) Rs.2000
(c) Rs.3000 (d) Rs.4000.

50. Insert the missing number:
1 3 2_____ 3 7
(a) 4 (b) 8
(c) 5★ (d) 6

51. If the average of three numbers is V. If one of the numbers is Z and another is Y, what is the remaining number?
(a) ZY – V (b) Z/V – 3 – Y
(c) Z/3 – V – Y (d) 3V_ Z – Y★
(e) V_ Z – Y

52. Two cyclists start biking from a trail's start 3 hours apart. The second cyclist travels at 10 miles per hour and starts 3 hours after the first cyclist who is traveling at 6 miles per hour. How much time will pass before the second cyclist catches up with the first from the time the second cyclist started biking?
(a) 2 hours (b) 4 ½ hours★
(c) 5 ¾ hours (d) 6 hours
(e) 7 ½ hours

53. Jim can fill a pool carrying buckets of water in 30 minutes. Sue can do the same job in 45 minutes. Tony can do the same job in 1 ½ hours. How quickly can all three fill the pool together?
(a) 12 minutes (b) 15 minutes★
(c) 21 minutes (d) 23 minutes
(e) 28 minutes

54. Mary is reviewing her algebra quiz. She has determined that one of her solutions is incorrect. Which one is it?
(a) 2x + 5 (x_1) = 9, x = 2
(b) p – 3(p_5) = 10, p = 2.5
(c) 4 y + 3 y = 28, y = 4
(d) 5 w+6 w–3w = 64, w = 8
(e) t – 2t – 3t = 32, t = 8★

55. What simple interest rate will Susan need to secure to make $2,500 in interest on a $10,000 principal over 5 years?
(a) 4% (b) 5%★
(c) 6% (d) 7%
(e) 8%

56. A study reported that in a random sampling of 100 women over the age of 35 showed that 8 of the women were married 2 or more times.
Based on the study results, how many women in a group of 5,000 women over the age of 35 would likely be married 2 or more times?
(a) 55 (b) 150
(c) 200 (d) 400★
(e) 600

57. John is traveling to a meeting that is 28 miles away. He needs to be there in 30 minutes. How fast does he need to go to make it to the meeting on time?
(a) 25 mph (b) 37 mph
(c) 41 mph (d) 49 mph
(e) 56 mph★

58. If Steven can mix 20 drinks in 5 minutes, Sue can mix 20 drinks in 10 minutes, and Jack can mix 20 drinks in 15 minutes, how much time will it take all 3 of them working together to mix the 20 drinks?
(a) 2 minutes and 44 seconds★
(b) 2 minutes and 58 seconds
(c) 3 minutes and 10 seconds
(d) 3 minutes and 26 seconds
(e) 4 minutes and 15 seconds

59. If Sam can do a job in 4 days that Lisa can do in 6 days and Tom can do in 2 days, how long would the job take if Sam, Lisa, and Tom worked together to complete it?
(a) 0.8 days (b) 1.09 days★
(c) 1.23 days (d) 1.65 days
(e) 1.97 days

60. Jim has 5 pieces of string. He needs to choose the piece that will be able to go around his 36_inch waist. His belt broke, and his pants are falling down. The piece needs to be at least 4 inches longer than his waist so he can tie a knot in it, but it cannot be more that 6 inches longer so that the ends will not show from under his shirt. Which of the following pieces of string will work the best?
(a) 3 feet (b) 3 ¾ feet
(c) 3 ½ feet★ (d) 3 ¼ feet
(e) 2 ½ feet

61. The last week of a month a car dealership sold 12 cars. A new sales promotion came out the first week of the next month and the sold 19 cars that week. What was the percent increase in sales from the last week of the previous month compared to the first week of the next month?
(a) 58%★ (b) 119%
(c) 158% (d) 175%
(e) 200%

62. If two planes leave the same airport at 1:00 PM, how many miles apart will they be at 3:00 PM if one travels directly north at 150 mph and the other travels directly west at 200 mph?
(a) 50 miles (b) 100 miles
(c) 500 miles★ (d) 700 miles
(e) 1,000 miles

63. During a 5_day festival, the number of visitors tripled each day. If the festival opened on a Thursday with 345 visitors, what was the attendance on that Sunday?
(a) 345 (b) 1,035
(c) 1,725 (d) 3,105
(e) 9,315★

64. Ali sold a table Rs.800 which he was bought for Rs.1000. What is his % loss?
(a) 20% ★ (b) 60%
(c) 14% (d) 17%

65. The area of the kitchen is n times the area of the balcony. Hence n is
(a) 1½ (b) 2½ ★
(c) 3½ (d) 4½
(e) None of the above

66. The number, whose 17% is 51, is
(a) 200 (b) 100
(c) 300★ d)210

67. A car washer can wash 8 cars in 18 minutes. At this rate how many cars can be washed, in three hours?
(a) 13 (b) 40
(c) 80★ (d) 125

68. There are four numbers. Average of the first three is 15 and that of the last three is 16. If the last number is 19 find the first number:
(a) 16★ (b) 18
(c) 20 (d) 21

69. 10 men can complete a job in 14 days. How long will it take 4 men to finish the same job if they work? at the same rate?
(a) 33 days (b) 35 days★
(e)37 days (d) 39 days

70. A man takes 50 minutes to cover a certain distance at a speed of 6 km/hr. If he walks with a speed of 1 0 km/hr. he covers the same distance
(a) 1 hour (c) 20 minutes
(b) 30 minutes★ (d) 10 minutes

71. A man pays 10% of his income as income tax. If his income tax amounts to Rs.1500, what is his income?
(a) Rs.13000 (b) Rs.15000★
(c) Rs.17000 (d) Rs.19000

72. A can do a piece of work in 10 days and B can do it in 15 days. The number of days required by them to finish it, working together is:
(a) 8 (b) 7
(c) 6★ (d) 4.

73. A carton contains 10 boxes, each box containing one dozen cubes. How many cartons are needed to fill 960 cubes?
(a) 7 (b) 8★
(c) 9 (d) 12

74. 16 men build a house in 10 days. How much time will it take 8 men to do this work?
(a) 25 days (b) 20 days★
(c) 30 days (d) 32 days

75. Naveed Ahmed spends Rs.400 in getting a good table and sells it.at Rs.600. Find the percentage of profit?
(a) 90% (b) 45%
(c) 50%★ (d) 80%

76. All spends Rs.500 to get a good shirt and sells it at Rs.800. Find the percentage of Profit?
(a) 59% (b) 60%★
(c) 63% (d) 40%

77. Insert the missing number 5? 14 10 97
(a) 18★ (b) 16
(c) 14 (d) 12

78. Insert the missing number:
341 (250)466 282 ( )398
(a) 228 (b) 232★
(c) 226 (d) 240

79. Insert the missing number: 7 14 10 12 14 9
(a) 19★ (b) 17
(c) 14 (d) 15

80. Nasir read 60 pages of *a* book on the first day. This was 20% more than the number of pages he read on the second day. Given that he read 1/6 of the book on the second day, find the number of pages in the book he had read.
(a) 300★ (b) 290
(c) 325 (d) 345

81. Insert the missing number:
172 84 40 18
(a) 7★ (b) 10
(c) 12 (d) 16

82. 20 men can construct a building in 40 days. How long will it take 10 men to do this work?
(a) 50 days (b) 60 days
(c) 70 days (d) 80 days★

83. A man saves Rs.500 which is 15% of his annual income. How much does he earn in one year?
(a) 3542.50 (b) 3333.33★
(c) 3132.30 (d) 3075.75

84. Muhammad Aslam bought a TV Rs.8000 and sold it Rs.7000. How much loss did he get?
(a) Rs.1000★ (b) Rs.2000
(c) Rs.3000 (d) Rs.4000.

85. Insert the missing number:
1 3 2_____ 3 7
(a) 4 (b) 8
(c) 5★ (d) 6

86. If the average of three numbers is V. If one of the numbers is Z and another is Y, what is the remaining number?
(a) ZY – V (b) Z/V – 3 – Y
(c) Z/3 – V – Y (d) 3V_ Z – Y★
(e) V_ Z – Y

87. Two cyclists start biking from a trail's start 3 hours apart. The second cyclist travels at 10 miles per hour and starts 3 hours after the first cyclist who is traveling at 6 miles per

hour. How much time will pass before the second cyclist catches up with the first from the time the second cyclist started biking?

(a) 2 hours (b) 4 ½ hours★
(c) 5 ¾ hours (d) 6 hours
(e) 7 ½ hours

88. Jim can fill a pool carrying buckets of water in 30 minutes. Sue can do the same job in 45 minutes. Tony can do the same job in 1 ½ hours. How quickly can all three fill the pool together?

(a) 12 minutes (b) 15 minutes★
(c) 21 minutes (d) 23 minutes
(e) 28 minutes

89. Mary is reviewing her algebra quiz. She has determined that one of her solutions is incorrect. Which one is it?

(a) 2x + 5 (x_1) = 9, x = 2
(b) p – 3(p_5) = 10, p = 2.5
(c) 4 y + 3 y = 28, y = 4
(d) 5 w+6 w–3w = 64, w = 8
(e) t – 2t – 3t = 32, t = 8★

90. What simple interest rate will Susan need to secure to make $2,500 in interest on a $10,000 principal over 5 years?

(a) 4% (b) 5%★
(c) 6% (d) 7%
(e) 8%

91. A study reported that in a random sampling of 100 women over the age of 35 showed that 8 of the women were married 2 or more times. Based on the study results, how many women in a group of 5,000 women over the age of 35 would likely be married 2 or more times?

(a) 55 (b) 150
(c) 200 (d) 400★
(e) 600

92. John is traveling to a meeting that is 28 miles away. He needs to be there in 30 minutes. How fast does he need to go to make it to the meeting on time?

(a) 25 mph (b) 37 mph
(c) 41 mph (d) 49 mph
(e) 56 mph★

93. If Steven can mix 20 drinks in 5 minutes, Sue can mix 20 drinks in 10 minutes, and Jack can mix 20 drinks in 15 minutes, how much time will it take all 3 of them working together to mix the 20 drinks?

(a) 2 minutes and 44 seconds★
(b) 2 minutes and 58 seconds
(c) 3 minutes and 10 seconds
(d) 3 minutes and 26 seconds
(e) 4 minutes and 15 seconds

94. If Sam can do a job in 4 days that Lisa can do in 6 days and Tom can do in 2 days, how long would the job take if Sam, Lisa, and Tom worked together to complete it?

(a) 0.8 days (b) 1.09 days★
(c) 1.23 days (d) 1.65 days
(e) 1.97 days

95. Jim has 5 pieces of string. He needs to choose the piece that will be able to go around his 36_inch waist. His belt broke, and his pants are falling down. The piece needs to be at least 4 inches longer than his waist so he can tie a knot in it, but it cannot be more that 6 inches longer so that the ends will not show from under his shirt. Which of the following pieces of string will work the best?

(a) 3 feet (b) 3 ¾ feet
(c) 3 ½ feet★ (d) 3 ¼ feet
(e) 2 ½ feet

96. The last week of a month a car dealership sold 12 cars. A new sales promotion came out the first week of the next month and the sold 19 cars that week. What was the percent increase in sales from the last week of the previous month compared to the first week of the next month?

(a) 58%★ (b) 119%
(c) 158% (d) 175%
(e) 200%

97. If two planes leave the same airport at 1:00 PM, how many miles apart will they be at 3:00 PM if one travels directly north at 150 mph and the other travels directly west at 200 mph?

(a) 50 miles (b) 100 miles
(c) 500 miles★ (d) 700 miles
(e) 1,000 miles

98. During a 5_day festival, the number of visitors tripled each day.If the festival opened on a Thursday with 345 visitors, what was the attendance on that Sunday?

(a) 345 (b) 1,035
(c) 1,725 (d) 3,105
(e) 9,315★

99. Ali sold a table Rs.800 which he was bought for Rs.1000. What is his % loss?
(a) 20% ★ (b) 60%
(c) 14% (d) 17%

100. The area of the kitchen is n times the area of the balcony. Hence n is
(a) 1½ (b) 2½ ★
(c) 3½ (d) 4½
(e) None of the above

UNIT NO. 6

1. In an election between two candidates, one got 55% of total valid votes. 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got was
(a) 2700★ (b) 2900
(c) 3000 (d) 3100

2. At an election involving two candidates, 68 votes were declared invalid. The winning candidate scores 52% and wins by 98 votes. The total number of votes polled is:
(a) 2518★ (b) 2450
(c) 2382 (d) None of these

3. A's income is 25% more than B's income. B income in terms of A's income is?
(a) 75% (b) 80 % ★
(c) 90% (d) 96%

4. Water tax is increased by 20% but its consumption is decreased by 20%. Then, the increase or decrease in the expenditure of the money is
(a)No change (b) 5% decrease
(c)4% increase (d) 4% decrease★

5. On increasing the price of T.V. sets by 30%, their sale decreases by 20%. What is the effect on the revenue receipts of the shop
(a)4% increase★ (b) 4% decrease
(c)8% increase (d) 8% decrease

6. The price of sugar increases by 20%. By what percent must a house wife reduce the consumption of sugar, so that the expenditure on sugar is the same as before
(a) 16.66★ (b) 20
(c) 80 (d) 83.33

7. The price of sugar is increased by 20%. As a result, a family decreases its consumption by 25%. The expenditure of the family on sugar will be decreased by
(a) 10%★ (b) 5%
(c) 14% (d) 15%

8. In a competitive examination in State A, 6% candidates got selected from the total appeared candidates. State B had an equal number of candidates appeared and 7% candidates got selected with 80 more candidates got selected than A. What was the number of candidates appeared from each State?
(a) 7600 (b) 8000 ★
(c) 8300 (d) 4000
(e) 5000

9. The price of a car is Rs. 3,25,000. It was insured to 85% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received?
(a) Rs. 60,000 (b) Rs. 49,000
(c) Rs. 76,375 ★ (d) Rs. 82,250
(e) Rs. 75,000

10. The sum of the number of boys and girls in a school is 150. If the number of boys is x, then the number of girls becomes x% of the total number of students. The number of boys is:
(a) 51 (b) 65
(c) 60 ★ (d) 95
(e) 70

11. In an examination of n questions, a student replied 15 out of the first 20 questions correctly. Of the remaining questions, he answered one-third correctly. All the questions have the same credit. If the student gets 50% marks, the value of n is:
(a) 30 (b) 67
(c) 50 ★ (d) 82
(e) 60

12. The salaries of A and B together amount to Rs. 2000. A spends 95% of his salary and B, 85% of his. If now, their savings are the same, what is A's salary?
(a) Rs. 850 (b) Rs. 1350
(c) Rs. 1500 ★ (d) Rs. 1800
(e) Rs. 1550

13. Five-eighth of three-tenth of four-ninth of a number is 45. What is the number?
(a) 470 (b) 550
(c) 560 (d) 540 ★
(e) None of these

14. Which of the following numbers should be added to 11158 to make it exactly divisible by 77?
(a) 9 (b) 8
(c) 6 (d) 5
(e) 7 ★

15. If n is odd, $(11)^n + 1$ is divisible by:
(a) 11 + 1 ★ (b) 11 – 1
(c) 11 (d) 10 + 1
(e) 10 – 1

16. Find unit digit in $(515)^{31} + (515)^{90}$:
(a) 0 ★ (b) 5
(c) 1 (d) 4
(e) None of these

17. The number 899 is:
(a) a number with 5 factors
(b) a number with 4 factors ★
(c) a number with more than 4 factors
(d) a perfect cube
(e) a number with 3 factors

18. A batsman has a certain average of runs for 16 innings. In the 17th innings, he makes a score of 85 runs, thereby increasing his average by 3. What is the average after the 17th innings?
(a) 60 (b) 37 ★
(c) 38 (d) 27
(e) 68

19. In Ajmal's opinion his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Ajmal and he thinks that Ajmal's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all of them are correct in their estimation, what is the average of different probable weights of Arun?
(a) 71 kg (b) 67 kg ★
(c) 73 kg (d) 58 kg
(e) 52 kg

20. The ratio between the present ages of M and N is 5 : 3 respectively. The ratio between M's age 4 years ago and N's age after 4 years is 1 : 1. What is the ratio between M's age after 4 years and N's age 4 years ago?
(a) 6 : 1 (b) 3 : 1 ★
(c) 4 : 1 (d) 4 : 5
(e) 2 : 3

21. A man takes 6 km distance to go round a rectangular area. If the area of the rectangle is 2 km, find the difference between length and breadth
(a) 1 km★ (b) 0.5 km
(c) 2 km (d) 0.75 km

22. The words in the first column are written in a secret code in the second column. However, the secret writings in the second column are not in the same order. What is the code assigned for the letter D?

BRAIN	13529.	DRAIN	35293
RIVER	13754.	DRIVE	83754

(a) 3. (b) 5
(c) 1★ (d) 9

23. There are eight poets, namely, A, B, C, D, E, F, G and H in respect of whom
Questions are being asked in the examination. The first four are ancient poets and the last four are modern poets. The
Question on ancient and modern poets is being asked in alternate years. Those who like H also like G, those who like D like C also. The examiner who sets
Question is not likely to ask
Question on D because he has written an article on him. But he likes D. Last year a
Question was asked on F. Considering these facts, on whom the
Question is most likely to be asked this year?
(a) B (b) C★
(c) D (d) G

24. What number comes next?
4, 196, 16, 144, 36, 100, 64
(a) 36. (b) 100
(c) 80. (d) 64★

25. Which is the odd man out?
(a) POKI★ (b) MIEA
(c) SOKG (d) YUQM

26. A cube with all the sides painted was divided into small cubes of equal measurement. The side of a small cube is exactly one fourth as that of the big cube. Therefore, the number of small cubes with only one side painted is

(a) 64. (b) 36
(c) 24★ (d) 12

27. There are 20 students with an average height of 105 cms in a class. Then 10 students with an average height of 120 cms join the class. What will be the average height of the class now?
(a) 100 cms (b) 110 cms★
(c) 120 cms (d) 130 cms

28. A man's investment doubles in every 5 years. If he invested Rs. 5,000 in each of the years 1960, 1965, 1970 and 1975, then what was the total amount received by him in 1980?
(a) Rs. 1, 40,000 (b) Rs. 30,000
(c) Rs. 70,000 (d) Rs. 1, 50,000★

29. Water tax is increased by 20% but its consumption is decreased by 20%. Then, the increase or decrease in the expenditure of the money is
(a)No change (b) 5% decrease
(c) 4% increase (d) 4% decrease★

30. On increasing the price of T.V. sets by 30%, their sale decreases by 20%. What is the effect on the revenue receipts of the shop?
(a)4% increase★ (b) 4% decrease
(c)8% increase (d) 8% decrease

31. The price of sugar increases by 20%. By what percent must a house wife reduce the consumption of sugar, so that the expenditure on sugar is the same as before?
(a)16.66★ (b)20
(c) 80 (d) 83.33

32. The price of sugar is increased by 20%. As a result, a family decreases its consumption by 25%. The expenditure of the family on sugar will be decreased by
(a) 10%★ (b) 5%
(c) 14% (d) 15%

33. (c) In a competitive examination in State A, 6% candidates got selected from the total appeared candidates. State B had an equal number of candidates appeared and 7% candidates got selected with 80 more candidates got selected than A. What was the number of candidates appeared from each State?
(a) 7600 (b) 8000★
(c) 8300 (d) 4000
(e) 5000

34. The price of a car is Rs. 3,25,000. It was insured to 85% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received?
(a) Rs.60,000 (b) Rs.49,000
(c) Rs.76,375★ (d) Rs.82,250
(e) Rs.75,000

35. The sum of the number of boys and girls in a school is 150.If the number of boys is x, then the number of girls becomes x% of the total number of students. The number of boys is:
(a) 51 (b) 65
(c) 60 ★ (d) 95
(e) 70

36. In an examination of n questions, a student replied 15 out of the first 20 questions correctly. Of the remaining questions, he answered one third correctly. All the questions have the same credit. If the student gets 50% marks, the value of n is:
(a) 30 (b) 67
(c) 50 ★ (d) 82
(e) 60

37. The salaries of A and B together amount to Rs. 2000. A spends 95% of his salary and B, 85% of his. If now, their savings are the same, what is A's salary?
(a) Rs.850 (b) Rs. 1350
(c) Rs.1500★ (d) Rs. 1800
(e) Rs.1550

38. Five-eighth of three-tenth of four-ninth of a number is 45. What is the number?
(a) 470 (b) 550
(c) 560 (d) 540★
(e) None of these

39. Which of the following numbers should be added to 11158 to make it exactly divisible by 77?
(a) 9 (b) 8
(c) 6 (d) 5
(e) 7 ★

40. If n is odd, $(11)^n + 1$ is divisible by:
(a) 11 + 1★ (b) 11 – 1
(c) 11 (d) 10 + 1
(e) 10 – 1

41. Find unit digit in $(515)^{31} + (515)^{90}$:

(a) 0 ★ (b) 5
(c) 1 (d) 4
(e) None of these

42. The number 899 is:
(a) a number with 5 factors
(b) a number with 4 factors ★
(c) a number with more than 4 factors
(d) a perfect cube
(e) a number with 3 factors

43. A batsman has a certain average of runs for 16 innings. In the 17th innings, he makes a score of 85 runs, thereby increasing his average by 3.What is the average after the 17th innings?
(a) 60 (b) 37★
(c) 38 (d) 27
(e) 68

44. In Ajmal's opinion his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Ajmal and he thinks that Ajmal's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all of them are correct in their estimation, what is the average of different probable weights of Ajmal?
(a) 71 kg (b) 67 kg★
(c) 73 kg (d) 58 kg
(e) 52 kg

45. The ratio between the present ages of M and N is 5 : 3 respectively. The ratio between M's age 4 years ago and N's age after 4 years is 1 : 1. What is the ratio between M's age after 4 years and N's age 4 years ago?
(a) 6 : 1 (b) 3 : 1★
(c) 4 : 1 (d) 4 : 5
(e) 2 : 3

46. Price of sugar is increased by 25%. The percentage of consumption to be decreased so that there would be no increase in the expenditure is
(a) 18% (b) 20 %★
(c) 22% (d) 24%

47. A group of students volunteered to finish a construction work in 25 days. 1Q of the students did not come and the work could be finished in 35 days. The original number of students in the group was
(a) 25.00 (b) 32.00
(c) 35.00★ (d) 37.00

48. A man bought a flat for Rs. 8, 20,000. He borrowed 55% of this money from a bank. How much money did he borrow from the bank?.
(a) Rs. 4, 51,000★ (b) Rs. 4, 52,000
(c) Rs. 4, 53,000. (d) Rs. 4, 54,000

49. A primary school had an enrollment of 850 pupils in January 1970. In January 1980 the enrollment was 1,120; What was the percentage increase for the enrollment?
(a) 31.76%★' (b) 33.50%
(c) 30,65% (d) 34.76%

50. The number, whose 7% is 42, is
(a) 300 (b) 400
(c) 500 (d) 600★

BASIC MATHEMATICS

1. A man takes 50 minutes to cover a certain distance at a speed of 6 km/hr. If he walks with a speed of 10 km/hr. he covers the same distance in:
(a) 1 hour (b) 30 minutes★
(c) 20 minutes (d) 10 minutes

2. A man pays 10% of his income as income tax. If his income tax amounts to Rs.1500, what is his income?
(a) Rs.13000 (b) Rs.15000★
(c) Rs.17000 (d) Rs.19000

3. A can do a piece of work in 10 days and B can do it in 15 days. The number of days required by them to finish it, working together is:
(a) 8 (b) 7
(c) 6★ (d) 4

4. A man saves Rs.500 which is 15% of his annual income. How much does he earn in one year?
(a) 3542.50 (b) 3333.33★
(c) 3132.30 (d) 3075.75

5. Mr. Rehman ordered a car worth Rs.600.000 and was given a discount. Given that he paid Rs.57,0000 for his new car, calculate the percentage discount he received:

(a) 5%★ (b) 7%
(c) 9% (d) 10%

6. If the difference between 5 times and 9 times of a number is 24 ,the number is
(a) 4 (b) 5
(c) 6★ (d) 7

7. The speed of a car is 30km first hour and 32 km in the second hour .Its average speed is
(a) 30 km (b) 31 km★
(c) 32 km (d) 33 km

8. The number, whose 7% is 21, is
(a) 500 (b) 400
(c) 300★ (d) 200

9. 16 men build a house in 10 days. How much time will it take 8 men to do this work?
(a) 25 days (b) 20 days★
(c) 30 days (d) 32 days

10. 20 men can construct a building in 40 days. How long will it take 10 men to do this work?
(a) 50 days (b) 60 days
(c) 70 days (d) 80 days★

11. Sarwar Gujar bought a table for Rs.200 and sold it Rs.175. How much loss did Sarwar Gujar get?
(a) Rs.25★ (b) Rs.20
(c) Rs.40 (d) Rs.30

12. Rashid bought a shirt for Rs.350 and sold it Rs.300. How much loss did he get?
(a) Rs.40 (b) Rs.50★
(c) Rs.20 (d) Rs.80

13. NASIR bought a practical copy Rs.60 and sold it Rs.40. How much loss did he get?
(a) Rs.600 (b) Rs.60★
(c) Rs.40 (d) Rs.20

14. The number, whose 17% is 51, is
(a) 200 (b) 100
(c) 300★ (d) 210

15. Muhammad Aslam bought a TV Rs.8000 and sold it Rs.7000. How much loss did he get?
(a) Rs.1000★ (b) Rs.2000
(c) Rs.3000 (d) Rs.4000

16. Naveed Ahmed spends Rs.400 in getting a good table and sells it at Rs.600. Find the percentage of profit?
(a) 90% (b) 45%
(c) 50%★ (d) 80%

17. Ali spends Rs.500 to get a good shirt and sells it at Rs.800. Find the percentage of Profit?
(a) 59% (b) 60%★
(c) 63% (d) 40%

18. Ahmed spend Rs.44,000 to get a car and sells it at Rs.48,000. Find its percentage of profit?
(a) 12% (b) 9.09%★
(c) 14% (d) 80%

19. Sohail Khan sold a car Rs.80,000 which he was bought for Rs.90,000. What is his % loss?
(a) 61.40% (b) 55.51%
(c) 12.31% (d) 11.11%★

20. The number, whose 3% is 60, is
(a) 2000★ (b) 3000
(c) 6000 (d) 9000

21. The number, whose 5% is 35, is
(a) 500 (b) 600
(c) 700★ (d) 800

22. Ali sold a table for Rs.800 which he was bought for Rs.1000. What is his % loss?
(a) 20%★ (b) 60%
(c) 14% (d) 17%

23. Akbar sold his old gun Rs.900, which he was bought for Rs.2500. What is his % loss?
(a) 64%★ (b) 82%
(c) 94% (d) 15%

24. The total distance from school to house is 35km. Noor khan covered a distance of 20km. What percentage of the whole distance has he covered?
(a) 314% (b) 219%
(c) 48.57%★ (d) 103.57%

25. This road is only 50 km long. We covered a distance of 20 km. What percentage of distance have we covered?
(a) 40%★ (b) 69%
(c) 48% (d) 53%

26. The number, whose 5% is 55, is
(a) 1100★ (b) 2100
(c) 1200 (d) 1300

27. We covered a 150 km distance of Islamabad road. The total distance is 370 km. What percentage of distance have we covered?
(a) 30%★ (b) 40.54%
(c) 67% (d) 41%

28. All gained 510 marks in matriculation examination. What percentage of marks did he gain?
(a) 60%★ (b) 57%
(c) 71% (d) 73%

29. Akhtar scored 178 marks out of 300 marks in a certain test. What percentage of marks did he score?
(a) 48% (b) 52.41%
(c) 61.41% (d) 59.33%★

30. The price of a book increases from Rs.120 to Rs.150. What is the percentage increases?
(a) 35% (b) 25%★
(c) 115% (d) 25.25.1

31. The price of a glass set increases from Rs.600 to Rs.710. what is the percentage increases?
(a) 18.33%★ (b) 17.33
(c) 10% (d) 14%

32. The original price of a gift pack is Rs.80. A discount of 15% is allowed in shop. What is the sale price.
(a) Rs.65 (b) Rs.68★
(c) Rs.61 (d) Rs.50

33. 8 men can do a work in 60 days. How long will it take 6 men to do the work?
(a) 80 days★ (b) 90 days
(c) 120 days (d) 19 days

34. The number, whose 7% is 42, is
(a) 300 (b) 400
(c) 500 (d) 600★

35. 15 men can do a work in 12 days. How long it will take. 9 men to do the work?
(a) 14 days (b) 20 days★
(c) 9 days (d) 19 days

36. 40 men can do work in 25 days. How long it will take 25 men to do the work?
(a) 50 days (b) 40 days★
(c) 60 days (d) 70 days

37. 60 men can do a work in 40 days. How long it will take 20 men to do the work?
(a) 160 days (b) 40 days
(c) 180 days (d) 120 days★

38. A basketball team won 18 out of 30 games played. What percentage of marks did he score?
(a) 60%★ (b) 40%
(c) 43% (d) 87%

39. The number, whose 9% is 63, is
(a) 700★ (b) 800
(c) 900 (d) 600

40. The bridge is completed in 20 days by 80 men. How long would 70 men to complete the work?
(a) 30 days (b) 29 days
(c) 23 days★ (d) 26 days

41. The road is completed in 35 days by 70 men. How long it will take 40 men to complete the work?
(a) 58 days (b) 61 days★
(c) 30 days (d) 32 days

42. The bridge is completed in 45 days by 105 men. How long it will take 90 men to do the work?
(a) 68.7 days (b) 61 days
(c) 52 ½ days★ (d) 60 days

43. If 40 men build 4 buildings in 12 months, how many men would be required to build 6 houses in 4 months?
(a) 114 men (b) 180 men★
(c) 140 men (d) 160 men

44. If 80 men dug 4 holes in 12 months, how many men would be required to dig 6 holes in 4 months?
(a) 140 men (b) 410 men
(c) 360 men★ (d) 40 men

45. If 15 men can do a piece of work in 8 days, how many men will finish it in 10 days?
(a) 14 (b) 12★
(c) 16 (d) 8

46. If 3 men or 6 boys can do a work in 20 days, then 6 men and 8 boys shall take:
(a) 6 days★ (b) 8 days
(c) 9 days (d) 20 days

47. The number, whose 25% is 150, is
(a) 600★ (b) 700
(c) 800 (d) 900

48. If 20 men can do a piece of work in 8 days, how many men will finish it in 10 days?
(a) 4 men (b) 16 men★
(c) 8 men (d) 18 men

49. AFTAB AKBAR bought a compact disc from a manufacturer for Rs. 200; he paid a 15% sales tax. If he sold the disc to a customer for Rs. 260, calculate the cash profit.
(a) Rs. 30.00★ (b) Rs. 35.00
(c) Rs. 32.50 (d) Rs. 28.00

50. The number, whose 15% is 75, is
(a) 500★ (b) 600
(c) 700 (d) 800

51. A shopkeeper bought a radio from a wholesaler for Rs. 250.00. In addition, he paid a sales tax of 15% on the cost price. He then sold the radio for Rs. 315.00. Calculate the cash profit made by the shopkeeper.
(a) Rs. 20.00 (b) Rs. 22.50
(c) Rs. 25.00 (d) Rs. 27.50★

52. A man takes 50 minutes to cover a certain distance at a speed of 6 km/hr. If he walks with a speed of 10 km/hr, he covers the same distance in
(a) 1 hour (b) 30 minutes★
(c) 20 minutes (d) 10 minutes

53. The number, whose 5% is 10, is
(a) 100★ (b) 200
(c) 300 (d) 400

54. A man pays 10% of his income for his income tax. If his income tax amounts to Rs. 1500, what is his income?
(a) Rs. 13000 (b) Rs. 15000★
(c) Rs. 17000 (d) Rs. 19000

55. A man is 5 times as old as his son. 2 years ago the sum of the squares of their ages was 114. Find the present age of son.
(a) 7 years★ (b) 9 years
(c) 8 years (d) 8 ½ years

56. The number, whose 13% is 52, is
(a) 300 (b) 400★
(c) 500 (d) 900

57. A can do a piece of work in 10 days and B can do it in 15 days. The number of days required by them to finish it, working together is
(a) 8 (b) 7
(c) 6★ (d) 4

58. A man bought a flat for Rs. 8,20,000. He borrowed 55% of this money from a bank. How much money did he borrow from the bank?
(a) Rs. 4,51,000★ (b) Rs. 4,52,000
(c) Rs. 4,53,000 (d) Rs. 4,54,000

59. A primary school had an enrollment of 850 pupils in January 1970. In January 1980 the enrollment was 1,120. What was the percentage increase for the enrollment?
(a) 31.76 %★ (b) 33.50 %
(c) 30.65 % (d) 34.76 %

60. The difference between simple and compound interest on Rs. 1625 for 3 years at 4% per annum in rupees is
(a) 7.95 (b) 7.90★
(c) 7.70 (d) 7.75

61. By selling a fan for Rs. 475, a person loses 5%. To get a gain of 5%, he should sell the fan for:
(a) Rs. 500 (b) Rs. 525★
(c) Rs. 535 (d) Rs. 575

62. Nasir read 60 pages of a book on the first day. This was 20% more than the number of pages he read on the second day. Given that he read 1/6 of the book on the second day, find the number of pages in the book he had read.
(a) 300★ (b) 290
(c) 325 (d) 345

63. Price of sugar is increased by 25%. The percentage of consumption to be decreased so that there would be no increase in the expenditure is
(a) 18 % (b) 20 %★
(c) 22 % (d) 24 %

64. A group of students volunteered to finish a construction work in 25 days. 10 of the students did not come and the work could be finished in 35 days. The original number of students in the group were
(a) 25.00 (b) 32.00
(c) 35.00★ (d) 37.00

65. Twelve men take 6 hours to finish a piece of work. After the 12 men have worked for 1 hour, the contractor decides to call in 8 more men. How many more hours would 20 men take to complete the remaining work?
(a) 2 (b) 3★
(c) 4 (d) 5

66. If a car is sold for Rs. 50000 the profit is 17 percent, what would be profit percentage if sold for Rs. 47000.
(a) 14.85 % (b) 15.98 %★
(c) 16.20 % (d) 14.50 %

67. Three families, P, Q and R, share 480 kg of rice, Q receives twice as much rice as P and R receives half as much rice as Q. How much rice does family Q gets?
(a) 220 kg (b) 230 kg
(c) 240 kg★ (d) 250 kg

68. Six men working 8 hours a day earn Rs. 720 per week. 8 men working 6 hours a day will earn per week
(a) Rs. 540 (b) Rs. 720★
(c) Rs. 960 (d) Rs. 1080

69. In the exam 45% students failed and 550 students were successful. The total number of students who appeared in the exam were:
(a) 1000★ (b) 900
(c) 1500 (d) 800

70. Sadiq purchased a plot for Rs. 8,000. He sells the plot to Abid at a profit of 20%. Abid in turn sells that plot to Arif at a loss of 20%. The plot costs Arif.
(a) Rs. 12,000 (b) Rs. 10,000
(c) Rs. 8670 (d) Rs. 7680★

71. A's mother is twice as old as A's brother. A is 6 years younger than his brother but 4 years older than his sister. If A's sister is 15 his mother's age is:
(a) 40 (b) 45
(c) 42 (d) 50★

72. If 12 years are added to 2/3 age of Rani, she will be three years older than today. What is Rani's present age?
(a) 25 (b) 27★
(c) 26 (d) 29

73. A car washer can wash 8 cars in 18 minutes. At this rate how many cars can be wash, in three hours?
(a) 13 (b) 40
(c) 80★ (d) 125

74. There are four numbers. Average of the first three is 15 and that of the last three is 16. If the last number is 19 find the first number:
(a) 16★ (b) 18
(c) 20 (d) 21

75. 10 men can complete a job in 14 days. How long will it take 4 men to finish the same job if they work at the same rate?
(a) 33 days (b) 35 days★
(c) 37 days (d) 39 days

PERCENTAGE

1. In a competitive examination in State A, 6% candidates got selected from the total appeared candidates. State B had an equal number of candidates appeared and 7% candidates got selected with 80 more candidates got selected than A. What was the number of candidates appeared from each State?
1. 7600 2. 8000 ★
3. 8300 4. 4000
5. 5000

2. The price of a car is Rs. 3,25,000. It was insured to 85% of its price. The car was damaged completely in an accident and the insurance company paid 90% of the insurance. What was the difference between the price of the car and the amount received?
1. Rs. 60,000 2. Rs. 49,000
3. Rs. 76,375 ★ 4. Rs. 82,250
5. Rs. 75,000

3. The sum of the number of boys and girls in a school is 150. If the number of boys is x, then the number of girls becomes x% of the total number of students. The number of boys is:
1. 51 2. 65
3. 60 ★ 4. 95
5. 70

4. In an examination of n questions, a student replied 15 out of the first 20 questions correctly. Of the remaining questions, he answered one-third correctly. All the questions have the same credit. If the student gets 50% marks, the value of n is:
1. 30 2. 67
3. 50 ★ 4. 82
5. 60

5. The salaries of A and B together amount to Rs. 2000. A spends 95% of his salary and B, 85% of his. If now, their savings are the same, what is A's salary?
1. Rs. 850 2. Rs. 1350
3. Rs. 1500 ★ 4. Rs. 1800
5. Rs. 1550

6. A's marks in Biology are 20 less than 25% of the total marks obtained by him in Biology, Maths and Drawing. If his marks in Drawing be 50, what are his marks in Maths?
1. 60 2. 47
3. 63 4. 55
5. cannot be determined ★

7. In an examination, there are three papers and a candidate has to get 35% of the total to pass. In one paper, he gets 62 out of 150 and

in the second 35 out of 150. How much must he get, out of 180, in the third paper to just qualify for a pass?

1. 50.5 2. 88
3. 70 4. 71 ★
5. 75

8. In a History examination, the average for the entire class was 80 marks. If 10% of the students scored 95 marks and 20% scored 90 marks, what was the average marks of the remaining students of the class?

1. 60 2. 72
3. 75 ★ 4. 85
5. 77

NUMBER SYSTEM

1. Five-eighth of three-tenth of four-ninth of a number is 45. What is the number?

1. 470 2. 550
3. 560 4. 540 ★
5. None of these

2. Which of the following numbers should be added to 11158 to make it exactly divisible by 77?

1. 9 2. 8
3. 6 4. 5
5. 7 ★

3. If n is odd, (11)n + 1 is divisible by:

1. 11 + 1 ★ 2. 11 – 1
3. 11 4. 10 + 1
5. 10 – 1

4. Find unit digit in (515)31 + (515)90:

1. 0 ★ 2. 5
3. 1 4. 4
5. None of these

5. The number 899 is:

1. a number with 5 factors
2. a number with 4 factors ★
3. a number with more than 4 factors
4. a perfect cube
5. a number with 3 factors

6. The numerator of a fraction is multiple of two numbers. One of the numbers is greater than the other by 2. The greater number is smaller than the denominator by 1. If the denominator is given as 5 + c(c is a constant), then the minimum value of the fraction is:

1. 2/3 2. –2
3. –1/2 ★ 4. 1/2
5. 1/3

7. Find the number which when multiplied by 13 is increased by 180:

1. 20 2. 15 ★
3. 12 4. 5
5. 14

8. Find the number of divisors of 10800.

1. 57 2. 60
3. 72 4. 62 ★
5. 70

9. The sum of the digits in a two-digit number is 5. If 9 is subtracted from the number, the result is the number with the digits reversed. The number is:

1. 23 2. 24
3. 41 4. 14
5. 32 ★

10. Three consecutive numbers such that twice the first, 3 times the second and 4 times the third together make 182. The numbers in question are:

1. 18, 22 and 23 2. 18, 19 and 20
3. 19, 20 and 21 4. 20, 21 and 22 ★
5. 21, 22 and 23

DECIMAL FRACTION

1. If 2805 ¸ 2.55 = 1100, then 280.5 ¸ 25.5 is:

1. 111 2. 1.1
3. 0.11 4. 11 ★
5. 1.11

2. The value of 213 + 2.013 + 0.213 + 2.0013 is:

1. 217.2273 ★ 2. 21.8893
3. 217.32 4. 3.217.32
5. None of these

3. The numerator of a non-zero rational number is five less than the denominator. If the denominator is increased by eight and the numerator is doubled, then again we get the same rational number. The required rational number is:

1. 1/8 2. 4/9
3. 2/8 4. 3/8
5. 3/8 ★

4. What will be the approximate value of 779.5 × 5 – 46.5 × 19 – 9?
   1. 10800 ★ 2. 18008
   3. 10080 4. 10008
   5. 18080
5. A fraction becomes 2 when 1 is added to both the numerator and the denominator and it becomes 3 when 1 is subtracted from both numerator and denominator. The numerator of the given fraction is:
   1. 7 ★ 2. 5
   3. 34. 8
   5. 6
6. What approximate value should come in place of z in the following question? 242 + 2.42 + 0.242 + 0.0242 = z
   1. 670 2. 575
   3. 580 4. 585
   5. 680 ★
7. What should come in place of the question mark (?) in the following question? 248.8 – 190.48 + 68.08 =?
   1. 126.4 ★ 2. 127.4
   3. 128.4 4. 124.6
   5. 126.4
8. Find a fraction such that if 1 is added to the denominator it reduces to ½ and reduces to 3/5 on adding 2 to the numerator.
   1. 12/25 2. 13/25 ★
   3. 11/13 4. 11/25
   5. 14/25

AVERAGE

1. A batsman has a certain average of runs for 16 innings. In the 17th innings, he makes a score of 85 runs, thereby increasing his average by 3. What is the average after the 17th innings?
   1. 60 2. 37 ★
   3. 38 4. 27
   5. 68
2. In Aran's opinion his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Arun and he thinks that Aran's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all of them are correct in their estimation, what is the average of different probable weights of Arun?
   1. 71 kg 2. 67 kg ★
   3. 73 kg 4. 58 kg
   5. 52 kg
3. The ratio between the present ages of M and N is 5: 3 respectively. The ratio between M's age 4 years ago and N's age after 4 years is 1: 1. What is the ratio between M's age after 4 years and N's age 4 years ago?
   1. 6 : 1 2. 3 : 1 ★
   3. 4 : 1 4. 4 : 5
   5. 2 : 3
4. In 1919, W. Rhodes, the Yorkshire cricketer, scored 891 runs for his country at an average of 34.27; in 1920, he scored 949 runs at an average of 28.75; in 1921, 1329 runs at an average of 42.87 and in 1922, 1101 runs at an average of 36.70. What was his batting average for the four years?
   1. 37.25 2. 36.92
   3. 35.58 ★ 4. 28.72
   5. 25.67
5. In hotel Jaysarmin, the rooms are numbered from 101 to 130 on-the first floor, 221 to 260 on the second floor and 306 to 345 on the third floor. In the month of June 2002, the room occupancy was 60% on the first floor, 40% on the second floor and 75% on the third floor. If it is also known that the room charges are Rs. 200, Rs. 100 and Rs. 150 on each of the floors, then find the average income per room for the month of June 2002:
   1. Rs. 150.3 2. Rs. 88.18 ★
   3. Rs. 78.3 4. Rs. 70.9
   5. Rs. 75.3
6. A salesman gets a bonus according to the following structure: If he sells articles worth Rs. x then he gets bonus of Rs. (x/100 – 1). In the month of January, his sales value was Rs. 100, in February it was Rs. 200, from March to November it was Rs. 300 for every month and in December it was Rs. 1200. Apart from this, he also receives a basic salary of Rs. 30 per month from his employer. Find his average income per month during the year.
   1. Rs. 35.78 2. Rs. 30.26
   3. Rs. 32.58 ★ 4. Rs. 38.88
   5. Rs. 30.50

7. The weight of a body as calculated by the average of 7 different experiments is 53.735 g. The average of the first three experiments is 54.005 g, of the fourth is 0.004 g greater than the fifth, while the average of the sixth and seventh experiment was 0.010 g less than the average of the first three. Find the weight of the body obtained by the fourth experiment.
   1. 49.353 g 2. 51.718 g
   3. 53.342 g ★ 4. 54.512 g
   5. 52.242 g
8. Find the average weight of four containers, if it is known that the weight of the first container is 100 kg and the total of the second, third and fourth containers' weight is defined by f(x) = x2 − 3/4 (x2), where x = 100.
   1. 650 kg ★ 2. 880 kg
   3. 760 kg 4. 460 kg
   5. 780 kg

RATIO & PROPORTION

1. A sum of money is divided among 160 males and some females in the ratio 16 : 21. Individually each male gets Rs. 4 and each female Rs. 3. The number of females is:
   1. 280 ★ 2. 298
   3. 292 4. 293
   5. 300
2. In a factory men, women and children were employed in the ratio 8 : 5 : 1 to finish a job- and their individual wages were in the ratio 5 : 2 : 3. Total daily wages of all amount to Rs. 318. Find the total daily wages paid to each category.
   1. Rs. 240, 60, 18 ★ 2. Rs. 210, 70, 38
   3. Rs. 190, 95, 33 4. Rs. 240,45,15
   5. None of these
3. Ram, Shiv and Ganesh assemble for a contributory party. Ram brings 3 apples while Shiv brings 5. Since Ganesh did not have any apples, he contributed Rs. 8. How many rupees should Ram and Shiv respectively get, assuming each of the three consumes an equal portion of the apples?
   1. 1, 7 ★ 2. 2, 5
   3. 5, 3 4. 2, 6
   5. 2,7
4. A factory employs skilled workers, unskilled workers and clerks in the proportion 8 : 5 : 1 and the wages of a skilled worker as unskilled worker and a clerk are in the ratio 5 : 2 : 3. When 20 unskilled workers are employed, the total daily wages of all, amount to Rs. 318. Find the daily wages paid to each category of employees (Rs.):
   1. 240,57,19 2. 210,70,13
   3. 230,65,12 4. 210,70,15
   5. 240,60,18 ★
5. The price of a diamond is proportional to the square of its weight. The diamond accidentally fell and broke into four pieces whose weights are in the ratio of 1 : 2 : 3 : 4. If the price fetched is Rs. 70,000 less than the original price, find the original price?
   1. Rs. 100,000 ★ 2. Rs. 70,000
   3. Rs. 160,000 4. Rs. 10800
   5. Rs. 150,000
6. The speeds of three cars are in the ratio 2: 3: 4. The ratio between the times taken by these cars to travel the same distance is
   1. 1 : 2 : 3 2. 2 : 3 : 4
   3. 8 : 5 : 4 4. 4 : 3 : 6
   5. 6 : 4 : 3 ★
7. If a, b, c and d are proportional then the mean proportion between a2 + c2 and b2 + d2 is
   1. ad/dc 2. ab + cd ★
   3. a/b + d/c 4. b2/a2 + d2/c2
   5. a/b + d2/c2
8. A cat takes 5 leaps for every 4 leaps of a dog, but 3 leaps of the dog are equal to 4 leaps of the cat. What is the ratio of the speed of the cat to that of the dog?
   1. 13 : 14 2. 15 : 11
   3. 17 : 15 4. 15 : 16 ★
   5. 15 : 17

PROBLEM ON AGES

1. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of the son is:
   1. 24 years 2. 26 years
   3. 28 years 4. 22 years ★
   5. 27 years
2. Eighteen years ago, a father was three times as old as his son. Now the father is only twice

as old as his son. Then the sum of the present ages of the son and the father is:

1. 102 2. 76
3. 105 4. 108 ★
5. 103

3. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present?

1. 44 years 2. 42 years
3. 40 years ★ 4. 55 years
5. 44 years

4. Tanya's grandfather was 8 times older to her 16 years ago. He would be 3 times of her age 8 years from now. Eight years ago, what was the ratio of Tanya's age to that of her grandfather?

1. 6 : 1 2. 1 : 5
3. 7 : 3 4. None of these
5. 11 : 53 ★

5. The age of father 10 years ago was thrice the age of his son. Ten years hence, father's age will be twice that of his son. The ratio of their present ages is:

1. 8 : 3 2. 7 : 3 ★
3. 11 : 2 4. 13 : 4
5. 7 : 9

6. Four years ago, the father's age was three times the age of his son. The total of the ages of the father and the son after four years will be 64 years. What is the father's age at present?

1. 35 years
2. 36 years ★
3. 46 years
4. Data inadequate
5. None of these

7. One year ago, Promila was four times as old as her daughter Sakshi. Six years hence, Promila's age will exceed her daughter's age by 9 years. The ratio of the present ages of Promila and her daughter is:

1. 8 : 3 2. 11 : 5
3. 12 : 5 4. 11 : 2
5. 13 : 4 ★

8. The sum of the present ages of a father and his son is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, son's age will be:

1. 15 years 2. 16 years
3. 19 years 4. 20 years ★
5. 22 years

PROFIT AND LOSS

1. A trader mixes three varieties of groundnuts costing Rs. 50, Rs. 20 and Rs. 30 per kg in the ratio 2 : 4 : 3 in terms of weight, and sells the mixture at Rs. 33 per kg. What percentage of profit does he make?

1. 8% 2. 3%
3. 11%. 4. 12%
5. 10% ★

2. A dairyman pays Rs. 6.40 per litre of milk. He adds water and sells the mixture at Rs. 8 per litre, thereby making 37.5% profit. The proportion of water to milk received by the customers is:

1. 1 : 10 ★ 2. 1 : 12
3. 2 : 7 4. 3 : 20
5. 2 : 5

3. A fruit seller has 24 kg of apples. He sells a part of these at a gain of 20% and the balance at a loss of 5%. If on the whole he earns a profit of 10%, the amount of apples sold at a loss is:

1. 9.8 kg 2. 8 kg
3. 9.6 kg ★ 4. 12.4 kg
5. 9.7 kg

4. Two-third of a consignment was sold at a profit of 5% and the remainder at a loss of 2%. If the total profit was Rs. 400, the value of the consignment (in Rs.) was

1. 13,000 2. 17,000
3. 15,000 ★ 4. 40,000
5. 16,000

5. A trader purchases a watch and a wall clock for Rs. 390. He sells them making a profit of 10% on the watch and 15% on the wall clock. He earns a profit of Rs. 51.50. The difference between the original prices of the wall clock and the watch is equal to:

1. Rs. 111 2. Rs. 150
3. Rs. 110 ★ 4. Rs. 130
5. Rs. 115

6. Albert buys 4 horses and 9 cows for Rs.13, 400. If he sells the horses at 10% profit and

the cows at 20% profit, then he earns a total profit of Rs.1880. The cost of a horse is:

1. Rs. 2200 2. Rs. 2000 ★
3. Rs. 2700 4. Rs. 3200
5. Rs. 2100

7. A man purchases two clocks A and B at a total cost of Rs. 650. He sells A with 20% profit and B at a loss of 25% and gets the same selling price for both the clocks. What are the purchasing prices of A and B respectively?

1. Rs. 550, Rs. 660 2. Rs. 250, Rs. 400 ★
3. Rs. 378, Rs. 375 4. Rs. 300, Rs. 350
5. Rs. 350, Rs. 400

8. The C.P. of two watches taken together is Rs. 840. If by selling one at a profit of 16% and the other at a loss of 12%, there is no loss or gain in the whole transaction, then the C.P of the two watches are respectively:

1. Rs. 360, Rs. 480★ 2. Rs. 500, Rs. 360
3. Rs. 360, Rs. 460 4. Rs. 400, Rs. 440
5. Rs. 350, Rs. 450

TIME AND WORK

1. A can do a piece of work in 10 days; B in 15 days. They work for 5 days. The rest of the work was finished by C in 2 days. If they get Rs. 1500 for the whole work, the daily wages of B and C are:

1. Rs. 160 2. Rs. 225 ★
3. Rs. 255 4. Rs. 350
5. Rs. 275

2. A and B together can complete a work in 12 days. A alone can complete it in 20 days. If B does the work only for half a day daily, then in how many days A and B together will complete the work?

1. 13 days 2. 16 days
3. 15 days ★ 4. 22 days
5. 18 days

3. 12 men can complete a piece of work in 4 days, while 15 women can complete the same work in 4 days. 6 men start working on the job and after working for 2 days, all of them stopped working. How many women should be put on the job to complete the remaining work, if it is to be completed in 3 days?

1. 15 ★
2. 19
3. 23
4. Data inadequate
5. None of these

4. Twelve children take sixteen days to complete a work which can be completed by eight adults in twelve days. Sixteen adults started working and after three days ten adults left and four children joined them. How many days will they take to complete the remaining work?

1. 3 days 2. 5 days
3. 6 days ★ 4. 9 days
5. None of these

5. 10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?

1. 5 days
2. 8 days
3. 7 days ★
4. cannot be determined
5. None of these

6. Sixteen men can complete a work in twelve days. Twenty-four children can complete the same work in eighteen days. Twelve men and eight children started working and after eight days three more children joined them. How many days will they now take to complete the remaining work?

1. 5 days 2. 4 days ★
3. 10 days 4. 9 days
5. None of these

7. Twenty-four men can complete a work in sixteen days. Thirty-two women can complete the same work in twenty-four days. Sixteen men and sixteen women started working and worked for twelve days. How many more men are to be added to complete the remaining work in 2 days?

1. 18 men 2. 24 men ★
3. 36 men 4. 50 men
5. None of these

8. 5 men and 2 boys working together can do four times as much work as a man and a boy. Working capacities of a woman and a boy are in the ratio:

1. 1 : 2 2. 2 : 1 ★
3. 1 : 3 4. 6 : 7
5. 1 : 4

TIME AND DISTANCE

1. A boy goes to his school from his house at a speed of 3 km/hr and returns at a speed of 2 km/hr. If he takes 5 hours in going and coming, the distance between his house and school is:
   1. 8.5 km 2. 5.5 km
   3. 6 km ★ 4. 9 km
   5. 7 km
2. The average speed of a train in the onward journey is 25% more than that in the return journey. The train halts for one hour on reaching the destination. The total time taken for the complete to and for journey is 17 hours, covering a distance of 800 km. The speed of the train in the onward journey is:
   1. 50 km/hr 2. 53 km/hr
   3. 52 km/hr 4. 56.25 km/hr ★
   5. 46 km/hr
3. A man on tour travels first 160 km at 64 km/hr and the next 160 kin at 80 km/hr. The average speed for the first 320 km of the tour is:
   1. 35.55 km/hr 2. 38 km/hr
   3. 71.11 km/hr ★ 4. 75 km/hr
   5. 72 km/hr
4. A boy rides his bicycle 10 km at an average speed of 12 km/hr and again travels 12 km at an average speed of 10 km/hr. His average speed for the entire trip is approximately :
   1. 10.4 km/hr 2. 10.8 km/hr ★
   3. 12 km/hr 4. 14 km/hr
   5. 13 km/hr
5. A car travels the first one-third of a certain distance with a speed of 10 km/hr, the next one-third distance with a speed of 20 km/hr, and the last one-third distance with a speed. of 60 km/hr. The average speed of the car for the whole journey is:
   1. 18 km/hr ★ 2. 34 km/hr
   3. 35 km/hr 4. 39 km/hr
   5. 40 km/hr
6. A motorist covers a distance of 39 km in 45 minutes by moving at a speed of x kmph for the first 15 minutes, then moving at double the speed for the next 20 minutes and then again moving at his original speed for the rest of the journey Then, x is equal to:
   1. 31.2 2. 36 ★
   3. 42 4. 54
   5. 50
7. Mary jogs 9 km at a speed of 6 km per hour. At what speed would she need to jog during the next 1.5 hours to have an average of 9 km per hour for the entire jogging session?
   1. 9 kmph 2. 13 kmph
   3. 12 kmph ★ 4. 15 kmph
   5. 11 kmph
8. A car travelling with 5/7 of its actual speed covers 42 km in 1 hr 40 min 48 sec. Find the actual speed of the car.
   1. 17 km/hr 2. 32 km/hr
   3. 31 km/hr 4. 35 km/hr ★
   5. 45 km/hr

ALLIGATION OR MIXTURE

1. In what ratio must a grocer mix two varieties of tea worth Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at Rs. 68.20 a kg he may gain 10%?
   1. 3 : 2 ★ 2. 6 : 7
   3. 3 : 5 4. 4 : 5
   5. 4 : 3
2. How many kilograms of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs. 7 per kg so that there may be a gain of 10% by selling the mixture at Rs. 9.24 per kg?
   1. 38 kg 2. 43 kg
   3. 54 kg 4. 63 kg ★
   5. 48 kg
3. Two vessels A and B contain spirit and water mixed in the ratio 5 : 2 and 7 : 6 respectively. Find the ratio in which these mixture be mixed to obtain a new mixture in vessel C containing spirit and water in the ratio 8 : 5?
   1. 5 : 3 2. 9 : 4
   3. 5 : 6 4. 7 : 9 ★
   5. 3 : 7

4. A milk vendor has 2 cans of milk. The first contains 25% water and the rest milk. The second contains 50% water. How much milk should he mix from each of the containers so as to get 12 litres of milk such that the ratio of water to milk is 3 : 5?
   1. 9 litres, 8 litres
   2. 6 litres, 6 litres ★
   3. 6 litres, 7 litres
   4. 7 litres, 5 litres
   5. 4 litres, 5 litres
5. One quality of wheat at Rs. 9.30 per kg is mixed with another quality at a certain rate in the ratio 8 : 7. If the mixture so formed be worth Rs. 10 per kg, what is the rate per kg of the second quality of wheat?
   1. Rs. 12
   2. Rs. 10.60
   3. Rs. 10.80 ★
   4. Rs. 15
   5. Rs. 13
6. Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:
   1. Rs. 187
   2. Rs. 172
   3. Rs. 175.50 ★
   4. Rs. 180
   5. Rs. 185
7. A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is:
   1. 460 kg
   2. 660 kg
   3. 600 kg ★
   4. 640 kg
   5. 450 kg

SCIENCE

PHYSICS

1. When water boils, its temperature
   (a) Begins to increase
   (b) Begins to decrease
   (c) Remains constant★
   (d) Fluctuates
2. Rectifiers are used to convert
   (a) DC to AC
   (b) AC to DC
   (c) High voltage to low voltage★
   (d) Low voltage to high voltage
3. A needle smeared with vaseline when lowered slowly on the surface of water in a horizontal position appears to float. The phenomenon is an example of
   (a) Capillary action
   (b) Surface tension★
   (c) Osmosis
   (d) Archimedes' principle
4. Which one of the following statements is correct?
   A slab of ice kept in a room:
   (a) Does not radiate heat
   (b) Does not radiate heat but absorbs heat from the surrounding★
   (c) Radiates heat but absorbs more heat from the surrounding
   (d) Radiates heat more than that absorbed by it from the surrounding
5. Phenomenon of formation of three dimensional image by interference of two light beams from laser or other coherent sources of light is called:
   (a) Optical photography
   (b) X-ray photography
   (c) Radiography
   (d) Holography★
6. Two cars, passing each other at high speed, are in danger of side swiping because:
   (a) Of the increase in air pressure in the space between them
   (b) Of decrease in the velocity of air molecules between them
   (c) Of decrease in air pressure in the space between them★
   (d) Increase in the velocity of air molecules between them
7. Which of the following take place when the subject speaks untruth while being tested by the polygraph instrument?
   1. His blood pressure goes up.
   2. His pulse quickens.
   3. His skin darkens.
   4. He sneezes.
   (a) 1 and 2★ (b) 3 and 4
   (c) 1, 2 and 3 (d) 2, 1 and 3
8. A car and a loaded truck are moving with the same speed along a road. As compared to the truck, the car shall possess
   (a) More kinetic energy
   (b) More potential energy
   (c) Less kinetic energy★
   (d) More mechanical energy
9. When a moving bus stops suddenly, the possengers are pushed forward because of the
   (a) Friction between the earth and the bus★
   (b) Friction between the passengers and the earth
   (c) Inertia of the passengers
   (d) Inertia of the bus
10. Erect and virtual images are always produced by
    (a) Plane and convex mirrors.★
    (b) Plane mirrors alone.
    (c) Concave and convex mirrors.
    (d) Concave mirrors alone.
11. What are primary colours?
    (a) Colour of the rainbow

(b) Colour in the spectrum of white light
(c) Colours which cannot be produced★
(d) Colour found in nature

12. Air bubble in water shines because of the phenomenon of
(a) Dispersion
(b) Refraction
(c) Diffraction
(d) Total internal reflection★

13. Sun and the other stars are virtually huge nuclear explosion chambers producing a large amount of heat and light. Yet, we do not hear any of the explosions because
(a) Heat and light are electromagnetic radiations and travel much faster than sound
(b) Sound waves get attenuated completely before they reach the earth
(c) The process involved in the interior of the sun and the stars relate to atomic and subatomic particles and not molecules and their vibrations
(d) The outer space is an absolute vacuum★

14. The advantage of AC over DC is that
(a) It contains more electrical energy
(b) It is free from voltage fluctuations
(c) Its generation costs much less
(d) It can be transmitted over long distances with minimum power loss★

15. What is minimum escape velocity—the speed necessary to counter earth's gravity and to break away from earth into outer space—required for a rocket to be launched into space?
(a) 5 km per second
(b) 6 km per second
(c) 11 km per second★
(d) 20 km per second

16. Which of the following devices is used to step up or step down the voltage of alternating current?
(a) Induction coil (b) Transformer★
(c) Tansistor (d) Rectifier

17. The spherical shape of a small drop of rain is due to
(a) Viscosity
(b) Surface tension★
(c) Atmospheric pressure
(d) Gravity

18. The blue colour of the sky can be attributed to
(a) Differential scattering of sunlight by the atmosphere★
(b) Total internal reflection of the sunlight by the atmosphere
(c) Absorption of sunlight
(d) Refraction of sunlight by the atmosphere

19. One should not connect a number of electric appliances to the same power socket because:
(a) The appliances will not get full voltage
(b) The appliances will not get proper current
(c) This can damage the appliances
(d) This can damage the domestic wiring due to overheating★

20. When wind blows at high velocity, roof tops are blown off because pressure
(a) Outside is more than inside the roof
(b) Inside is more than outside the roof★
(c) Increase due to wind velocity
(d) Is exerted by air from outside

21. Tube light works on the principle of
(a) Chemical effect of current
(b) Heating effect of current
(c) Magnetic effect of current
(d) Discharge of electricity through gases★

22. In a refrigerator, cooling is produced by
(a) The ice which deposits on the freezer
(b) The evaporation of a volatile liquid★
(c) The sudden expansion of a compressed gas
(d) None

23. Air is completely removed from an electric bulb to prevent
(a) Oxidation of tungsten filament★
(b) Bursting of the bulb
(c) Loss of light due to absorption
(d) None

24. A person climbing a hill bends forward in order to
(a) Avoid slipping
(b) Increase speed

(c) Reduce fatigue
(d) Increase stability★

25. On earth a moving body ordinarily comes to rest by itself because of the
(a) Law of inertia
(b) Forces of friction★
(c) Conservation of momentum
(d) Gravity

26. When the door of an operating refrigerator is opened the temperature of the room will
(a) Decrease
(b) Remain unchanged
(c) Fall down immediately
(d) Increase★

27. When a body is dropped from a certain height, the gravitational potential energy is converted into
(a) Elastic potential energy
(b) Chemical energy
(c) Kinetic energy★
(d) Light energy

28. Human body converts chemical potential energy of food into
(a) Kinetic energy (b) Light energy
(c) Nuclear energy (d) Heat energy★

29. Electrochemical energy is required for the working of
(a) Circulatory system
(b) Nervous system★
(c) Excretory system
(d) Digestive system

30. When the cat leaps for its prey then the chemical energy present in its muscles is converted to
(a) Potential energy then to light energy
(b) Potential energy then to kinetic energy★
(c) Electrical energy then to heat energy
(d) Heat energy then to Nuclear energy

31. The energy stored in the fossil fuel is
(a) Chemical energy★
(b) Heat energy
(c) Electrical energy
(d) Elastic potential energy

32. Semi-conductor is such a substance, whose ability to conduct current lies in between
(a) Conductors and insulators
(b) Conductors and superconductors★
(c) Insulators and superconductors
(d) Wood and plastic

33. An electric motor is used to convert
(a) Electrical energy into mechanical energy★
(b) Mechanical energy into kinetic energy
(c) Mechanical energy into electrical energy
(d) Higher voltage to lower voltage

34. Two parallel wires carrying currents in the same direction attract each other because of
(a) Potential difference between them
(b) Mutual inductance between them
(c) Electric forces between them★
(d) Magnetic forces between them

35. Energy of a body due to its motion is called
(a) Heat energy
(b) Kinetic energy★
(c) Potential energy
(d) Light energy

36. When an open bottle of scent is kept in a corner of the room, its odour is felt in all the corners. This is due to the phenomenon of:
(a) Vaporisation (b) Evaporation
(c) Diffusion★ (d) Sublimation

37. A remote control gadget (for TV etc.) has in it:
(a) A small electromagnet, that emits electromagnetic
(b) A small oscillator that emits electric pulses
(c) A small transmitter that emits infrared signals★
(d) None

38. The atmosphere exerts enormous pressure on us. But we do not feel it because:
(a) We are used to it
(b) Our bones are very strong and can withstand this pressure
(c) The surface area of our head is very small
(d) Our blood exerts a pressure slightly more than that of the atmosphere.★

39. Lightning is formed when:
(a) Similar charges of electricity rush towards each other and then get repelled

(b) Clouds strike against impurities in air and the friction burns up these impurities.
(c) Strong opposite charges in different clouds breakdown the resistance offered by the intervening air.★
(d) Water vapour produces electricity in the clouds.

40. A semi-conductor is also used as
(a) Capacitor (b) Transformer
(c) Electronic motor (d) Rectifier★

41. The wave which do not require any medium is
(a) Sound wave
(b) Air waves
(c) Electromagnetic waves★
(d) Water waves

42. Radio waves are
(a) Sound waves
(b) Electromagnetic waves★
(c) Water waves
(d) Heat waves

43. The energy stored in a stretched spring is
(a) Potential energy
(b) Kinetic energy
(c) Heat energy
(d) Elastic potential energy★

44. In cells chemical energy is transformed into
(a) Kinetic energy (b) Potential energy
(c) Heat energy (d) Electrical energy★

45. Though the temperature inside lighted electric bulb is around 2700°C, the filament does not burn because:
(a) The metal of which it is made is resistant to burning
(b) The oxygen necessary for combustion (and burning) is not available as the bulb is evaluated and filled with pure nitrogen or inert gases
(c) It does not burn in closed systems★
(d) It is made of non-metallic substance

46. A.C. voltage is
(a) Chemical quantity
(b) Digital quantity
(c) Analogue quantity★
(d) Mathematical quantity

47. Why is a cyclist required to bend inwards while moving in a circular path?
(a) To keep the vehicle on the road
(b) To make the centre of gravity fall with the base
(c) To produce the necessary centripetal force required to keep him moving in a curved path★
(d) None

48. The device which converts analogue signal to digital signal is called
(a) Transformer (b) CPU
(c) Modem★ (d) Photodiode

49. For making laser, usually we use
(a) Uranium (b) Ruby★
(c) Magnesium (d) Iron

50. Argon laser is used for operating the
(a) Eye cancer (b) Glaucoma★
(c) Kidney stone (d) Bone disease

51. Soldiers crossing a suspension bridge, always break steps, in case the frequency of vibration of their marching should coincide with that of the bridge and this is because of the phenomenon of:
(a) Refraction of sound
(b) Reverberation of sound
(c) Resonance of sound★
(d) Echolocation of sound

52. On passing through food stuff, x-ray can kill the
(a) Fungus (b) Virus
(c) Bacterials★ (d) Insects

53. Which of the following gives correct descending order of elasticity in the substances?
(a) Rubber, silver, glass
(b) Silver, rubber, steel
(c) Steel, silver, rubber★
(d) All have equal elasticity

54. Which of the following colour of light travel through, glass with minimum speed?
(a) Red (b) Violet★
(c) Green (d) Yellow

55. When light enters from rare to denser medium, it bends towards the normal line, it is called
(a) Reflection of light
(b) Diffraction of light
(c) Refraction of light★
(d) Absorption of light

56. Electromagnetic waves travel with the
(a) Speed of light★
(b) Speed of sound
(c) Speed of earth rotation
(d) Speed of sun rotation

57. Sound travels faster in:
(a) Dry air than in water
(b) Wood than in iron
(c) Iron than in air★
(d) Hydrogen than in water

58. A polaroid is
(a) A red light filter
(b) A device used for analysing polarized light★
(c) A device used in polarimeter
(d) An adjustable shutter

59. When a beam of light is passed through a transparent medium, however clear or homogeneous the medium may be, there is always a certain amount of light scattered sideways, out of the beam. This is known as
(a) Rayleigh scattering★
(b) Dispersion
(c) Raman effect
(d) None

60. The phenomenon of land and sea breeze is as a result of
(a) Conduction (b) Convection★
(c) Radiation (d) None

1. The weight of a given object is maximum
(a) At the bottom of a 500 ft. deep mine
(b) At the top of a mountain 5,000 ft high
(c) At a distance of 100 km above the earth's surface
(d) At the surface of the earth★

62. All the following statements are correct, except
(a) The presence of moisture in the air reduces the conductivity of charge★
(b) When a body is charged positively, some electrons escape from it
(c) A body is said to be negatively charged when it has got some electrons
(d) None statements is correct

63. Two parallel wires carrying current in the opposite direction
(a) Attract each other★
(b) Repel each other
(c) Do not exert any force on each other
(d) None

64. It takes much longer to cook things in the hills than in the plains, because:
(a) Atomspheric pressure is high in the hills and water boils at a higher temperature
(b) Atmospheric pressure is lower and water boils at a lower temperature★
(c) Due to low atmospheric pressure in the hills the boiling point of water is raised and therefore water takes longer to boil
(d) The humid atmosphere in the hills absorbs a lot of heat, leaving very little for the cooking

65. The working of optical fibres is based on the ——— of electromagnetic waves.
(a) Refraction
(b) Reflection
(c) Total internal reflection★
(d) Polarization

66. The needle of a magnetic compass
(a) Is affected only by permanent magnetics
(b) Rotates in the magnetic field of an electric current
(c) Aligns itself parallel to a magnetic field★
(d) Aligns itself perpendicular to a magnetic field

67. Which of the following is true for capacitors in series?
(a) The total capacitance is the sum of the individual capacitance
(b) The total charge is the sum of the charges on each capacitor
(c) The total voltage is the sum of the voltage across each capacitor★
(d) The available charge is shared between two or more capacitors

68. Condenser is used
(a) To produce charge
(b) To change the direction of current
(c) To collect the charge★
(d) As a good conductor of electricity

69. The flow of heat from a hot to a cold body is an example of
(a) Adiabatic process
(b) Irreversible process
(c) Revresible process
(d) Isothermal process★

70. What makes the air coming out of a punctured tyre cool?
(a) Adiabatic expansion★
(b) Flow at high speed
(c) Isothermal expansion
(d) None

71. A car is running on a road at a uniform speed of 60 km/hr. The net resultant force on the car is:
(a) Driving force in the direction of car's motion
(b) Resistance force opposite to the direction of car's motion
(c) An inclined force
(d) Equal to zero★

72. Which one of the following is not an advantage of AC over DC?
(a) The AC sows skin effect★
(b) In AC a wide range of voltages is possible
(c) Lines loss in AC transmission lines are negligible
(d) In AC the magnitude of current can be reduced by a choke

73. Which of the following instruments may be used to measure A.C?
(a) Galvanometer
(b) Hot-wire ammeter★
(c) Moving coil glavanometer
(d) None

74. Aviation fuel for jet aeroplanes consists of purified:
(a) Petrol (b) Kerosene★
(c) Gasoline (d) Diesel

75. A silver spoon and a book are both at room temperature. The spoon feels colder to the touch because:
(a) Of an illusory effect
(b) Silver is an almost pure material
(c) Silver is a very good heat conductor★
(d) It is made of a denser material

76. A liquid rises in a syringe when its piston is pulled up because:
(a) Of the property of surface tension
(b) Of capillary action
(c) Of the action of atmospheric pressure★
(d) There is a force of cohesion between the liquid molecules and the glass syringe

77. A small weight is put on the pressure cooker. it increases the pressure of the steam because:
(a) The weight is proportionate to the steam required
(b) Area of contact is small★
(c) The weight stops the steam from escaping
(d) Of Bernoulli's principle

78. When an electric bulb breaks, there is a mild bang due to:
(a) The chemical reaction between the enclosed gases
(b) The compressed gases rushing out suddenly
(c) The air rushing in to fill the evacuated space★
(d) None

79. Kinetic energy depends:
(a) On the mass of the moving body
(b) The velocity or speed of the moving body
(c) Pressure of the moving body
(d) Both mass and velocity of the moving body★

80. Electronics is the study of
(a) Flow of molecules★
(b) Flow of electrons
(c) Flow of photons
(d) All are true

81. Copper wires are generally used for electrical power transmission instead of iron wires because:
(a) Copper is a better conductor than iron★
(b) Copper is cheaper than iron
(c) Copper can take higher power than iron
(d) Copper is lighter than iron

82. Permanent magnets are made from
(a) Diamagnetic substances
(b) Ferromagnetic substances★
(c) Paramagnetic substances
(d) Dielectric substances

83. Which one of the following is not an advantage of three phase system of electric power supply over one phase system?
(a) The output voltage is higher★
(b) The power consumption is less
(c) The total output is almost constant

(d) The output of a 3-phase machine is greater than that of a single phase machine

84. Ball bearings are used to reduce friction by:
(a) Applying lubricants to the balls used
(b) Reducing the area of contact with the use of metallic balls★
(c) Increasing the area of contact with the use of metallic balls
(d) None

85. An electric motor runs on which principle?
(a) Electrical energy can be converted into chemical energy in the presence of magnetic fields
(b) A conductor carrying current in the direction perpendicular to the external magnetic field feels a force★
(c) The current flowing through a conductor causes generation of heat that drives the engine
(d) Changing magnetic field induces an electromotive force in a conductor

86. Which of the following functions is performed by a photo cell?
(a) It converts chemical energy into electrical energy
(b) It converts magnetic energy into electrical energy
(c) It converts light energy into electrical energy★
(d) It converts electrical energy into light energy

87. In T.V. transmission:
(a) Sound and video signals are transmitted simultaneously★
(b) Sound is transmitted first and then the video signal follows
(c) Video signal is transmitted first, followed by sound signal
(d) Sound and video signals are transmitted from different places at the same time

88. Surface tension in a liquid is due to
(a) Adhesive force between the molecules
(b) Cohesive force between the molecules★
(c) Gravitational force between the molecules
(d) Electrical force between the molecules

89. Springs of shock absorbers of automobiles and railway coaches are made of steel and not of rubber because steel is
(a) More durable than rubber
(b) Less expensive than rubber in the long run
(c) Less elastic than rubber
(d) More elastic than rubber★

90. Why does the mercury column in the barometer fall rapidly before a severe storm?
(a) It is due to decrease in humidity in air
(b) It is due to the rise in atmospheric pressure
(c) It is due to the fall in atmospheric pressure★
(d) It is due to the severe heat energy from the sun

91. Why does water boil below 100°C at higher altitudes?
(a) There is lesser dissipation of heat at higher altitudes
(b) Water available at higher altitudes is purer than that in the plains
(c) Pollution-free air at higher altitudes increases the calorific value of fuel used
(d) The atmospheric pressure at higher altitudes is low as compared to that at sea level★

92. The speed of sound is maximum through which of the following?
(a) Air (b) Glass★
(c) Water (d) Wood

93. Echo is the effect produced due to
(a) Absorption of sound
(b) Dispersion of sound
(c) Reflection of sound★
(d) Refraction of sound

94. In a photographic camera fitted with a convex lens, which of the following types of images will be formed on the film?
(a) Erect and real
(b) Inverted and real★
(c) Imaginary and erect
(d) The type of image formed will depend on the distance between the lens and the object

95. In the modern-day computers, when operational, the electrical impulses travel
(a) At the speed of sound
(b) At seven times the speed of sound
(c) At half the speed of light
(d) Nearly at the speed of light★

96. A magnet freely suspended by means of a string will always set itself in which of the following directions?
(a) East-West (b) North-East
(c) North-South★ (d) South-East

97. Why are shields made of iron usually provided around precision instruments?
(a) For protection against the effect of external magnetic fields★
(b) For guarding the instruments against unauthorised handling
(c) For protection against the effect of moisture in the air
(d) For absorbing heat generated during the functioning of the instrument

98. Why are transformers used in the transmission of electric power?
(a) Because they speed up transmission
(b) Because they can conserve electrical energy
(c) Because they can reduce transmission losses★
(d) Because they help to distribute electrical energy efficiently

99. Tiredness is felt on the top of the mountains because of:
(a) High temperature
(b) Low temperature
(c) High pressure outside the body
(d) Low pressure outside the body★

100. A fresh egg sinks in pure water, whereas it floats in saturated salty water. This is due to
(a) Higher density of the salty water★
(b) Higher density of the pure water
(c) The fluid matter inside the egg-shell
(d) The fact that the egg-shell is made of calcium which is heavier than pure water

101. When a vehicle passes, TV reception gets distorted. This is because:
(a) Metal reflects radiowaves
(b) Spark plug creates electromagnetic disturbances
(c) Passing vehicle affects the sophisticated TV components
(d) Modern vehicles use electronic ignition system★

102. Which of the following instruments is used for detecting and measuring small electric currents?
(a) Ammeter (b) Fluxmeter
(c) Galvanometer★ (d) Voltmeter

103. The lightning conductor or rod used for protecting buildings from lightning is made of
(a) Aluminium (b) Copper★
(c) Iron (d) All of the above

104. What is the melting point of Tungsten?
(a) 500°C (b) 1,000°C
(c) 2,000°C (d) 3,000°C★

105. Colours seen on oil films spread on water are seen because of
(a) Interference of light waves★
(b) Refraction of light
(c) Reflection of light
(d) None

106. A motorcar is moving with uniform velocity on a rough horizontal road. According to Newton's law of motion
(a) The kinetic energy of the car is increasing
(b) There is no unbalanced force acting on the car★
(c) Forces are acting on the car
(d) The car is being accelerated

107. If a bimetallic strip is heated, it will
(a) Twist itself into a helix
(b) Not bend at all
(c) Bend towards the metal with higher thermal coefficient of expansion
(d) Bend towards the metal with lower thermal expansion coefficient★

108. In an electronic watch, the component corresponding to the pendulum of a pendulum clock is:
(a) Transistor
(b) Balance wheel
(c) Crystal oscillator★
(d) Diode

109. Why is the light of ordinary lamp hotter than the tubelight?
(a) It is due to incandescence ★
(b) It is due to ionisation of gases
(c) It has more surface for distribution of energy
(d) It gives white light

110. The resistance of a bulb rated 60 watts/220 volts approximately
(a) 4 Ω (b) 40 Ω
(c) 400 Ω (d) 800 Ω★

112. Which of the following is used as a coolant in nuclear reactors?
(a) Heavy water (b) Cadmium
(c) Liquid sodium★ (d) Graphite

113. Which of the following is good nuclear fuel?
(a) Uranium-238 (b) Neptunium-239
(c) Thorium-236 (d) Plutonium-239★

114. In an atomic explosion, enormous energy is released which is due to the:
(a) Conversion of neutrons into protons
(b) Conversion of chemical energy into heat energy
(c) Conversion of chemical energy into nuclear energy
(d) Conversion of mass into energy★

115. Optic fibres are mainly used for which of the following?
(a) Communication ★
(b) Weaving
(c) Musical instruments
(d) Food industry

116. Sonar works on the principle of
(a) Reflection of sound
(b) Absorption of sound★
(c) Reflection of radio-waves
(d) None

117. When load is lifted from ground to a certain height, some work is done and energy is used up. This energy is converted into
(a) Internal energy of the body
(b) Heat and dissipated
(c) Potential energy of the body★
(d) Heat as well as potential energy

118. A plant with green leaves placed in red light will appear
(a) Black★ (b) Green
(c) Red (d) Violet

119. The common refrigerant used in the domestic refrigerator is
(a) Neon (b) Freon/ammonia★
(c) Spirit (d) None

120. Who said, 'A body will remain at rest unless an external force acts on the body'?
(a) Newton★ (b) Einstein
(c) Archimedes (d) Galileo

121. Which metal is commonly used as a electromagnet?
(a) Copper (b) Iron★
(c) Nickel (d) Cobalt

122. Which of the following does not admit any division?
(a) Atom★ (b) Molecules
(c) Compound (d) All

123. The dynamo converts
(a) Mechanical energy into electrical energy★
(b) Electrical energy into mechanical energy
(c) Mechanical energy into magnetic energy
(d) None

124. A red light is used in a traffic signal because
(a) It has the longest wavelength and can be easily noticed from a long distance★
(b) It is beautiful
(c) It is visible to people even with bad eyesight
(d) None

125. Metals are good conductors of electricity because
(a) They contain free electrons★
(b) The atoms are lightly packed
(c) They have high melting point
(d) All of the above

126. Water cannot be used to extinguish fire caused by an electric current because
(a) It may cause another short circuit★
(b) It may cause hydrolysis
(c) It may cause electrocution
(d) It will spoil the wiring

127. In diesel engines ignition takes place by
(a) Compression★ (b) Electrical spark
(c) Dynamo (d) Battery

128. Cloudy nights are warmer because
(a) Clouds prevent radiation of heat from ground to air★
(b) Of low atmospheric pressure
(c) Of the compact density of air
(d) More dust particles gather in the air

129. If we go to the Himalayas, we feel breathless because
(a) It is very cold there
(b) The density of air is much less on the hills so oxygen content is reduced★
(c) The density of air is high on the hills reducing oxygen content
(d) None

130. In deserts clouds do not precipitate because of
(a) Low pressure
(b) Low humidity★
(c) High wind velocity
(d) Low temperature

131. A ship rises as it enters the sea from a river because the:
(a) Water in sea is hard water
(b) Larger quantity of water in the sea pushes the ship upwards
(c) Density of sea water is lower than that of the river water
(d) Density of sea water is higher than that of the river water★

132. The process of transfer of heat by matter but without actual movement of the particles themselves is called
(a) Conduction★ (b) Convection
(c) Radiation (d) None

133. What are ultrasonic waves?
(a) Sound waves having frequency shorter than audio-frequency range
(b) Sound waves produced in a vacuum
(c) Sound waves having frequency higher than audio-frequency range★
(d) None

134. In the process of galvanization an iron sheet is coated with
(a) Aluminium (b) Zinc★
(c) Tin (d) Galena

135. A radar which detects the presence of an enemy aircraft uses
(a) Sound waves (b) Radiowaves★
(c) Electric waves (d) Ultrasonic waves

136. Fish plates are used in railway tracks
(a) To avoid tracks being distorted due to temperature fluctuation
(b) To control speed of the train★
(c) To connect two rails
(d) To keep the rails equidistant

137. Food is cooked quickly in a pressure cooker because
(a) Boiling point of water is decreased
(b) Boiling point of water is increased★
(c) It absorbs heat quickly
(d) It retains heat for a long duration

138. In an earthen pot cooling of water depends upon
(a) Outside temperature
(b) Atmospheric humidity
(c) Wind
(d) All of the above★

139. A fuse wire is used to
(a) To make the electrical circuit strong
(b) Convert AC into DC
(c) Convert DC into AC
(d) Prevent an unduly high electric current to pass through a circuit★

140. A molecule is
(a) A class of organic compounds
(b) The smallest unit of a substance that retains the properties of the substance★
(c) The spectrum of a substance
(d) A small mass

141. The nucleus of an atom consists of
(a) Protons + Electrons
(b) Only proton
(c) Proton + Neutron + Electron
(d) Protons and neutrons★

142. Four identical kettles with the same amount of water, have bases made of different metals of the same thickness. If these are placed on identical flames water will boil first in the kettle with a base made of
(a) Brass (b) Copper★
(c) Aluminium (d) Steel

143. Sound travels with a different speed in different media. In what order does the velocity of sound increase in these media?
(a) Water, iron and air
(b) Iron, air and water
(c) Air, water and iron★
(d) Iron, water and air

144. In electric fittings, the wires are earthed because
(a) In case of a short circuit, current passes to the earth★

(b) It avoids leakage of electricity
(c) It completes the electric circuit
(d) It reduces fluctuation

145. A bomb is dropped at a point from a moving aeroplane. The pilot observes that:
(a) The bomb traverses a curved path and falls some distance behind that point
(b) The bomb traverses a curved path and falls some distance ahead★
(c) The bomb drops vertically downward
(d) The bomb remains stationary in the air for some time

146. When light passes from air into glass it experiences change in:
(a) Frequency and wavelength
(b) Frequency and speed
(c) Wavelength and speed★
(d) Frequency, wavelength and speed

147. A person sitting in an open car moving at constant velocity throws a ball vertically upwards in air. If effect of air resistance is neglected, the ball will fall:
(a) Exactly in hands of the person★
(b) Outside the cars
(c) In the car behind the person
(d) In the car ahead of the person

148. The difference between a nuclear reactor and an atomic bomb is that:
(a) No chain reaction takes place in nuclear reactor while in the atomic bomb there is a chain reaction
(b) No chain reaction takes place in atomic bomb while it takes place in nuclear reactor
(c) The chain reaction in nuclear reactor is controlled★
(d) The chain reaction in nuclear reactor is not controlled

149. Which of the following metals is used in aircraft?
(a) Chromium (b) Titanium
(c) Palladium★ (d) None

150. During rusting
(a) Iron gains weight★
(b) Iron loses weight
(c) Weight of iron remains unchanged
(d) Iron volatilizes

SOUND, WAVES AND LIGHT

1. The reflection of all light in the same medium is called
(a) Total reflection
(b) Internal reflection
(c) Total internal reflection★
(d) Total internal refraction

2. At resonance, the amplitude of oscillation is
(a) zero
(b) small but not zero
(c) very large★
(d) normal

3. The higher modes of vibration whose frequencies are 2 times and 3 times the fundamental frequency, are known as
(a) Octave (b) Overtones★
(c) Harmonic series (d) None

4. Which of the following are examples of free vibrations?
(a) Vibrations of a tuning fork
(b) The strings of musical instruments
(c) Air columns in organ pipes
(d) All the above★

5. Time of reverberation depends upon
(a) Velocity of sound
(b) Reflecting properties of walls and ceiling, etc.★
(c) Quality of sound
(d) None

6. If the sound is travelling in the direction in which the wind is blowing, then the velocity of sound will
(a) Increase★
(b) Decrease
(c) May increase or decrease
(d) Remain same

7. Which of the following are the consequences of the reflection of sound?
(a) Megaphones and speaking tubes
(b) Reverberation in buildings
(c) Stationary waves in organ pipes
(d) All the above★

8. When two or more than two notes are sounded together, the resultant note is called
(a) Concord (b) Discord
(c) Cord★ (d) Consonance

9. When two or more than two notes sounded one after the other produce a pleasing effect on the ear, they are said to produce
   (a) Harmony (b) Discord
   (c) Concord (d) Melody★
10. The point on the principle axis at which the reflected rays converge or diverge is called
   (a) Pole
   (b) Center of curvature
   (c) Radius of curvature
   (d) Focus★
11. Centre of curvature is
   (a) The distance between the pole and any point on the principal axis
   (b) The centre of the sphere of which the spherical mirror is a part★
   (c) The centre point of the principal axis
   (d) None
12. Radius of curvature is
   (a) The diameter of the spherical mirror
   (b) A point on the principal axis at which the reflected rays converge
   (c) The radius of the sphere of which the mirror is a part★
   (d) None
13. A ray of light passing through the centre of curvature of a concave mirror
   (a) Is reflected back along the same path★
   (b) Is reflected back through the focus
   (c) Converges at the focus
   (d) None
14. A water wave is an example of
   (a) Diffracted wave
   (b) Electromagnetic wave
   (c) Longitudinal wave
   (d) Transverse wave★
15. Sound wave cannot be
   (a) Reflected (b) Refracted
   (c) Diffracted (d) Polarised★
16. When the string of sonometer vibrates vigorously on placing a vibrating tuning fork on it, the phenomenon is called
   (a) Forced vibration
   (b) Resonance★
   (c) Free vibration
   (d) Automatic vibration
17. Beats can be heard separately only if the number of beats produced is
   (a) less than 10 per second★
   (b) less than 16 per second
   (c) more than 10 per second
   (d) more than 16 per second
18. Colour of light is determined by its
   (a) Velocity in air
   (b) Amplitude
   (c) Frequency★
   (d) State of polarization
19. If there were no atmosphere, then the duration of the day light on earth will
   (a) Decrease★
   (b) Increase
   (c) Remain unchanged
   (d) Depend upon the weather
20. According to Newton's corpuscular theory of light, the velocity of light in denser medium in comparison with velocity in rarer medium should be
   (a) Greater★
   (b) Smaller
   (c) Same
   (d) Cannot be predicted
21. The phenomenon of ejection of electrons from the surface of metals, when light of a suitable wavelength falls on it, is known as
   (a) Electrolysis
   (b) Ionization
   (c) Photo electric effect★
   (d) None
22. A crystal capable of absorbing a radiation and re-emitting it in the form of visible light, does so after a certain small time interval of excitation. This phenomenon is called
   (a) Phosphorescence
   (b) Fluorescene★
   (c) Photolysis
   (d) Absorption
23. A string stretched between two fixed points is vibrating in one segment. The frequency with which the string vibrates is
   (a) directly proportional to the stretching force
   (b) inversely proportional to the stretching force
   (c) inversely proportional to the square root of the stretching force
   (d) directly proportional to the square root of the stretching force★
24. The velocity of light is equal to 3×10^8 m/s. What will be the distance of a star from

which light takes nearly four years to reach the earth?
(a) 3.78×10^{16} metres★
(b) 4.00×10^{16} metres
(c) 4.00×10^{24} metres
(d) 3.00×10^{24} metres

25. Echo is formed as a result of
(a) refraction of sound
(b) interference of sound
(c) diffraction of sound
(d)reflection of sound★

26. Sound travels faster in moist air because
(a) moist air is heavier than dry air
(b) the value of r for moist air is greater than that for dry air
(c) the pressure of moist air is greater than that of dry air★
(d) the density of moist air is less than that of dry air

27. The refractive index of glass is 1.5. What is the speed of light in glass? (Speed of light in vaccum = 3.0×10^8 m/s)
(a) 1.0×10^8 (b) 1.5×10^8m/s
(c) 1.8×10^8m/s (d) 2.0×10^8m/s★

28. What is the wavelength of visible spectrum?
(a) 100 Å — 8000 Å
(b) 3900 Å — 76000 Å
(c) 7800 Å — 8000 Å
(d) 8500 Å — 9800 Å★

29. When sound waves travel from air to water, the quantity that remains unchanged is
(a) Speed (b) Frequency★
(c) Wavelength (d) Intensity

30. When a ray of light is transmitted from air to glass the frequency
(a) Increases and wavelength decreases
(b) Decreases and wavelength increases
(c) Is unaltered but the wavelength decreases★

31. A stretched string is vibrating at 500 hertz. If the tension is increased four times, the frequency shall become
(a) 250 hertz (b) 500 hertz
(c) 1,000 hertz★ (d) 1,500 hertz

32. Ozone layer above earth's atmosphere will
(a) prevent infrared rays radiation from sun reaching earth★
(b) prevent infrared rays reflected from earth from escaping earth's atmosphere.
(c) prevent ultraviolet rays from sun
(d) reflect back radio waves

33. The frequency of sound an average man can hear is
(a) 10 to 10, 000 Hz(b) 15 to 15, 000 Hz
(c) 20 to 20, 000 Hz★
(d) 25 to 25, 000 Hz

34. The focal length of a plane mirror is
(a) zero (b) infinite★
(c) negative (d) finite

35. A virtual image formed by a mirror (any type) is
(a) always larger than the object
(b) always smaller than the object
(c) always erect★
(d) None

36. The rear view mirror used by auto drivers is a ———— mirror
(a) plain (b) concave
(c) convex★ (d) inverted

37. A mirage occurs because
(a) the refractive index of atmosphere increases with height
(b) the refractive index of atmosphere decreases with height★
(c) the hot ground acts like a mirror
(d) refractive index remains constant with height

38. Twinkling of stars is on account of
(a) large distance of starts and storms in air
(b) small size of stars
(c) large size of stars
(d) large distance of stars and fluctuations in the density of air★

39. Which of the following statements is wrong?
(a) speed of sound in air — 330 m/s★
(b) speed of sound in water — 1400 m/s
(c) speed of sound in concrete — 5000 m/s
(d) speed of sound in rock — 100 m/s

40. Which of the following can be used as a magnifying glass?
(a) concave mirror★
(b) concave lens
(c) convex mirror
(d) all the above

41. A convex mirror is used in motor vehicles to look at the back traffic because
(a) in it the image is formed as far behind the mirror as the object is in front of it

(b) it always forms real images of objects
(c) it covers a wide field of view and always gives an upright image★
(d) the polish on its surface lasts for a long time

42. A person standing in front of a mirror finds his image smaller than himself and erect. This implies that the mirror is
(a) plane (b) concave
(c) convex★ (d) None

43. The number of complete oscillation made by a simple pendulum in one second is called its
(a) amplitude
(b) oscillations
(c) time-period
(d) frequency of oscillations★

44. Two plane mirrors are set at right angles and a flower is placed in any position in between the mirrors. The number of images of the flower which will be seen is
(a) one (b) two
(c) three★ (d) four

45. Waves propagate along a stretched string at a speed of 12 m/s. The end of the string is moved up and down in a vibratory motion once every 2.5 s. The wavelength of the waves travelling along the string is
(a) 3.0 m★ (b) 4.5 m
(c) 6.0 m (d) 30 m

46. A convex lens
(a) diverges a parallel beam of light away from its optical centre
(b) focusses a parallel beam of light at infinity
(c) focusses a parallel beam of light on its axis★
(d) any of the above is possible

47. When the temperature of air rises, the wavelength of sound waves of a given frequency will
(a) decrease
(b) increase★
(c) remain unchanged
(d) can not say

48. The period of a pendulum depends on its
(a) mass★
(b) length
(c) energy
(d) displacement from the mean position

49. Total internal reflection can take place when a ray passes from
(a) air to glass
(b) glass to air
(c) water to glass
(d) in all the above cases★

50. A well cut diamond appears bright because
(a) of reflection of light
(b) of dispersion of light
(c) of the total internal reflection★
(d) of refraction of light

51. Consider the following natural phenomenon
1. terrestrial heating 2.reflection of light
3. refraction of light 4.diffraction of light
Due to which of these phenomenon is mirage formed?
(a) 1 and 2 (b) 2, 3 and 4
(c) 1 and 3 only★ (d) 4 only

52. A swimmer is swimming inside a tank of water. He looks up at the sky through the water surface. The surface is calm. Sky is bright due to day light. He can see
(a) a small illuminated path directly above his head whose angular size is independent of the depth of the swimmer inside the tank★
(b) a small illuminated patch directly above his head whose angular size depends upon the depth of the swimmer
(c) nothing but darkness outside the tank
(d) the entire top surface of the tank illuminated

53. A beam of light passes from air into glass
(a) its frequency remains unchanged and its wavelength increases
(b) its frequency is unchanged and its wavelength decreases★
(c) its wavelength is unchanged and its frequency decreases
(d) both its wavelength and its frequency increase

54. The sun's rays can be focussed using the glasses used by a
(a) near sighted person
(b) far sighted person★
(c) both the above
(d) neither of the above

55. At sun rise or sun set, the sun looks redder than at mid day because
(a) it radiates more red light in the morning and evening
(b) sun light has to pass through a greater distance in the terrestrial atmosphere at sun-rise or sun-set and hence the blue component is depleted by scattering★
(c) the atmosphere radiates more red light during the mornings and evenings
(d) the blue component in sun light is absorbed by the atmosphere

56. In a convex lens when the object is placed within its focal length, the image will be formed
(a) at its principal focus on the other side and is real
(b) on the same side where the object is placed and is real
(c) on the same side where the object is place and is virtual ★
(d) None

57. The lens used to rectify the defect of farsightedness is a
(a) concave lens (b) convex lens★
(c) spherical lens (d) plane glass

58. Which among the following types of lenses is prescribed by doctors for a patient suffering from astigmatism?
(a) convex lens (b) concave lens
(c) spherical lens (d) cylindrical lens★

59. The defect of eye called myopia generally affects people
(a) of old age
(b) of young age★
(c) infants
(d) it affects people of all ages

60. The defect of eye called hypermetropia, is corrected by using a
(a) convex lens★ (b) concave lens
(c) spherical lens (d) None

61. The iris in the eye
(a) does not allow the excessive amount of light entering the eye
(b) allows only selected wavelengths of light to enter the eye
(c) controls speed of the light entering in the eye
(d) controls amount of the light entering in the eye★

62. In the abnormality of the eye called myopia, the person is said to be
(a) farsighted
(b) shortsighted★
(c) suffering from astigmatism
(d) suffering from cataract

63. A person suffering from hypermetropia, is also said to be suffering from
(a) farsightedness★
(b) shortsightedness
(c) suffering from astigmatism
(d) suffering from cataract

64. If one mixes two primary colours, one creates
(a) a secondary colour★
(b) a complimentary colour
(c) a tertiary colour
(d) None

65. Mixing yellow and blue paint will give
(a) red paint (b) purple paint
(c) green paint★ (d) indigo paint

66. Which of the following are considered warm colours?
(a) red and blue (b) red and yellow★
(c) blue and yellow (d) all the above

67. Which of the following is considered a cool colour?
(a) blue★ (b) red
(c) green (d) yellow

68. The complementary colour of red
(a) is violet★ (b) is blue
(c) is green (d) None

69. Soap film exhibits brilliant colours in sun light due to
(a) dispersion of light
(b) scattering of light
(c) interference of light★
(d) diffraction of light

70. The refractive index of glass is largest for
(a) red rays (b) yellow rays
(c) blue rays (d) violet rays★

71. Sound travels in air at an average speed of nearly
(a) 1275 miles per hour
(b) 755 miles per hour★

(c) 332 miles per hour
(d) None

72. A gun shot is fired between two mountains. Echoes of the shot are heard first after 1.5 second and then after 3 seconds. Simultaneous echo of the shot will be heard after
(a) 4.5 seconds★ (b) 6 seconds
(c) 7.5 seconds (d) 9 seconds

73. Sound waves in air are
(a) longitudinal★
(b) transverse
(c) neither longitudinal nor transverse
(d) stationary

74. Which of the following statements is wrong?
(a) sound travels slower in dry air but faster in humid air
(b) the speed of sound in air will be more on a hot day than on a cold day
(c) sound travels slowest in gases, faster in liquids and fastest in solids
(d) sound travels fastest in dry air but slower in humid air★

75. The loudness of sound depends upon its
(a) wavelength (b) frequency
(c) amplitude (d) all the above★

76. Ripples formed on the surface of water are an example of
(a) Transverse waves★
(b) Longitudinal waves
(c) Stationary waves
(d) Progressive waves

77. The most important natural source of light is
(a) Electric lamp (b) Kerosene oil lamp
(c) Sun★ (d) None

78. Velocity of light is
(a) Constant★
(b) Directly proportional to wavelength
(c) Inversely proportional to wavelength
(d) Dependent on frequency

79. A mirror reflects light according to the
(a) Laws of reflection★
(b) Laws of refraction
(c) Dispersion
(d) None

80. A spherical mirror is nothing but
(a) A spherical ball polished on its surface
(b) A plane mirror only
(c) A large number of plane mirrors equally inclined to each other★
(d) None

81. When light enters from air to water, it bends towards the normal. The sound waves on entering from air to water will bend
(a) towards the normal
(b) away from the normal★
(c) towards the normal but by a smaller angle
(d) None

82. An air box attached to a musical instrument ——— the intensity of the sound
(a) increases★
(b) decreases
(c) does not affect
(d) all the above are possible depending on the instrument

83. The walls of the auditoria built for musical concerts should ——— sound
(a) attenuate (b) absorb★
(c) transmit (d) reflect

84. Resonance is an example of
(a) free vibrations of small amplitude
(b) free vibrations of large amplitude
(c) forced vibrations of large amplitude
(d) combination of all the above★

85. Which of the following is transmitted by a wave?
(a) Amplitude★ (b) Velocity
(c) Energy (d) Momentum

86. A wave in which the particles of the medium vibrate back and forth in the same direction in which the wave is moving is called a/an
(a) Longitudinal wave★
(b) Transverse wave
(c) Electromagnetic wave
(d) None

87. Light waves and radio waves are
(a) Transverse waves★
(b) Longitudinal waves
(c) Elastic waves
(d) None

88. Transverse waves can propagate
(a) Both in gas and a metal
(b) In a gas but not in a metal

(c) In a metal but not in a gas★
(d) Neither in a gas nor in a metal

89. The 'elevation' or 'hump' in a transverse wave is called a
(a) Trough (b) Crest★
(c) Wavelength (d) None

90. The 'depression' or 'hollow' in a transverse wave is called a
(a) Wavelength (b) Crest
(c) Trough★ (d) None

91. The distance between crest and an adjacent trough is equal to
(a) λ (b) 2λ
(c) $\lambda/2$★ (d) None

92. The distance between two successive crests and troughs of a transverse wave is known as
(a) Amplitude (b) Time period
(c) Wavelength★ (d) Frequency

93. The maximum displacement of the particles of a medium from their mean positions is known as
(a) Time period (b) Frequency
(c) Amplitude★ (d) None

94. The unit of frequency is
(a) Metre (b) Metre per second
(c) Second (d) Hertz★

95. During compression in longitudinal waves
(a) Particles of the medium are closer to one another and there is a momentary reduction in volume of the medium★
(b) Particles of the medium are farther apart than normal and there is a momentary increase in the volume
(c) Particles remain at their normal positions
(d) None

96. In rarefaction, there is momentary increase in the volume as the
(a) Particles of the medium are farther apart than is normal★
(b) Particles of the medium are closer to one another
(c) Particles remain at their normal positions
(d) None

97. In a periodic wave,
(a) Particles of the medium are perpendicular to the medium
(b) A sudden and irregular disturbance travels in the medium
(c) A continuous and regular disturbance travels in the medium★
(d) None

98. The speed of the bob of an oscillating pendulum is maximum
(a) At the mean position★
(b) At the extreme position
(c) Before reaching the extreme position
(d) In between the mean and extreme positions

99. An ordinary clock loses time in summers. This is because
(a) The length of the pendulum increases and the time period decreases
(b) The length of the pendulum and the time period both increase★
(c) The length of the pendulum decreases and the time period increases
(d) The length of the pendulum and the time period both decrease

100. A particle executes simple harmonic vibrations, while passing through the mean position. Such a particle has
(a) Minimum kinetic energy and maximum potential energy
(b) Minimum kinetic and potential energy
(c) Maximum kinetic and potential energy
(d) Maximum kinetic energy and minimum potential energy★

101. In order to double the period of a simple pendulum
(a) The mass of its bob should be doubled
(b) The mass of its bob should be halved
(c) Its length should be doubled
(d) Its length should be quadrupled★

102. The period of oscillation of a simple pendulum depends upon
(a) Its effective length★
(b) Density of the material of the bob
(c) Mass of its bob
(d) Radius of its bob

103. In simple harmonic motion (S.H.M), the acceleration is proportional to
(a) Period (b) Displacement★
(c) Effective length (d) All the above

104. A particle is said to describe S.H.M. if it moves in a straight line so that its acceleration is proportional to its distance from a fixed point on the straight line and is
(a) Directed away from the fixed point
(b) Directed towards the fixed point★
(c) On the fixed point
(d) None

105. When a body is in S.H.M., then the phase difference between the velocity and acceleration and velocity and displacement is
(a) 180° (b) 115°
(c) 60° (d) 90°★

106. In seconds pendulum, the pendulum executes
(a) One beat per second
(b) Two beats per second
(c) Ten beats per second
(d) Half beat per second★

107. The motion of a particle from one extremity to the other constitutes
(a) Half an oscillation★
(b) One full oscillation
(c) Two oscillations
(d) Three oscillations

108. Sound will travel farther over a cool area like
(a) a frozen lake as compared to a warm area such as a desert★
(b) farther over a warm area such as a desert as compared to a cool area like a frozen lake
(c) the same distance in both the cases
(d) not possible to say definitely

109. All of the following statements are true of sound waves EXCEPT that
(a) their velocity depends upon the medium in which they are travelling
(b) they belong to the electromagnetic spectrum★
(c) they can produce interference patterns
(d) they obey the inverse-square law of intensity

110. A decibel is a
(a) musical instrument
(b) highest frequency emitted by a tuning fork
(c) a measure of intensity level★
(d) a measure of clarity of sound

111. The linear distance between successive points that have the same phase in any wave disturbance is known as
(a) Phase (b) Wavelength★
(c) Amplitude (d) Frequency

112. The velocity for any wave is given by the relation
(a) Frequency × Wavelength★
(b) Frequency/Wavelength
(c) Wavelength/Frequency
(d) 1/Frequency × Wavelength

113. If u is the velocity of wave motion, n its frequency and λ the wavelength, then the relationship between them is given by
(a) $n = V\lambda$ (b) $V = n\lambda$★
(c) $\lambda = nV$ (d) $V = n^2/\lambda$

114. The energy of a body executing S.H.M. is
(a) Kinetic (b) Potential
(c) Partly kinetic and partly potential★
(d) None

115. Simple harmonic motion can be shown as a
(a) Sine wave★ (b) Cosine wave
(c) Both (a) and (b) (d) None

116. For the propagation of waves through a medium it is essential that
(a) It should be elastic
(b) It should have inertia
(c) It should not offer such high frictional resistance as to dampen the wave altogether
(d) All the above★

117. The frequency of a tuning fork may be measured by
(a) Falling plate method
(b) Choreographic method
(c) Stroboscopic method
(d) All the above★

118. Sound waves are
(a) Longitudinal waves★
(b) Transverse waves
(c) Electromagnetic waves
(d) None

119. When a string of sitar is plucked
(a) Sound as a longitudinal vibration is produced in the string
(b) Sound as a transverse vibration is produced in the string★
(c) Nodes and antinodes are produced
(d) None

120. Sound waves cannot travel through
(a) Water (b) Steel
(c) Vacuum★ (d) Air

121. The velocity of sound is
(a) Independent of the pressure of the gas
(b) Directly proportional to the pressure of gas
(c) Inversely proportional to the pressure of gas★
(d) Inversely proportional to the square of the pressure of gas

122. Erect and virtual images are always produced by
(a) Plane and convex mirrors★
(b) Plane mirrors alone
(c) Concave and convex mirrors
(d) Concave mirrors alone

123. How can one distinguish between a plane mirror, a concave mirror and a convex mirror without touching them?
(a) By looking into them★
(b) By observing the shining of the mirror
(c) By seeing at the back of these mirrors
(d) None

124. A reflecting spherical mirror does not suffer from
(a) Chromatic aberration
(b) Spherical aberration★
(c) Coma
(d) Astigmatism

125. The Power of a lens is the
(a) Square of its focal length
(b) Reciprocal of its focal length expressed in metres★
(c) Reciprocal of the square of its focal length
(d) None

126. The S.I. unit of power of a lens is
(a) Metre (b) Metre per second
(c) Dioptre★ (d) None

127. A convex lens is also known as
(a) Diverging lens (b) Converging lens★
(c) Simple lens (d) None

128. A concave lens is also known as
(a) Converging lens (b) Diverging lens★
(c) Simple lens (d) None

129. The mechanical (longitudinal) wave having frequency below the audible range is known as
(a) Sonic (b) Supersonic
(c) Infrasonic★ (d) Ultrasonic

130. Ultrasonic sound has frequency
(a) Above 20,000 vibrations per sec.★
(b) Below 20,000 vibrations per sec.
(c) Below 20 vibrations per sec.
(d) None

131. Ultrasonic waves are those waves which
(a) Man can hear
(b) Are of high velocity
(c) Man cannot hear★
(d) Are of high amplitude

132. The quality of sound is judged by
(a) Its frequency
(b) Its various overtones★
(c) Longer wavelengths
(d) All the above

133. Which of the following can be classified as musical sound?
(a) Humming of birds
(b) Chirping of birds
(c) Sound produced by a harmonium
(d) All the above★

134. Which of the following can be classified as noise?
(a) Firing of a gun
(b) Roar of a lion
(c) Sound of thunder
(d) All the above★

135. The walls of a soundproof room should be
(a) Good reflectors of sound
(b) Good transmitters of sound
(c) Good absorbers of sound★
(d) All the above

136. Which of the following materials is a sound absorbing material?
(a) Carpets (b) Cushions
(c) Curtains (d) All of these★

137. Which of the following characteristics can distinguish different musical sounds?
(a) Pitch (b) Quality
(c) Loudness (d) All of these★

138. The wavelength of ultrasonic waves in air is
(a) 0.1 cm (b) 0.01 cm
(c) 0.001 cm (d) 1.0 cm★

139. Bats can fly in the dark because
(a) They have a better vision in the dark
(b) The pupils of their eyes are very big
(c) They are guided by ultrasonic waves produced by them★
(d) None

140. The body in a medium with a speed greater than the speed of sound in the medium is said to be
(a) Infrasonic (b) Ultrasonic
(c) Supersonic★ (d) None

141. The supersonic speed of an aeroplane is expressed in
(a) Mach number★ (b) Decibel
(c) Hertz (d) None

142. Focal length of a converging lens is
(a) Infinite in magnitude
(b) Positive in sign★
(c) Negative in sign
(d) None

143. Real images are created by a
(a) Convex lens and a convex mirror
(b) Convex lens and a concave mirror★
(c) Concave lens and a concave mirror
(d) Concave lens and a convex mirror

144. If the object is placed at 2F in front of the convex lens, then the image will be
(a) Between F and 2F, real and of the same size
(b) At 2F, real and of the same size★
(c) Between F and 2F, virtual and of greater size
(d) At infinity

145. A point of clear water appears less deep than it really is. This is due to
(a) Refraction★
(b) Reflection
(c) The transparency of water
(d) Dispersion

146. Which type of lens is used in correcting astigmatism?
(a) Concave lens (b) Cylindrical lens★
(c) Convex lens (d) None

147. If i is the angle of incidence, r is the angle of refraction and the light passes from a rarer to optically denser medium, then
(a) $i = r$ (b) $i < r$
(c) $i > r$★ (d) $i = r = 0$

148. The sun is visible to us a little before the actual sunrise and a little after the actual sunset. This is because of
(a) Diffraction (b) Reflection
(c) Refraction (d) Scattering★

149. Intensity of sound depends upon
(a) Distance from the vibrating body
(b) Amplitude of the vibrating body
(c) Area of the vibrating body
(d) All the above★

150. The intensity of the sound will become four times if the distance between the source of sound and the observer is
(a) Doubled
(b) Made four times
(c) Reduced to one half
(d) Reduced to one-fourth★

151. The pitch of sound depends upon
(a) Frequency and amplitude★
(b) Frequency alone
(c) Amplitude alone
(d) The difference in frequencies from two sources

152. If a vibrating string's length is halved, the pitch of the sound emitted by it is
(a) Halved★ (b) Doubled
(c) Trebled (d) None

153. The same notes being played on the sitar and veena differ in
(a) Pitch
(b) Quality
(c) Both pitch and quality★
(d) None

154. One cannot hear sound on the moon because it has no
(a) Atmosphere★ (b) Light
(c) Darkness (d) None

155. Beats are the result of
(a) Diffraction
(b) Constructive and destructive interference
(c) Destructive interference
(d) Superposition of two waves of nearly equal frequencies★

156. Energy is not carried by
(a) Transverse progressive wave
(b) Longitudinal progressive wave
(c) Stationary wave★
(d) Electromagnetic wave

157. If two bodies are in resonance, then they are equal in
(a) Mass (b) Size
(c) Frequency★ (d) Amplitude

158. Doppler effect is associated with
(a) Sound★
(b) Light
(c) Magnetism
(d) Electromagnetic induction

159. The Doppler effect is not observed if
(a) The source and the observer both are at rest★
(b) The source is still and the observe is in motion
(c) The source is in motion and the observer is still
(d) The source and the observer both are in motion

160. A source of sound and an observer are moving away from each other. The apparent pitch will
(a) Decrease★
(b) Increase
(c) Be same as actual frequency
(d) None

161. A ray of light passing through the focus of a concave mirror
(a) Passes through the centre of curvature after reflection
(b) Passes through the focus after reflection
(c) Becomes parallel to the principal axis after reflection★
(d) None

162. Concave mirrors are used as shaving mirrors because they
(a) Do not distort images★
(b) Always produce real images
(c) Produce magnified images
(d) Never produce inverted images

163. A mirror used as a 'head-mirror' by the doctors to concentrate light on the body parts like eyes, throat, etc. to be examined is a
(a) Convex mirror (b) Plane mirror
(c) Concave mirror★ (d) None

164. Which of the following is not an electromagnetic wave
(a) Sound waves★ (b) Heat waves
(c) Light waves (d) Radio waves

165. Radio waves are
(a) Sound waves
(b) Electromagnetic waves★
(c) Water waves
(d) Heat waves

166. A line drawn from the sun to a planet, moving around it, sweeps over a fixed area in a given interval of time. This is according to
(a) Kepler's Law★ (b) Ohm's Law
(c) Lenz's Law (d) Bragg's Law

167. What is the main cause of mirage?
(a) Refraction of light
(b) Total internal reflection of light★
(c) Diffraction of light
(d) None

168. Which one of the following can be used to focus sunlight?
(a) Plane mirror (b) Concave lens
(c) Concave mirror★ (d) Convex mirror

169. Time taken by light to reach from sun to earth is
(a) 2 minutes (b) 4 minutes
(c) 6 minutes (d) 8 minutes★

170. By amplifying the light again and again, we can increase its
(a) Frequency (b) Speed
(c) Intensity★ (d) Time period

CHEMISTRY

1. Chemically soap is?
   (a) Base (b) Acid
   (c) Salt★ (d) Hydrocarbon
2. Lipids are?
   (a) Long chain fatty acid esters★
   (b) Long chain sulphonic acid esters
   (c) Polymeric hydrocarbons
   (d) Polymeric aldehydes
3. In fireworks, the green flame is produced because of:
   (a) Mercury (b) Sodium
   (c) Potassium (d) Barium★
4. Firdous Al Hikmat Fe Ilmul Kemia was written by
   (a) Alberuni
   (b) Jabir bin Haiyan
   (c) Khalid bin Yazeed★
   (d) Buali Sina
5. Ammonia was obtained from urine by
   (a) Aljahiz (b) Wohler★
   (c) Jabir bin Haiyan (d) Al-Beruni
6. Madam Curie is famous for his work in the field of
   (a) Biochemistry
   (b) Nuclear chemistry★
   (c) Analytical chemistry
   (d) Organic chemistry
7. Which form of phosphorus is used in safety matches?
   (a) White phosphorus
   (b) Yellow phosphorus
   (c) Red phosphorus★
   (d) Black phosphorus
8. Dalton's atomic theory gave the concept of
   (a) Valency★ (b) Electrons
   (c) Radioactivity (d) Ionization
9. When radioactive rays are passed through air or any gas, they cause it to
   (a) Ionize★ (b) Evaporate
   (c) Freeze (d) Boil
10. The elements in the first period of the periodic table are
    (a) Hydrogen and helium★
    (b) Hydrogen, helium, nitrogen and oxygen
    (c) Hydrogen, helium and carbon
    (d) Hydrogen, nitrogen and oxygen
11. The inorganic natural resource of the earth is
    (a) Mineral fuels★ (b) Wood
    (c) Coal (d) Microbes
12. In a hydrogen bomb, hydrogen is converted into?
    (a) Barium (b) Uranium
    (c) Uranium – 238 (d) Helium★
13. When two ice cubes are pressed over each other they unite to form one cube. Which of the following force is responsible for holding them together?
    (a) Vander Walls forces
    (b) Covalent attraction
    (c) Hydrogen bond formation★
    (d) Dipole dipole attraction
14. A gas can be liquefied by pressure alone when its temperature is?
    (a) Higher than the critical temperature
    (b) Lower than its critical temperature★
    (c) Equal to its critical temperature
    (d) None
15. Gases can be compressed to a greater extent because?
    (a) Molecules are elastic
    (b) There is no gap between molecules
    (c) These are lighter than liquids
    (d) There is a large space between the molecules★
16. The cooling caused by the expansion of a compressed gas below its inversion temperature without doing external work is called?
    (a) Joule Thomson effect★
    (b) Adiabatic demagnetism
    (c) Faraday Tyndall effect
    (d) Compton effect
17. Which of the following solutions will have the highest boiling point?
    (a) 1% glucose in water
    (b) 1% Sucrose in water
    (c) 1% NaCl in water
    (d) 1% $CaCl_2$ in water★
18. The first synthetic fibre made by man was:
    (a) Rayon (b) Nylon★
    (c) Polyester (d) Terrycott

19. When glycerine is added to a litre of water, which of the following is observed?
(a) Water evaporates more easily
(b) The temperature of water increases
(c) The freezing point of water is lowered★
(d) The viscosity of water is lowered

20. At high altitudes the boiling point of water decreases because?
(a) Atmospheric pressure is low★
(b) Temperature is low
(c) Atmospheric pressure is high
(d) Water is cold

21. A pressure cooker reduces cooking time because?
(a) Heat is more evenly distributed
(b) Boiling Point of water inside the cooker is increased★
(c) The high pressure tenderises the food
(d) A longer flame is used

22. Smoke is an example of?
(a) Gas dispersed in liquid
(b) Gas dispersed in solid
(c) Solid dispersed in gas★
(d) Solid dispersed in solid

23. The high boiling point of water is due to?
(a) Weak dissociation of water molecule
(b) Hydrogen bonding among water molecules★
(c) Its high specific heat
(d) Its high dielectric constant

24. Ice has an open structure compared to water due to which it floats on water and occupies a greater volume of space. The open structure of ice is due to?
(a) Solid state of ice
(b) Its low density
(c) Crystalline nature
(d) Hydrogen bonding★

25. Dialysis is used for people with defective kidneys. It involves the process of:
(a) Adsorption (b) Osmosis★
(c) Electropheresis (d) Diffusion

26. Gelatin is often used as an ingredient in the manufacture of ice cream. The purpose of adding gelatin is
(a) To prevent formation of colloidal solution
(b) To stabilize the colloids and prevent crystal growth★
(c) To improve the flavour
(d) To increase the bulk

27. Which one of the following does not wet the walls of the glass vessel in which it is kept?
(a) Water (b) Alcohol
(c) Mercury★ (d) None

28. The rate of chemical reaction depends on the nature of chemical reactants, because?
(a) Energy of activation differs from one reactant to another★
(b) Some of the reactants are solid at room temperature
(c) Some of the reactants are coloured
(d) All are correct

29. A closed flask contains water in all its three states, solids liquid and vapour at 0°C. In this situation the average K.E of the water molecule will be?
(a) Maximum in vapour state★
(b) Maximum in solid state
(c) Greater in the liquid than in vapour state
(d) Same in all the three states

30. The reaction taking place at anode and cathode are respectively?
(a) Oxidation, reduction
(b) Reduction, oxidation
(c) Reduction, hydrolysis
(d) Oxidation, hydrolysis★

31. Atomic weight of uranium is
(a) 237 (b) 238★
(c) 226 (d) 242

32. Which of the following is incorrect?
(a) Mercury: Hg
(b) Silver: Ag
(c) Sodium: Na
(d) Potassium:Ka★

33. Which of the following is not a natural occurring element?
(a) Uranium (b)Thorium
(c) Californium★ (d)Neptunium

34. Which one of the following has the highest fuel value?
(a) Hydrogen★ (b) Charcoal
(c) Natural gas (d) Gasoline

35. Which of the following does not belong to the halogen family?
(a) Chlorine (b)Fluorine
(c) Bromine (d)Morphine★

36. Which of the following is present in hard water?
(a) Calcium★ (b) Aluminium
(c) Sodium (d) Chlorine

37. Which among the following gases is used to manufacture Chloroform?
(a) Propane (b) Ether
(c) Radon (d) Methane★

38. What is the chemical name of Bleaching Powder?
(a) Calcium Carbonate
(b) Calcium Hypochlorite★
(c) Calcium Phosphate
(d) Calcium Cyanamide

39. Which among the following is not a noble gas?
(a) Argon (b) Radon
(c) Neon (d) Bromine★

40. Which of the following is a mixture?
(a) Gun Powder★
(b) Iron Sulphate
(c) Brass
(d) Dry Ice

41. Which of the following is the hardest element?
(a) Copper (b) Diamond★
(c) Iron (d) Silicon

42. Which of the following is a source of common Salt?
(a) Bauxite (b) Halite★
(c) Pyrite (d) Calcite

43. The characteristic odour of garlic is due to
(a) A chloro compound
(b) A sulphur compound★
(c) A fluorine compound
(d) Acetic acid

44. Which of the following is gas in air unites with many metals?
(a) Hydrogen (b) Oxygen★
(c) Helium (d) Carbon Dioxide

45. Which of the following metals is not affected by air and water under ordinary conditions?
(a) Iron (b) Platinum★
(c) Sodium (d) None

46. Diamond is the form of carbon.
(a) Crystalline★ (b) Amorphous
(c) Chemical (d) Alkaline

47. In a chemically pure state diamonds are:
(a) Monochromatic
(b) Polychromatic
(c) Colourless★
(d) None

48. Which metal has the unique tendency to readily combine with it to form large molecules of atoms linked in long chains (rings)?
(a) Sodium (b) Nitrogen
(c) Carbon★ (d) Hydrogen

49. Gun powder is a mixture of
(a) Sulphur, Carbon and Phosphorus
(b) Sulphur, Charcoal and Nitre★
(c) Sulphur, Charcoal and Carbon
(d) Carbon, Nitrogen and Chlorine

50. Which of the following is fire resistant?
(a) Asbestos★ (b) Gypsum
(c) Dolomite (d) None

51. Lipids are:
(a) Hormones (b) Fatty acids★
(c) Enzyme (d) None

52. Which of the following group of compounds constitute carbohydrates?
(a) Fats and sugar
(b) Fats, sugar and proteins
(c) Starch, sugar and proteins
(d) Starch and sugar★

53. Which of the following metals is mostly used for qualitative analysis of organic compounds?
(a) Cu (b) Hg
(c) Na★ (d) Ca

54. Permanent hardness of water due to sulphates of metals can be destroyed by the use of:
(a) Zeolite★ (b) Sulphonides
(c) Lime (d) Nitrates

55. Amalgams are the compounds which always contain:
(a) Al (b) Hg★
(c) Zn (d) Cu

56. The chemical name of laughing gas is:
(a) Nitrous Oxide★
(b) Nitric Oxide
(c) Nitrogen Dioxide
(d) Nitrogen Peroxide

57. The Molecular Formulae of Phosphorus is:
(a) P_1 (b) P_2
(c) P_3 (d) P_4★

58. The gas used for artificial ripening of green fruits is:
(a) Carbon Dioxide (b) Acetylene★
(c) Ethane (d) Oxygen

59. Baking Soda is also known as:
(a) Sodium Bicarbonate★
(b) Sodium Carbonate
(c) Calcium Chloride
(d) Calcium Carbonate

60. Which of the following is not a compound of calcium?
(a) Gypsum (b) Calcium Oxalate
(c) Chalk (d) Acetylene★

61. Which of the following gases finds its application in extinguishing fire?
(a) Oxygen
(b) Carbon Dioxide★
(c) Carbon Monoxide
(d) All of these

62. The first metal used by man was:
(a) Zinc (b) Iron★
(c) Gold (d) Bronze

63. Which of the following is widely used as an anaesthetic?
(a) Methane (b) Ammonia
(c) Chlorine (d) Chloroform★

64. Which of the following is used for silvering of mirrors?
(a) Silver Nitrate★ (b) Zinc Nitrate
(c) Silver Oxide (d) Pitchblende

65. Which of the following gases is most toxic?
(a) Carbon Dioxide
(b) Carbon Monoxide★
(c) Sulphur Dioxide
(d) None

66. Raw materials used for manufacture of glass are:
(a) Sand/Soda/Limestone★
(b) Sand/Charcoal/Soda
(c) Limestone/Charcoal/Sulphur
(d) Sand/Sulphur/Soda

67. The Nuecleus of a hydrogen atom consists of:
(a) One Proton+One Neutron
(b) One Proton+Two Neutron
(c) One Neutron only
(d) One Electron only
(e) One proton only (^1H)★

68. The gas used in the manufacture of Banaspati Ghee is:
(a) Helium (b)Oxygen
(c) Nitrogen (d)Hydrogen★

69. Chemically an Enzyme is a:
(a) Lipid (b) Vitamin
(c) Protein★ (d) Carbohydrate

70. The raw material from which Rayon is manufactured is:
(a) Cellulose★ (b) Plastic
(c) Petroleum (d) None

71. Which of the following is the lightest gas?
(a) Nitrogen (b) Hydrogen★
(c) Ammonia (d) Carbon dioxide

72. Solder is an alloy of:
(a) Tin & Lead★ (b) Tin & Zinc
(c) Zinc & Lead (d) Zinc & Copper

73. An element common to all acids is:
(a) Hydrogen★ (b) Oxygen
(c) Sulphur (d) Chlorine

74. Petroleum consists of a complex mixture of:
(a) Carbides (b) Carbohydrates
(c) Hydrocarbons★ (d) Carbonates

75. An element found in all organic compounds is:
(a) Nitrogen (b) Carbon★
(c) Calcium (d) None

76. The most commonly used bleaching agent is:
(a) Alcohol (b) Carbon Dioxide
(c) Chlorine★ (d) Sodium Chloride

77. Which of the following chemicals is used in photograph?
(a) Aluminium Hydroxide
(b) Silver Bromide★
(c) Pottasium Nitrate
(d) Sodium Chloride

78. All are examples of Chemical Change, except:
(a) Magnetizing of Iron nail★
(b) Rusting of Iron rod
(c) Digestion of food
(d) Souring of Milk

79. Which was the first Organic compound to be synthesized in a laboratory?
(a) Acetic Acid (b) Vinegar
(c) Urea★ (d) None

80. Enzyme is a:
(a) Carbohydrate (b) Protein★
(c) Fatty Acid (d) Nucleic Acid

81. Brass is an alloy of:
(a) Copper and Tin
(b) Copper and Zinc★
(c) Zinc and Aluminium
(d) Copper and Iron

82. In which of the following groups, are the elements written in descending order of their respective atomic weights?
(a) Nitrogen, Carbon, Oxygen, Hydrogen
(b) Oxygen, Argon, Nitrogen, Hydrogen
(c) Oxygen, Nitrogen, Helium, Hydrogen★
(d) Oxygen, Nitrogen, Helium, Bromine

83. The most important ore of Aluminium is:
(a) Bauxite★ (b) Magnetite
(c) Haematite (d) Monazite

84. Alcohol contains:
(a) Nitrogen, Hydrogen, Oxygen
(b) Carbon, Hydrogen, Oxygen★
(c) Oxygen, Carbon, Nitrogen
(d) Hydrogen, Chlorine, Oxygen

85. Stainless steel is an alloy of:
(A) Chrominium (B) Carbon (C) Iron
(a) A and B only (b) A,B and C★
(c) A and C only (d) B and C only

86. Which of the following is always found in a free state in nature?
(a) Gold★ (b) Silver
(c) Sodium (d) Copper

87. Production of chlorofluorocarbons (CFC) gas is used in which of the following domestic products?
(a) Television (b) Tubelight
(c) Cooking gas (d) Refrigerator★

88. The chemical name of Quartz is:
(a) Calcium Oxide
(b) Calcium Phosphate
(c) Sodium Phosphate
(d) Sodium Silicate★
(e) Silicon Dioxide

89. Quick Lime can be obtained by:
(a) Adding HCl to Calcium
(b) Heating Limestone in a Lime kiln★
(c) Putting Calcium in hot water
(d) None

90. When Zinc reacts with Hydrochloric acid, the gas evolved is:
(a) Oxygen (b) Hydrogen★
(c) Chlorine (d) None

91. Which of the following is acidic in nature?
(a) Sugar (b) Lime
(c) Baking Powder (d) Vinegar★

92. The so-called fourth state of matter refers to:
(a) Mercury (b) LPG
(c) Dry Ice (d) Plasma★

93. Brown-ring test is used for
(a) Analysis of Nitrates★
(b) Identification of certain elements in a solution
(c) Measurement of Nitrogen in an organic compound
(d) None

94. Molish's test is used to:
(a) Measure acidity of a solution
(b) Detect carbohydrates in a solution★
(c) Check traces of Alkali in a solution
(d) Identify certain elements in a solution

95. Which of the following acids is found in digestive juices?
(a) Lactic acid
(b) Tannic acid
(c) Amino acid
(d) Hydrochloric acid★

96. Hess's Law is associated with:
(a) Heat exchange in chemical reaction★
(b) Decomposition during electrolysis
(c) Effect of pressure on gases
(d) None

97. Fraday's Law is associated with:
(a) Electrolysis★
(b) Reaction of gases
(c) Pressure of gases
(d) Temperature and Pressure

98. Why does milk curdle?
(a) Fermantation of Lactose★
(b) Reaction of Microbes
(c) Over heating
(d) Fungus growth

99. Which of the following laws does not relate to gases?
(a) Boyle's law
(b) Chalres's law
(c) Gay-Lussac's law
(d) Faraday's law★

100. Which pair is incorrect?

(a) Tannic acid:Leather★
(b) Amino Acid:Protein
(c) Lactic Acid:Milk
(d) Acetic Acid:Vinegar

101. Gas used to extinguish fire is:
(a) Neon
(b) Nitrogen
(c) Carbon Dioxide★
(d) Carbon Monoxide

102. Which of the following is a physical change?
(a) Souring of Milk
(b) Magnetising of an Iron rod★
(c) Corrosion of metal
(d) Explosion

103. The purest form of Carbon is:
(a) Coal (b) Graphite
(c) Diamond★ (d) None

104. Which of the following is a basic acid?
(a) Na_2O_5 (b) Na_2O★
(c) CO_2 (d) SO_3

105. The equivalent weight of an element is 12 and its valency is 2. The atomic weight of the element is:
(a) 48 (b) 12
(c) 32 (d) 24★

106. Ripening of fruits is hastened by which of the following gases
(a) Hydrogen (b) Carbon dioxide
(c) Methane (d) Ethylene★

107. Iron articles rust because of the formation of
(a) ferrous chloride
(b) a mixture of ferrous and ferric hydroxide★
(c) sodium carbonate
(d) ferric chloride

108. Gunpowder consists of
(a) 75% potassium nitrite + 15% charcoal + 10% sulphur
(b) 75% potassium nitrite + 10% charcoal + 15% sulphur
(c) 75% potassium nitrate + 10% charcoal + 15% sulphur★
(d) 75% potassium nitrate + 15% charcoal + 10% sulphur

109. Which of the following is always found in Free State in nature?
(a) Gold★ (b) Silver
(c) Sodium (d) Copper

110. X-rays are produced when a stream of electrons in an X-ray tube?
(a) Hits the glass wall of the tube
(b) Srikes metal target★
(c) Pass through a strong magnetic field
(d) None

111. Ordinary dry air consists of the following:
(a) Nitrogen (b) Oxygen
(c) Argon (d) Carbon Dioxide
What is the decreasing sequence of these gases in terms of percentage?
(a) A, B, C, D★ (b) D, B, C, A
(c) C, B, A, D (d) D, C, B, D

112. Which of the following is non-mettalic material?
(a) Bauxite (b) Gypsum★
(c) Magnesium (d) Manganese

113. Bauxite is an ore of:
(a) Iron (b) Zinc
(c) Tin (d) Aluminium★

114. Which of the following represents a chemical change?
(a) Heating of Mercuric acid★
(b) Sublimation of Iodine
(c) Evaporation of Alcohol
(d) Heating of Platinum wire

115. Nitrogen in laboratory is prepared by heating:
(a) Ammonium Nitrate
(b) Ammonium Sulphate
(c) Mixture of Ammonium Chloride and Sodium Nitrate★
(d) Mixture of Ammonium Chloride and Calcium Oxide

116. Material used for bleaching pulp is:
(a) Lime★
(b) Alum
(c) Sodium Hypochloride
(d) Caustic Soda

117. In the periodic table, elements have been arranged?
(a) In order of increasing volume
(b) In order of increasing atomic number★
(c) In order of increasing atomic weights
(d) In order of increasing density

118. Which metal forms an amalgam which other metals?

(a) Tin (b) Zinc
(c) Mercury★ (d) Lead

119. Salt of which of the following metals is used in photographic film coating?
(a) Zinc (b) copper
(c) Silver★ (d) Lead

120. Which of the following is not a bleaching agent?
(a) Chlorine
(b) Sulphur Dioxide
(c) Sodium Hypochlorite
(d) Carbon Dioxide★

121. A single chloride free radical can destroy how many ozone molecules?
(a) 100 (b) 100,000★
(c) 10,000 (d) 10

122. What is dry ice?
(a) Calcium Hydroxide
(b) Solid Carbon Dioxide★
(c) Sodium Hydroxide
(d) None

123. Sugar Contains:
(a) Vitamins (b) Carbohydrates★
(c) Proteins (d) All these

124. Which gas leaked in Bhopal gas tragedy?
(a) Carbon Monoxide
(b) Methyl Isocynate★
(c) Ethyl Cyanide
(d) Phenyl Isocynate

125. Which of the following is not a chemical change?
(a) Burning of Coal
(b) Burning of Paper
(c) Burning of wood
(d) Conversion of water into steam★

126. The chemical name of table salt is:
(a) Calcium Chloride
(b) Sodium Hydroxide
(c) Sodium Hypochloride
(d) Sodium Chloride★

127. Chemical name of Vitamin C is:
(a) Citric acid (b) Ascorbic acid★
(c) Oxalic acid (d) Nitric acid

128. Which group of elements in the periodic table show highest first ionisation potential. Elements in the
(a) Left hand top corner★
(b) Left hand bottom corner
(c) Right hand top corner
(d) Right hand bottom corner

129. Chemical change does not take place in:
(a) Souring of milk into curd
(b) Rusting of Iron in atmosphere
(c) Buring of Magnesium ribbon in air
(d) Emitting of light by a red hot platinum wire★

130. An example of an element is:
(a) Water (b) Sulphuric Acid
(c) Chlorine★ (d) Sulphur Dioxide

131. Bone is used as a fertiliser because it contains the plant nutrient:
(a) Nitrogen (b) Phosphorus★
(c) Sodium (d) Potassium

132. The allotropic form of Phosphorus used in match industry is:
(a) Alpha black Phosphorus
(b) White Phosphorus
(c) Red Phosphorus★
(d) Beta Black Phosphorus

133. Baking Soda is:
(a) Sodium Bicarbonate★
(b) Sodium Carbonate
(c) Sodium Chloride
(d) Sodium Hydroxide

134. Plaster of Paris is made from:
(a) Bauxite (b) Gypsum★
(c) Lime (d) None

135. Which of the following Amino acid contains Sulphur?
(a) Alanine (b) Cysteine★
(c) Glycine (d) Valine

136. Which of the following is not an element?
(a) Chlorine (b) Silicon
(c) Oxygen (d) Marble★

137. Most commonly used bleaching agent is:
(a) Carbon Dioxide (b) Alcohol
(c) Chlorine★ (d) Sodium Carbonate

138. Newspaper can be recycled again and again by how many times?
(a) 2 (b) 3
(c) 4 (d) 5★

139. Fungisides are the pesticides which:
(a) Controls the growth of fungus★
(b) Kill insects
(c) Kill plants
(d) Kill herbs

140. Petroleum consists of a complex mixture of:
(a) Carbonates (b) Carbohydrates
(c) Hydrocarbons★ (d) None

141. The most abundant element in the Earth's atmosphere is:
(a) Oxygen (b) Hydrogen
(c) Nitrogen★(d) Carbon Dioxide

142. The three abundant elements in the Earth's crust are Aluminium, Oxygen and Silicon. The correct order of their abundance is:
(a) Silicon, Aluminium, Oxygen
(b) Aluminium, Silicon, Oxygen
(c) Silicon, Aluminium, Oxygen
(d) Oxygen, Silicon, Aluminium★

143. The pH range of the acid rain is:
(a) 7-6.5 (b) 6.5-6
(c) 6.5-6.3 (d) Less than 5★

144. An element is made up of atoms having same:
(a) Atomic mass
(b) Number of Nuecleons
(c) Number of Neutrons
(d) Number of Protons★

145. The conversion of a substance directly from liquid to vapour state is known as:
(a) Decomposition (b) Vaporization
(c) Ionization (d) Boiling★

146. Lime is sometimes applied to soil in order to:
(a) Increase the acidity of the soil
(b) Increase the alkalinity of the soil★
(c) Decrease the alkalinity of the soil
(d) Restore the nitrates to the soil

147. Carbon Dioxide can be prepared by:
(a) Reaction of Tin with Sulphuric acid
(b) Reaction of Carbon with hot concentrated Sulphuric acid★
(c) Reaction of Zinc with Hydrochloric acid
(d) Reaction of Marble with Sulphuric acid

148. Sea water is Saltier than rain water because:
(a) The air around sea is salty
(b) Sea beds have salt deposits
(c) Rivers wash away salts from the earth's crust and pour these into sea★
(d) Sea animals are salt producing

149. Characteristic feature of an oxidizing agent is that it always:
(a) Contains Oxygen
(b) Gains Electrons★
(c) Is a non-metal
(d) None

150. Ion exchange is a process of:
(a) Metal extraction
(b) Water softening★
(c) Heavy water production
(d) None

151. Which of the following gases may cause acid rain in an industrial area?
(a) CO_2 (b) CO
(c) SO_2★ (d) CH_4

152. Which two elements are used to absorb neutrons to control the chain reaction during nuclear fission?
(a) Boron and Cadmium★
(b) Boron and Plutonium
(c) Cadmium and Uranium
(d) Uranium and Boron

153. Which of the following substances is the most important constituent of Bio gas?
(a) H_2S (b) CO_2
(c) CH_4★ (d) H_2

154. Which of the following elements are the main constituents of Bronze?
(a) Nickel and Chromium
(b) Lead and Tin
(c) Copper and Zinc
(d) Copper and Tin★

155. When Chlorine is passed over solid slacked lime, which of the following substances is formed?
(a) Plaster of Paris
(b) Bleaching Powder★
(c) Common Salt
(d) Washing Soda

156. Which of the following substances is made of only one type of molecule?
(a) Carbon Dioxide★ (b) Air
(c) Lemonade (d) Vinegar

157. Rust stains on cloth can be removed by:
(a) Hydrogen peroxide
(b) Alcohol
(c) Oxalic acid★
(d) Petrol

158. Which of the following is likely to be a pollutant-free alternative to petrol for automobiles?
(a) Ethane (b) Acetylene
(c) Butane (d) Propane★

159. Taking into account the three isotopes of Hydrogen and three isotopes of Oxygen occuring in nature, how many different kinds of water molecules can we expect?
(a) Six★ (b) Nine
(c) Twelve (d) Eighteen

160. When we move from left to right in second period, the atomic volume of the element?
(a) Increases
(b) Increases with constant state★
(c) Decreases
(d) None

161. The characteristics of odour of garlic is due to:
(a) A Chloro compound
(b) A Sulphur compound★
(c) A Flourine compound
(d) Acetic acid

162. _____ among the following has the highest fuel values.
(a) Hydrogen★ (b) Charcoal
(c) Natural gas (d) Gasoline

163. Which of the following is used as an anti-freeze in automobile engines?
(a) Propyle Alcohol (b) Ethanol
(c) Methanol (d) Ethylene Glycol★

164. The acid used in car battery is:
(a) Hydrochloric acid
(b) Boric Acid
(c) Sulphuric acid★
(d) Carbonic acid

165. Cooking gas is a mixture of:
(a) Methane and Carbon Dioxide
(b) Oxygen and Nitrogen
(c) Butane, Propane and Methane★
(d) Butane and Methane

166. Those used in making glass would include:
(a) 1 and 2 (b) 1, 2 and 3
(c) 1,3 and 4 (d) 1, 2 and 3★

167. Every atom has a tendency to become stable by_____
(a) The gain of one or more electrons
(b) Loss of one or more electrons
(c) Acquiring the nearest inert gas configuration★
(d) Acquiring the nearest active gas configuration

168. Which of the following substances has the highest specific heat?
(a) Iron (b) Copper
(c) Mercury (d) Water★

169. Which of the following gases does not pollute air?
(a) Carbon Dioxide (b) Carbon Monoxide
(c) Nitrogen Dioxide(d) Ammonia★

170. Which of the following processes is used in obtaining charcoal from wood?
(a) Destructive distillation★
(b) Fractional Distillation
(c) Oxidation
(d) Carbonation

171. Peroxyacetylnitrate (PAN) is an irritant to human beings and it effects:
(a) Eyes★ (b) Ears
(c) Nose (d) Hands

172. Which of the following is non-typical transition element?
(a) Cr (b) Mn
(c) Zn★ (d) Ca

173. Which of the following oxides will give the metal on heating?
(a) Al_2O_3 (b) HgO★
(c) ZnO (d) TiO_2

174. Which of these fruit juices contains Potassium Hydrogen tartrate?
(a) Apple (b) Grape★
(c) Mango (d) Banana

175. Which of these metals is used in storage batteries?
(a) Copper (b) Lead★
(c) Aluminium (d) Zinc

176. Which of these substances exhibits the weakest intermolecular forces?
(a) NH_3 (b) H_2O
(c) He★ (d) HCl

177. Which quantum number cannot have an integral value?
(a) n (b) l
(c) m (d) s★

178. Which vitamin is found only in animal food products but not in vegetable food products?

(a) C (b) B_{12}★
(c) A (d) K

179. Which was the first organic compound to be synthesised in laboratory?
(a) Acetic acid (b) Vinegar
(c) Urea★ (d) None

180. White lead is use as a:
(a) Dye
(b) Vulcanizing agent
(c) Bleaching agent
(d) Paint pigment★

181. Rectified sprit contains alcohol:
(a) 80 % (b) 85 %
(c) 90 % (d) 95 %★

182. With increasing bond order, stability of a bond:
(a) Decreases (b) Increases★
(c) remains same (d) None

183. The pH value of water used for a boiler should be nearly:
(a) 7★ (b) 10.5
(c) 3.2 (d) 11.8

184. The photo-oxidation process is initiated by:
(a) Heat (b) Light★
(c) Catalyst (d) Oxygen

185. The point at which solid, liquid and gaseous forms of a substance co-exist is called its:
(a) Boiling point
(b) Melting point
(c) Triple point★
(d) Freezing point

186. Chlorine is not used:
(a) As a bleaching agent
(b) As a dehydrating agent★
(c) In D.D.T formation
(d) As an oxidising agent

187. Which of the following is a non-covalent compound?
(a) HCl (b) $AlCl_3$
(c) C_2H_5OH (d) $BaCl_2$★

188. The boiling point of Helium is:
(a) 14.2 K (b) 2.4 K
(c) 4.2 K★ (d) 0.4 K

189. The chemist who synthesized urea from Ammonium Cyanate was:
(a) Dalton (b) Kolbe
(c) Wholer★ (d) Lavoisur

190. Ionization Potential is:
(a) Energy released when an electron is added to an isolated atom with lowest energy state
(b) Energy released when an electron is removed from an isolated neutral atom
(c) The energy required to remove an electron from an isolated neutral atom in its lowest energy state★
(d) Converse of electron-negativity

191. Which one of the following can be fractional?
(a) Atomic number
(b) Mass number
(c) Number of neutrons
(d) Atomic mass★

192. Mark the most electro-negative element:
(a) Cl (b) O★
(c) Br (d) N

193. Which of the following sub-shell accommodate at the maximum 10 electrons?
(a) S (b) P
(c) d★ (d) f

194. Borax bead test is due to formation of:
(a) Boron oxide
(b) Metal Metaborates★
(c) Boron Metal itself
(d) Metal oxides

195. Which of the following is a metalloid?
(a) Carbon (b) Arsenic★
(c) Phosphorus (d) Bismith

196. The noble gas which forms the maximum number of compounds is:
(a) Ne (b) He★
(c) Ar (d) Xe

197. Glass is soluble in:
(a) HCl (b) $HClO_4$
(c) HF (d) Aqua regia★

198. Marsh gas contains:
(a) Methane★ (b) Ethane
(c) Etylene (d) Ethyne

199. Vinegar contains:
(a) 2.5% Acetic acid
(b) 5% Acetic acid★
(c) 2.5% Oxalic acid
(d) 3.0% Boric acid

200. Fuels in automobile is a mixture of:

(a) Saturated Hydrocarbon
(b) Unsaturated Hydrocarbon
(c) Saturated and unsaturated Hydrocarbon★
(d) Alcohols

201. Which method is not employed for purification of liquids?
(a) Chromatography
(b) Sublimation★
(c) Steam distillation
(d) Fractional distillation

202. Which variety of glass is used for the manufacture of optical glasses?
(a) H_2O glass (b) Pyrex
(c) Flint glass★ (d) Jena

203. Marsh test is performed to detect:
(a) Carbon and hydrogen in organic compounds
(b) Halogen in organic compound
(c) Nitrogen in Protein
(d) Arsenic and Antimony in foods and drugs★

204. In a store kerosene oil is preferred to petrol because it is:
(a) Cheaper
(b) Less volatile
(c) Has ignition temperature★
(d) Is more easily available

205. Which is not thermoplastic?
(a) Teflon (b) Orlon
(c) Bakelite★ (d) Polythene

206. Zinc coating on iron prevents the latter from rusting because:
(a) The former does not react with H_2O in the presence of Zinc★
(b) The former has valency
(c) The former has less atomic weight than the latter
(d) The former forms an alloy with the latter

207. Mark the form of Iron that contains the maximum % of C.
(a) Wrought Iron
(b) Cast Iron★
(c) Steel
(d) Stainless steel

208. The water solution of potash alum would be:
(a) Amphoteric (b) Acidic★
(c) Basic (d) Neutral

209. Why is Na kept under kerosene?
(a) It remains fresh
(b) It is protected from evaporation
(c) Na reacts with moist air and change into sodium hydroxide★
(d) None

210. Why is fire extinguished by soda bicarbonate?
(a) Soda bicarbonate decomposes on heating to produce CO_2 gas which extinguishes fire★
(b) Soda bicarbonate serves as a blanket for fire
(c) Soda bicarbonate releases H_2O extinguishing fire
(d) None

211. Denatured Ehtanol is prepared by:
(a) Mixing of Ether in Alcohol
(b) Adding Methanol in Ethanol★
(c) Adding Methylanne in ethanol
(d) Mixing carbon tetrachloride in ethanol

212. Which of the following is used as an antiseptic?
(a) Chloroform (b) Acetone
(c) Iodoform★ (d) Methyl Alcohol

213. Ethylene reacts with Bayer's reagent which is:
(a) K1 and 2H1
(b) H_2O and D_2O
(c) NaCl and KCl
(d) 1% Alkaline $KMnO_4$★

214. Fenton's reagents is:
(a) Alkaline $FeSO_4$
(b) Acidic $FeSO_4$
(c) $FeSO_4$ and H_2O_2★
(d) None

215. For a solution to be acidic its pH should be:
(a) Zero (b) More than 7
(c) Less than 7★ (d) Equal to 7

216. Which one of the following substance will conduct electricity in the solid state too?
(a) Iodine (b) Diamond
(c) Bauxite (d) Graphite★
(e) Sodium Chloride

217. Which are of the following variety of coal has higher % carbon?
(a) Peat (b) Lignite
(c) Bituminous (d) Anthracite★

218. Hydrogen was discovered by:
(a) Lavoisur (b) Henry Cavandish★
(c) Mendelve (d) Brezillus

219. Out of the following which is known as 'King of Chemicals':
(a) HCl (b) Phosphoric acid
(c) Sulphuric acid★ (d) Nitric acid

220. A gas which perfectly obeys gas laws at all temperature is known as:
(a) Nobel gas (b) Inert gas
(c) Ideal gas★ (d) Any gas

221. An electron is identical with:
(a) X-ray particle (b) Beta rays★
(c) Gamma rays (d) Neutron

222. Which one of the following is not a double salt?
(a) Mohr's salt (b) Potash alums
(c) Dolomite (d) Cryolite★

223. Which one of the following group constitutes the fossil fuels?
(a) Coal, wood pieces and oil
(b) Oil, wood pieces and dry drug
(c) Natural gas, oil and wood pieces
(d) Coal, oil and natural gas★

224. Fog is an example of colloidal system:
(a) Liquid dispersed in gas★
(b) Gas dispersed in gas
(c) Solid dispersed in gas
(d) Solid dispersed in liquid

225. The name 'dead burnt plaster' is for:
(a) $2CaSO_4.H_2O$ (b) $CaSO_4.2H_2O$
(c) $CaSO_4$★ (d) $BaSO_4$

226. Pyrex glass is a mixture of:
(a) Silica, Sodium Silicate and Calcium Silicate
(b) Calcium and Magnesium Silicate
(c) Sodium Borosilicate and Aluminium Borosilicate★
(d) Calcium oxide, Sodium Silicate and Borosilicate

227. White lead is:
(a) $PbCO_3$
(b) $2PbCO_3.Pb(OH)_2$★
(c) Pb(Hg)
(d) $(CH_3COO)_2Pb.Pb(OH)_2$

228. The Proton was discovered by:
(a) J.J Thomson (b) E.Goldstein★
(c) Chadwick (d) Bohr

229. The mass of an electron is:
(a) 1.664×10^{-24} gms
(b) 9.1×10^{-28} gms★
(c) 1.987×10^{-23} gms
(d) 1.67×10^{-19} gms

230. Atoms having same atomic numbers but different mass numbers are called:
(a) Isotopes★ (b) Isobars
(c) Isotones (d) Isomers

231. Out of the following form which is the purest form of H_2O
(a) Wall (b) Rain★
(c) Sea (d) River

232. The reagent which is used for detecting sugar in urine is:
(a) Fehling★ (b) Bayer
(c) Nessler (d) Tollen

233. Out of the following chemical which is used in dry cells:
(a) Ammonium Nitrate
(b) Ammonium Chloride★
(c) Pottasium Nitrate
(d) Anydrous Copper Sulphate

234. Alum is added to muddy water in order to:
(a) Kill bacteria
(b) Make filtration easier and quicker
(c) Make sedimentation quicker★
(d) Remove coloured impurities in H_2O

235. Out of which allotropic form of phosphorous is used in safety match sticks.
(a) White Phosphorous
(b) Red Phosphorous★
(c) Scarlet Phosphorous
(d) Black Phosphorous

236. Lead pencils do not contain Lead but contain:
(a) Lead Sulphite (b) Lead Nitrate
(c) Graphite★ (d) Nickle Sulphide

237. Which one of the following will not form an Amalgam?
(a) Nickle (b) Aluminium
(c) Iron★ (d) Zinc

238. CO_2 is used as fire extinguishers because:
(a) It has relatively low critical temperature
(b) In solid state it behaves as a dry ice
(c) It is colour gas heavier than air
(d) It is neither combustible nor supporter of combustion★

239. Which of the following metal is present in car batteries?
(a) Sodium (b) Copper
(c) Zinc (d) Lead★

240. Thermite process for welding was discovered by:
(a) Scheele (b) John Dalton
(c) Gold Schmidt★ (d) Z.C Down

241. To give the metal good protection against corrosion, it is sometimes coated with a thin layer of Aluminium oxide. The process is called:
(a) Electroplating (b) Electrotyping
(c) Aluminizing★ (d) Anodizing

242. One of the following is electron carrier:
(a) NAD (b) Cytochrones★
(c) NADP (d) FAD

243. Soft water is that:
(a) Which is sweet in taste
(b) Which can be digested
(c) Which gives lather with soap★
(d) None

244. Temporary hardness of H_2O can be removed by:
(a) Adding Magnesium
(b) Boiling★
(c) Adding Calcium Carbonate
(d) None

245. In refrigerator the refrigerator liquid is:
(a) N (b) NH_3
(c) CO_2 (d) None★

246. Which chemical is mostly used in photography?
(a) Sodium Chloride
(b) Sodium Bromide
(c) Silver Bromide★
(d) None

247. Gypsum is added to the soil to:
(a) Decrease salinity of the soil★
(b) Decrease acidity of the soil
(c) Decrease alkalinity of the soil
(d) None

248. The fertilizer is used after the sowing of seed is:
(a) Urea★ (b) Potash
(c) Nitrate (d) None

249. The phenomenon of existence of an element in more than one form in the same physical state is called:
(a) Allotropy★ (b) Isomerism
(c) Dismorphism (d) Isomorphism

250. The substance which acts both as a base and as an acid under different circumstances is called:
(a) Halogen (b) Cation
(c) Amphoteric★ (d) Amorphous

251. Half-life time of radioactive substance is:
(a) Time taken by that substance to decompose radioactivity, to half of its weight★
(b) Time taken by that substance to throughout half of its total radiation
(c) Time taken by X-rays to reduce a man's life to half, upon exposure to these rays
(d) None

252. X-rays are:
(a) Rays of neutral particle
(b) Chargeless waves and having no weight★
(c) Charged waves of no weight, but of positive charge
(d) Charged waves of no weight, but of negative charge

253. Enriched Uranium used in a nuclear reactor is:
(a) Uranium alloyed with Aluminium
(b) Uranium freed from all impurities
(c) Uranium with a high % of a particular isotope★
(d) Uranium treated with radiation

254. Oxidation results in:
(a) Gain of electrons
(b) Loss of electrons★
(c) Gain of protons
(d) Loss of protons

255. Anode is a:
(a) Positive electrode★
(b) Negative electrode
(c) Neutral electrode
(d) None

256. The chief ingredient of the mosquito repellent cream is derived from
(a) Tulsi (b) Neem★
(c) Lemon (d) Rice-bran

257. The charcoal is used to decolorize raw sugar is:
(a) Wood charcoal★
(b) Coconut charcoal
(c) Sugar charcoal
(d) Animal charcoal

258. Which one of the materials listed below is used extensively in the dating of archaeological findings?
(a) Radioactive Iodine
(b) Radioactive Phosphorus
(c) Radioactive Carbon★
(d) Radioactive Uranium

259. Which one of the following elements is extensively used in electronics?
(a) Zirconium (b) Silicon★
(c) Selenium (d) Sodium

260. Which one of the following mixture of gases is required in gas welding?
(a) Oxygen and Ethylene
(b) Oxygen and Hydrogen
(c) Acetylene and Oxygen★
(d) Acetylene and Hydrogen

261. Which one of the following pair of liquids behaves ideally?
(a) Ethanol and water★
(b) Benzene and Toluene
(c) Nitric acid and H_2O
(d) HCl and H_2O

262. Basalt Rock is an example of:
(a) Metamosphic (b) Volcanic
(c) Igneous rock★ (d) Sedimentary

263. Nitrogen is prepared in the laboratory by heating:
(a) Ammonium Sulphate
(b) Ammonium Nitrate
(c) The mixture of Ammonium Chloride and Sodium Nitrate★
(d) The mixture of Ammonium Chloride and Calcium oxide

264. The material used for bleaching paper pulp is:
(a) Caustic Soda
(b) Sodium hypochlorite★
(c) Lime
(d) Alum

265. Which one of the following pairs of compounds is organic?
(a) Urea and Ammonium Carbonate
(b) Ethyl alcohol and Methyl acetate★
(c) Sodium bromide and sodium chloride
(d) Ammonium phosphate and benzal chloride

266. Sodium thiosulphate is used in photography because:
(a) It is a reducing agent
(b) It is and oxidizing agent
(c) It reacts with light
(d) It helps in fixing the photograph★

267. Zeolite is used
(a) For softening of H_2O
(b) As a flux in furnaces
(c) For purification of H_2O
(d) As a catalyst in soap manufacturing
(e) All of above★

268. The elements required for the development of strong bones are:
(a) Sodium and Calcium
(b) Sodium and Phosphorus
(c) Phosphorus and Calcium★
(d) Phosphorus and Magnesium

269. Element that do not occur in nature but can be produced artificially is:
(a) Uranium (b) Radium
(c) Thorium (d) Plutonium
(e) Californium★

270. H_2O has maximum density at:
(a) Room temperature
(b) 0 °C
(c) 4 °C★
(d) 100 °C

271. Which of the following laws is explained by the statement that matter can neither be created nor destroyed?
(a) Law of conservation of energy
(b) Law of conservation of mass★
(c) Le Chatelier's Principle
(d) Law of Osmosis

272. Mica is extensively used in the manufacture of:
(a) Alcohol
(b) Electrical appliances★
(c) Plastic
(d) Terene

273. Mixture of H_2O and Alcohol can be separated by:
(a) Filtration (b) Distillation★
(c) Sublimation (d) Chromatography

274. Of the following which metallic element occurs as part of the green plant pigment Chlorophyll?
(a) Copper (b) Iron
(c) Magnesium★ (d) Cobalt

275. Which of the following metals forms an Amalgam with other metals?
(a) Lead (b) Mercury★
(c) Tin (d) Zinc

276. Which one of the following elements is found common in glass, cement, China clay and quartz?
(a) Carbon (b) Silicon★
(c) Calcium (d) Al

277. The element found on the surface of the moon is:
(a) Tantalum (b) Tungsten
(c) Titanium★ (d) Tin

278. Quartz crystal in quartz watches works on the principle called?
(a) Photoelectric effect
(b) Stark effect
(c) Thermionic effect
(d) Piezo-electric effect★

279. Black lead is the name given to:
(a) Lead metal when its surface is painted black
(b) A complex compound of Lead
(c) Graphite★
(d) An allotropic form of lead

280. Orbitals having same energy are:
(a) Hybrid (b) Valence
(c) Degenerate★ (d) None

281. In the manufacture of banaspati ghee the gas used is:
(a) Helium (b) Hydrogen★
(c) Oxygen (d) Nitrogen

282. Lewis base is:
(a) Electron acceptor
(b) Proton donor
(c) Electron pair donor★
(d) Electron pair acceptor

283. The process in which gas expands or shrinks so that there is no change in the heat of the system is called:
(a) Adiabatic process★
(b) Isothermal process
(c) Frenel's law
(d) Prinstine's law

284. Helium was first discovered from:
(a) Meteors
(b) Moon
(c) Total solar eclipse★
(d) Sun

285. Which of the following groups belongs to the same parent element?
(a) Coal, Lignite, Bauxite
(b) Diamond, Coal, Graphite★
(c) Diamond, Gold, Silver
(d) Copper, Iron, Gold

286. Fuel used in Fast Beeder Test Reactor is:
(a) Uranium oxide
(b) Uranium Plutonium carbide★
(c) Uranium Plutonium oxide
(d) Uranium Thorium oxide

287. Which one of the following is the lightest substance known?
(a) Oxygen (b) Nitrogen
(c) Hydrogen★ (d) Carbon

288. The major chemical constituent of human skin is:
(a) Protein★ (b) Calcium
(c) Phosphorus (d) Potassium

289. The raw material from which Rayon is manufactured?
(a) Coal (b) Cellulose★
(c) Plastic (d) Petroleum

290. Wood is the main raw material for the manufacture of:
(a) Gun powder (b) Paint
(c) Ink (d) Paper★

291. Reduction is a reaction in which:
(a) There is loss of electrons
(b) An atom gains electrons★
(c) Transfer of very charged valency takes place
(d) Gain of negative valency takes place

292. Equal volumes of all gases at the same temperature and pressure contain equal number of molecules. This law is called as:
(a) Gay Ussac's (b) Avogadro's★
(c) Boyle's (d) Charles

293. The O-C-O angel in CO_2 molecules is:
(a) Less than 90° (b) 90°
(c) 120° (d) 180°★

294. Cosmic rays:
(a) Are charged particles
(b) Are uncharged particles
(c) Can be charged as well as uncharged particles★
(d) None

295. Ca^{+2} content is maximum in:
(a) Sorghum (b) Bajra
(c) Wheat★ (d) Maize

296. Which of the following is used as a preservative in Tomato sauce?
(a) Sodium Chloride
(b) Sodium Benzoate★
(c) Sodium bicarbonate
(d) Sodium Laurye Snephate

297. Which of the following is Pseudo Solid?
(a) NaCl
(b) Glass★
(c) Phosphorus
(d) Potassium

298. Generally in a given period in the periodic table, as we move from left to right, the electropositive character of elements
(a) Increases
(b) Decreases★
(c) Neither increases nor decreases
(d) Decreases then increases

299. Atom bomb is based on the principle of?
(a) Nuclear fusion
(b) Nuclear fission★
(c) Radioactive
(d) Nuclear fission and fusion both

300. Gypsum is added to cement clinker to:
(a) Increase the tensile strength of cement
(b) Bind the particles of calcium silicate★
(c) Decrease the rate of setting of cement
(d) Facilitate the formation of colloidal gel

301. Which of the following is not a chemical action?
(a) Burning of coal
(b) Conversion of water into stream★
(c) Digestion of food
(d) Burning of paper

302. Which of the following is a Physical Change?
(a) Burning of Cooking Gas
(b) Souring of Milk
(c) Digestion of Food
(d) Dissolution of Sugar into Water★

303. Conversion of a substance directly from solid to vapour state is known as:
(a) Vaporization (b) Sublimation★
(c) Decomposition (d) Ionization

304. The Chemical name of Table salt is:
(a) Potassium Chloride
(b) Sodium Chloride★
(c) Calcium Chloride
(d) Sodium Hyposulphate

305. The Chemical name of Vitamin C is:
(a) Citric Acid (b) Ascorbic Acid★
(c) Oxalic Acid (d) Nitric Acid

306. Argon and which gas is used in various types of flourescent and phototubes
(a) Oxygen (b) Helium
(c) Neon (d) Krypton★

307. The Chemical name of Bauxite is:
(a) Aluminum Oxide★
(b) Aluminium Chloride
(c) Aluminium Sulphite
(d) Hydrated Aluminium Chloride

308. The chief constituent of Gobar Gas is:
(a) Methane★ (b) Ethane
(c) Propane (d) Chlorine

309. One should not sleep in a closed room where a charcoal fire is burning because:
(a) Charcoal produces carbon monoxide which decreases oxygen content in air★
(b) Charcoal produces Carbon Dioxide which is injurious to health
(c) Charcoal increases temperature inside the room
(d) None

310. Gelatin is added to ice-cream to:
(a) Hasten freezing
(b) Avoid Crystal formation★
(c) Give Flavor and Taste
(d) None

311. Permanent hardness of Water is due to the presence of:
(a) Calcium Bicarbonate
(b) Magnesium Bicarbonate
(c) Calcium Sulphate★
(d) Sodium Bicarbonate

312. Which metal is used in storage batteries?

(a) Copper (b) Lead★
(c) Aluminium (d) Zinc

313. Which of the following constituents of pollutant exhaust is hazardous to man?
(a) Carbon Monoxide★
(b) Carbon Dioxide
(c) Lead Particles
(d) Carbon Particles

314. Properties of Element determined by:
(a) Atomic Number★
(b) Atomic Weight
(c) Neutrons
(d) Protons

315. During a Chloride test white fumes are produced due to formation of:
(a) Ammonium Chloride★
(b) Ammonium Nitrate
(c) Silver Nitrate
(d) None

316. Milk is pasteurized in order to:
(a) Destroy Micro-Organisms★
(b) Enhance taste and flavor
(c) Increase its food value
(d) Detect adulteration

317. Temporary hardness of water is due to presence of:
(a) Calcium Sulphate
(b) Calcium Bicarbonate★
(c) Magnesium Sulphate
(d) Calcium Chloride

318. The chemical composition of four well known items which are used in _____ large quantities are given below. Which one is incorrect?
(a) Washing Soda: Sodium, Hydrogen and Aluminium★
(b) Caustic Soda: Sodium, Hydrogen and Oxygen
(c) Baking Soda: Sodium, Hydrogen, Oxygen and Carbon
(d) Common Salt: Sodium and Chlorine

319. Which of the following is non-ferrous metal?
(a) Cobalt★ (b) Aluminium
(c) Nickel (d) Iron

320. Which of the following metals is in liquid state at normal room temperature?
(a) Sodium (b) Radium
(c) Gallium★ (d) Silicon

321. In vulcanisation, natural rubber is heated with:
(a) Carbon (b) Sulphur★
(c) Silicon (d) Phosphorus

322. Which of the following elements behave chemically both as metal and non-metal?
(a) Argon (b) Carbon
(b) Xenon (d) Boron★

323. Bronze is an alloy of:
(a) Copper and Zinc
(b) Copper and Tin★
(c) Iron and copper
(d) Zinc and Tin

324. Which of the following is used for preservation of grains?
(a) Potassium Permanganate
(b) Boric Acid
(c) Sodium Chloride
(d) Sodium Benzoate★

325. Atomic weight of Uranium is:
(a) 237 (b) 238★
(c) 226 (d) 242

326. The major constituent of Air is:
(a) Nitrogen★ (b) Carbon Dioxide
(c) Oxygen (d) Hydrogen

327. Which among the following is in liquid state at normal room temperature?
(a) Mercury★ (b) Sodium
(c) Phosphorus (d) None

328. Which of the following gases are used in cigarette lighters?
(a) Butane★ (b) Methane
(c) Propane (d) Radon

329. Liquefied Petroleum gas (LPG) consists of:
(a) Butane and Propane★
(b) Ethane and Hexane
(c) Ethane and Nonane
(d) None

330. Which of the following is a Chemical Change?
(a) Evaporation of Water
(b) Burning of Candle★
(c) Glowing of an Electric Bulb
(d) Liquefaction of Air

331. During electrolysis, metals are deposited at the cathode, because the cathode,
(a) Supplies electrons★
(b) Withdraw electrons
(c) Undergoes oxidation
(d) None is correct

332. With the rise in temperature conductivity of metals?
(a) Decreases
(b) Increases★
(c) Remains unchanged
(d) May decrease or increase

333. Heavy water is known as heavy because it?
(a) Is denser than ordinary water
(b) Is an oxide of deuterium★
(c) Has a heavy or bad tastes
(d) Has a heaver isotope of hydrogen

334. On descending a group in a periodic table electropositive character of elements?
(a) Increases★ (b) Decreases
(c) Remains same (d) None

335. Which of the following is used for silvering of mirrors?
(a) Silver nitrate★ (b) Zinc nitrate
(c) Silver oxide (d) Pitchblende

336. Raw materials used for manufacture of glass are
(a) Sand/soda/limestone★
(b) Sand/charcoal/soda
(c) Limestone/charcoal/sulphur
(d) Sand/sulphur/soda

337. Solder is an alloy of
(a) Tin and lead★ (b) Tin and zinc
(c) Zinc and lead (d) Zinc and copper

338. Why does milk curdle?
(a) Fermentation of lactose★
(b) Reaction of microbes
(c) Over heating

339. In the periodic table on moving from left to right across a period, the metallic character of an element?
(a) Increases
(b) Decreases★
(c) Increases and then decreases
(d) Remains constant

340. Mendeleev's periodic table is upset by the fact that?
(a) Noble gases do not form compounds
(b) Atomic weight of elements are not always whole numbers
(c) Many elements have several isotopes★
(d) Some groups stand divided into two subgroups A and B

341. Most of the known elements are?
(a) Metals★
(b) Non-metals
(c) Transition metals
(d) Inner transition metals

342. Stainless steel does not rust because?
(a) Nickel present in it does not rust
(b) Iron forms a hard chemical compound with chromium present in it
(c) Chromium and nickel combine with iron
(d) Chromium forms an oxide layer that protects iron from rusting★

343. The engines of the rocket that helped the Apollo II spacecraft to land on the moon used for rocket fuel power?
(a) O_2 (b) H_2
(c) Propane (d) Hydrazine★

344. Oxidation involves:
(a) Gain in electrons
(b) Gain of hydrogen
(c) Loss of electrons★
(d) Combustion

345. Fluorocarbons are effective scavenger for ozone due to
(a) Photolytic reaction of O_2 producing Cl radicals
(b) Photolytic decomposition of O_3 producing O_2
(c) Photolytic decomposition of O_3 into Cl and O_2★
(d) Photolytic production of oxides of nitrogen

346. Detergents are better than soaps because?
(a) They wash clothes better
(b) Absorb the hardness of water
(c) They are less affected by hard water★
(d) They are less soapy

347. Which among the following is in liquid state at normal room temperature?
(a) Mercury★ (b) Sodium
(c) Phosphorus (d) None

348. Which of the following gases is used in cigarette lighters?
(a) Butane★ (b) Methane
(c) Propane (d) Radon

349. Liquefied petroleum gas (LPG) consists of
(a) Methane, Butane and propane★
(b) Ethane and hexane
(c) Ethane and nonane
(d) None

350. Which of the following is fire resistant?
(a) Asbestos★ (b) Gypsum
(c) Dolomite (d) None
(d) Fungus growth

BIOLOGY

1. Enzymes help in
   A. Respiration
   B. Digestion of food★
   C. Immune system
   D. Reproduction
2. Ptyalin is an enzyme produced in the
   A. Salivary glands★ B. Pituitary gland
   C. Thyroid glands D. Pancreas
3. The strongest muscle in the human body is found in
   A. hands B. neck
   C. buttocks★ D. legs
4. What is gene?
   A. Sleep inducing drug
   B. Unit of heredity★
   C. A type of body cell
   D. A kind of vitamin
5. The function of haemoglobin is
   A. To transport oxygen★
   B. Destruction of bacteria
   C. Prevention of anaemia
   D. Utilization of energy
6. Wisdom teeth normally grow between the age of
   A. 34-40★ B. 17-30
   C. 45-55 D. 10-17
7. 'Dossier' means
   A. the do of medicine
   B. the actual things
   C. relevant paper★
   D. unarranged papers
8. Lack of————causes diabetes
   A. Sugar B. Insulin★
   C. Calcium D. Vitamins
9. Biopsy is done on
   A. tissue taken from a dead body
   B. tissue taken from living body★
   C. blood from veins
   D. blood from arties
10. Triple antigen vaccine is given children to protect them against
    A. polio
    B. whooping cough★
    C. tuberculosis
    D. contagious diseases
11. A man weighing 96 Kg consists of approximately ————-liters of water
    A. 50 litters B. 66.5 litters★
    C. 82 litters D. 42 litters
12. What does blood consists of?
    A. 60 % plasma, 40 % crop★
    B. 65 % plasma, 40 % crop
    C. 62 % plasma, 40 % crop
    D. 68% plasma, 45 % crop
13. Hepatitis is a disease of which of the following organ?
    A. Liver★ B. Heart
    C. Brain D. None
14. What is the main purpose of white blood corpuscles?
    A. To carry nutrients
    B. To combat infection★
    C. To carry oxygen
    D. To give strength
15. Total volume of blood in a normal human being is
    A. 5 – 6 liters★ B. 3 – 4 liters
    C. 8 – 10 liters D. 10 – 12 liters
16. Red blood corpuscles are formed in the
    A. Liver
    B. Bone marrow★
    C. Kidneys
    D. Heart
17. Blood does not coagulate inside the body to the presence of
    A. Fi brin B. Heparin★
    C. Haemoglobin D. Plasma
18. Lungs are situated in the
    A. Abdominal cavity
    B. Buccal cavity
    C. Pericardinal cavity
    D. Thoracic cavity★
19. How many numbers of bones in the human body of an adult?
    A. 210 B. 206★
    C. 250 D. 450
20. The pancreas secretes
    A. Insulin★ B. Vatiman A
    C. Bile juice D. None

21. The seat of memory in the human brain is located in the
    A: Medulla oblongata B. Cerebrum
    C. Cortex★ D. Cerebellum
22. What type of infection is tuberculosis?
    A. Viral B. Bacterial★
    C. Fungal D. None
23. What is the disease Partussis commonly known as?
    A. Whooping cough★ B. Cholera
    C. Hepatitis D. None
24. The decreased secretion of insulin causes?
    A. Diabetes★ B. Beri Beri
    C. Rickets D. None
25. AIDS virus is called?
    A. H.I.V★ B. A.I.B
    C. V.I.V D. None
26. Iron deficiency causes?
    A. Anaemia★ B. AIDS
    C. Cholera D. None
27. Which of the following is caused by bacterial infection?
    A. Tetanus★ B. Cancer
    C. Malaria D. None
28. A vegetable containing sulphur is
    A. Potato B. Cabbage★
    C. Brinjal D. Pumpkin
29. The shortest bone in the human body is
    A. Vertebrae B. Stapes★
    C. Phalages D. Metacarpals
30. A balanced diet contains
    A. Animals protein
    B. Macro and micro nutrients
    C. Food nutrients for growth and maintenance★
    D. Butter and ghee

HUMAN BODY

1. In man, the pressure in the glomerulus is about
   (a) 50 mm Hg (b) 60 mm Hg
   (c) 70 mm Hg★ (d) 90 mm Hg
2. The bone formed by the ossification of a tendon is termed as
   (a) Cartilaginous bone
   (b) Dermal bone
   (c) Sesamoid bone★
   (d) All the above
3. The nerve endings which are sensory to pain are known as
   (a) Chemoreceptors
   (b) Algesireceptors★
   (c) Tangoreceptors
   (d) Photoreceptors
4. Heart beat is controlled by a nodal tissue made up of specialized cardiac muscles called
   (a) Myonemes (b) Purkinje fibres★
   (c) Telodendrites (d) Collagen fibres
5. Percentage of total blood pumped into human brain in each cardiac output is about
   (a) 25% (b) 15%★
   (c) 50% (d) 75%
6. Blood clot sometimes formed in vessels blocking the flow of blood is called
   (a) Bolus (b) Pus
   (c) Ulcer (d) Thrombus★
7. The fundamental properties of living organisms is
   (a) Locomotion and movement
   (b) Growth and reproduction★
   (c) Mobility and reproduction
   (d) Mobility, growth and reproduction
8. Cartilage is a type of
   (a) Epithelial tissue
   (b) Connective tissue★
   (c) Muscular tissue
   (d) Nervous tissue
9. The red blood cells are produced in
   (a) Bone marrow★
   (b) Liver
   (c) Spleen
   (d) Blood plasma
10. In blood RBC and WBC are present in ratio of
    (a) 1 : 10 (b) 1 : 100
    (c) Spleen (d) 1 : 1000★
11. The quick healing of a fracture requires a rich supply of
    (a) Blood★ (b) Oxygen
    (c) Water (d) Nerves
12. The skin acts as a storage organ because it stores
    (a) Water
    (b) blood

(c) Both water and blood★
(d) Hormones

13. When the atmospheric temperature is low, the body temperature is maintained by
(a) Increased thermogenesis
(b) Decreased thermogenesis
(c) Increased thermolysis
(d) Increased thermogenesis and reduced thermolysis★

14. The skin layer which helps reduce the heat loss in cold climate is
(a) Epidermal layer
(b) Dermal layer
(c) subcutaneous layer★
(d) Both a and b

15. The body part which prevents the entry of food into trachea is
(a) Pharynx
(b) Epiglottis★
(c) Tongue
(d) Medulla oblongata

16. Which of the following glands is known as the 'master gland'?
(a) Thyroid gland
(b) Parathyroid gland
(c) Pituitary gland ★
(d) Liver

17. The special chemical substances released by endocrine glands are called
(a) Enzymes (b) Hormones★
(c) Alkaloids (d) Proteins

18. The neurons which carry nerve impulses from periphery of the body to the central nervous system are known as
(a) Internuncial neurons
(b) Neuronsecretory neurons
(c) Afferent neurons★
(d) Efferent neurons

19. In addition to vitamins, body needs some minerals too. Among these minerals the iron is specifically necessary for
(a) Bone formation
(b) Thyroxin formation
(c) Haemoglobin formation★
(d) Development of teeth

20. The approximate length of alimentary canal from mouth to anus is
(a) 4 metres (b) 6 metres★
(c) 8 metres (d) 10 metres

21. The approximate length of small intestine (ileum) in man is
(a) 1.6 metre (b) 2.6 metre★
(c) 3.6 metre (d) 4.6 metre

22. The short, firm tube that is supported by cartilages and muscles and contain the vocal cord is
(a) Trachea (b) Bronchi
(c) Larynx★ (d) Nasal passage

23. The cells which produce and secrete the mucus in respiratory region are
(a) Mucus cells (b) Kupffer cells
(c) hepatic cells (d) Goblet cells★

24. The total number of ribs present are
(a) Five pairs (b) Seven pairs
(c) Nine pairs (d) Twelve pairs★

25. The main function of RBC (Red Blood Cell) is to
(a) Transport oxygen★
(b) Transport haemoglobin
(c) Transport sodium ions
(d) Transport potassium ions

26. During one circuit of blood from lungs to the tissue and back through circulatory system, the percentage of haemoglobin giving up its oxygen to tissue is
(a) 50% (b) 75%
(c) 25%★ (d) 100%

27. In RBC, the synthesis of haemoglobin takes place in
(a) Nucleus (b) Ribsomes
(c) Mitochondria★ (d) Golgi apparatus

28. Every person has a special system for combating the different infections and toxic agents. This is composed of
(a) Leukocytes
(b) Lymphoid tissue
(c) Macrophage system
(d) All of the above★

29. The lymph is formed from
(a) Blood in arteries
(b) Blood in veins
(c) Tissue fluid★
(d) Both a and b

30. In man the blood is supplied to kidney for ultrafiltration by
(a) Renal artery★ (b) Renal vein
(c) Kidney artery (d) Hepatic artery

31. The pair of kidneys are made of small structural and functional units called
(a) Neuron
(b) Nephron★
(c) Column's of Bertini
(d) Malphigian capsule

32. The total quantity of blood present in a person circulates through kidney in
(a) 2 to 3 minutes (b) 4 to 5 minutes★
(c) 7 to 8 minutes (d) 10 to 11 minutes

33. The axial skeleton consist of
(a) Skull and vertebral column
(b) Skull, vertebral column and sternum
(c) Skull, vertebral column, sternum and ribs★
(d) Skull, vertebral column and pectoral girdles

34. The humerus bone is present in
(a) Lower arm (b) Upper arm★
(c) Lower leg (d) Upper leg

35. The system of coiled tubes present in internal ear is
(a) Utriculus
(b) Cochlea★
(c) Semi circular canals
(d) None

36. The order in which the bones of middle ear are arranged for amplification of sound waves is
(a) Incus malleus–stapes
(b) Malleus–incus–stapes★
(c) Incus–stapes–malleus
(d) Malleus–stapes–incus

37. The middle ear is connected to pharynx by
(a) Eustachian tube★
(b) Auditory passage
(c) Utriculus
(d) Semi circular canal

38. The taste buds for sweat taste are located in
(a) Front of tongue ★
(b) Back of tongue
(c) Centre of tongue
(d) All of the above

39. In man the endoskeleton is composed of
(a) Only cartilages★
(b) Bones
(c) Both cartilages and bones
(d) Bones, cartilages and skeletal muscles

40. The number of phalanges in thumb is
(a) One (b) Two
(c) Three (d) Four★

41. The skull contains
(a) 18 bones (b) 20 bones
(c) 22 bones★ (d) 28 bones

42. The body system responsible for controlling different bodily functions is
(a) Endocrine system
(b) Skeletal system
(c) Nervous system★
(d) Digestive system

43. Which part of the brain is the seat of intelligence, memory association, imagination and will?
(a) Cerebrum★ (b) Cerebellum
(c) Medulla Oblongata (d) None

44. The breathing and heart beat is controlled by
(a) Cerebrum
(b) Cerebellum
(c) Hypothalamus
(d) Medulla oblongata★

45. A relay station that communicates the impulse from one nerve cell to another is
(a) Perinerium septum
(b) Synapse★
(c) Node of raniver
(d) Endoneurium

46. The nervous system is concerned with
(a) Regulation of external environment and responding to internal environment through sense organs
(b) Regulation of internal environment and responding to external environment through sense organs★
(c) Regulation of internal environment and responding to external environment through the motor nerves
(d) None

47. The nerve endings present in papillae of skin under epidermis for touch are called
(a) Pacinian corpuscles
(b) Missioners corpuscles★
(c) Glucostatic corpuscles
(d) Golgi tendon

48. The total refractive power of eye lens is
(a) 10 dioptres (b) 15 dioptres★
(c) 20 dioptres (d) 24 dioptres

49. The lens system focuses the image of an object on
(a) Choroid (b) Cornea
(c) Retina★ (d) None

50. The image created on retina in eye is
(a) Small, virtual and inverted
(b) Small, real and inverted★
(c) Large, virtual and erect
(d) Large, real and inverted

51. In eye the focusing of image of an object is done by
(a) Forward and backward movement of lens
(b) Changing the curvature of lens★
(c) Forward and backward movement of retina
(d) Both a and c

52. Which of the following is a tissue?
(a) Ovary (b) Kidney
(c) Lungs (d) Blood★

53. Cardiac muscle fibres are
(a) Striated voluntary
(b) Striated involuntary★
(c) Non-striated voluntary
(d) Non-striated involuntary

54. Haversian canals are present in
(a) Cartilages (b) Skin
(c) Bones★ (d) Muscles

55. Cells of the nerve tissue are called
(a) Axons (b) Neurons★
(c) Dendrites (d) Schwann cells

56. A man respires about
(a) 72-80 times a minute
(b) 20-30 times a minute
(c) 40-50 times a minute
(d) 16-20 times a minute★

57. Sweat glands in man occur all over the body except
(a) Palms and soles
(b) Stomach and mouth surface
(c) Head
(d) Lips and glans penis★

58. The maximum temperature that the human skin can tolerate without getting blisters is
(a) 40°C★ (b) 60°C
(c) 80°C (d) 100°C

59. Which of the following enzymes hydrolyses starch into reducing sugars?
(a) Sucrose (b) Catalase
(c) Maltase (d) Amylase★

60. Man cannot digest cellulose. Herbivores, viz., rabbits, cows, can. The most important reasons for this is that
(a) They have very efficient grinding teeth
(b) They possess an enlarged section of the gut containing bacterial which breakdown the cellulose for them
(c) They produce the enzyme cellulase which digests the cellulose; human beings do not make this enzyme★
(d) Human beings do not need to digest cellulose

61. Which of the following statements is false about the vitamins?
(a) it is useful in metabolism
(b) It is useful in digestion
(c) It gives energy★
(d) It is useful in growth

62. Which of the following groups of compounds constitute carbohydrates?
(a) Fats and sugar
(b) Fats, sugar and protein
(c) Starch, sugar and proteins
(d) Starch and sugar★

63. Which of the following human organs is less susceptible to harmful radiations?
(a) Eyes (b) Heart
(c) Brain (d) Lungs★

64. When there is a decrease in the concentration of oxygen in the blood, the rate of breathing
(a) Decreases
(b) Increases★
(c) Does not change
(d) First decrease, then increase

65. The smallest blood vessel is called
(a) Vein (b) Artery
(c) Capillary★ (d) Aorta

66. Normal blood pressure of a man is
(a) 80/120 mm Hg★
(b) 90/140 mm Hg
(c) 20/160 mm Hg
(d) 85/150 mm Hg

67. The function of pacemaker is
(a) Regulation of urine formation
(b) Regulation of digestion
(c) Initiation of heartbeat★
(d) Initiation of respiration

68. 'Rh factor' is related with
(a) Space travel (b) Blood transfusion★
(c) Air pressure (d) Blood pressure

69. If a patient has blood group AB and needs blood transfusion, he
(a) Should be given blood of AB group only
(b) Should be given blood of O group only
(c) Can be given blood of A or B group
(d) Can be given blood of AB, O, A or B group★

70. Which of the following is a body builder?
(a) Proteins★ (b) Carbohydrates
(c) Vitamins (d) Fats

71. In a normal adult man, the daily urine output (in litres) on an average is
(a) 1.5★ (b) 2.5
(c) 3.0 (d) 3.5

72. An adult human being has 16 teeth on each jaw. In each half of the jaws, there are
1. Three molars 2. Two incisors
3. Two premolars 4. One canine
The correct sequence in which these teeth occur starting from the middle and going back wards in each half of the jaw is
(a) 1, 2, 3, 4 (b) 4, 2, 1, 3
(c) 4, 3, 2, 1 (d) 2, 4, 3, 1★

73. In modern surgery, metal pins are used for holding the broken bones together. This pin is made of
(a) Copper (b) Stainless steel★
(c) Aluminium (d) Titanium

74. The energy for the contraction of muscles is derived from the combustion of
(a) Minerals (b) Carbohydrates★
(c) Proteins (d) Vitamins

75. 'Sodium pump' operates in
(a) Muscle contraction (b) Heart beat
(c) Nerve impulse ★ (d) None

76. Besides ear ossicles, the cavity of the middle ear in human beings contain
(a) Air★ (b) Endolymph
(c) Perilymph (d) Octoconia

77. The male sex hormone, testosterone is secreted by the
(a) Bartholin's glands
(b) Cowper's glands
(c) Graafian follicle
(d) Leydig cells★

78. A test-tube baby means, fertilisation of the ovum and development taking place in the
(a) Test tube
(b) Test tube and uterus respectively★
(c) Uterus
(d) Uterus and test tube respectively

79. With which of the following is the term glomerulus associated
(a) Excretory system ★
(b) Digestive system
(c) Nervous system
(d) Reproductive system

80. The chamber behind the lens of eye is filled with a fluid known as
(a) Perylymph
(b) Aqueous humor
(c) Vitreous humor★
(d) None

81. Which of the following layer of eye is richly supplied with fine blood vessels?
(a) Sclerotic (b) Choroid★
(c) Retina (d) All of these

82. In normal human adult the heart beats about ——— times per minute
(a) 62★ (b) 72★
(c) 82 (d) 86

83. The heart beat originates in
(a) S-A node (b) Mistral valve
(c) A.V. node (d) None★

84. In man, the ventricular systole lasts about
(a) 0.44 seconds (b) 0.48 seconds
(c) 0.4 seconds (d) 0.33 seconds★

85. Osmotic pressure of the body is regulated by
(a) Magnesium (b) Sodium★
(c) Iodine (d) Iron

86. The most abundant muscle protein is
(a) Actin (b) Troponin
(c) Myosin★ (d) Tropomyosin

87. The highest conductibility is shown by
(a) Smooth muscles
(b) Striated muscles★

(c) Cardiac muscles
(d) Both (a) and (c)

88. Pituitary gland is located at the base of
(a) Kidney (b) Liver
(c) Brain★ (d) Pancreas

89. Regular conduction of nerve impulses requires a continuous supply of
(a) Nitrogen (b) Carbon dioxide
(c) Oxygen (d) Water

90. Cerebral cortex is also called
(a) Meninges (b) Neurilemma
(c) Grey matter★ (d) White matter

91. Which part of the tooth is covered by enamel?
(a) Root (b) Dentine
(c) Crown★ (d) All of these

92. Which of the following are called cheek teeth?
(a) Incisors and canines
(b) Premolars and molars★
(c) Incisors and molars
(d) None

93. In mammalian kidney the ultrafiltration occurs in
(a) Proximal tubules
(b) Distal tubules
(c) Loop of Henle
(d) Glomeruli★

94. Which of the following teeth are absent in milk dentition?
(a) Premolars (b) Molars★
(c) Canines (d) Incisors

95. The number of vertebrae in man is
(a) 23 (b) 28
(c) 33★ (d) 43

96. The antidiuretic hormone (ADH), which regulates the amount of water excreted in urine, is produced by
(a) Kidney
(b) Thyroid gland
(c) Pituitary gland★
(d) Adrenal gland

97. The part of kidney that prevents the loss of water through urine is
(a) Henle's loop★
(b) Glomerulus
(c) Bowman's capsule
(d) Collecting tubules

98. The formation of urea always takes place in
(a) Kidney★ (b) Liver
(c) Pancreas (d) Spleen

99. Urea is produced from an amino acid is known as
(a) Lucien (b) Arginine
(c) Glycine★ (d) Valine

100. Which part of lens in human is helpful in adjustment of focal length?
(a) Cornea (b) Mucus
(c) Ciliary body★ (d) Conjunctiva

FOOD AND NUTRITION

1. Carbohydrates, found in unrefined grains, tubers, vegetables and Fruit, provide a great part of the energy in most human diets. Although carbohydrates are needed for the body's energy, why they are not considered essential?
(a) Protein can be converted for this purpose.★
(b) Protein Fats be converted for this purpose.
(c) Vitamin D be converted for this purpose.
(d) None

2. Which nutrient, although scarcer than carbohydrates, provide more than twice energy as compared to carbohydrates?
(a) Minerals (b) Fats
(c) Both of them★ (d) None

3. Carrot is the rich source of:
(a) Vitamin A★ (b) Vitamin B
(c) Vitamin C (d) Vitamin D

4. How much protein is recommended for a moderately active woman daily?
(a) 30g (b) 35g
(c) 41g (d) 46g★

5. Water is the largest inorganic component of human food. Name the largest organic component of human body?
(a) Protein★ (b) Fats
(c) Carbohydrates (d) Vitamins

6. What of the following is true regarding excess of Carbohydrates in human body?
(a) They are stored as glycogen or converted to fat

(b) They are stored in liver and muscle and in fat cells beneath the skin
(c) Both of these★
(d) None

7. Select the correct statement?
(a) Fruits and vegetables are 80 to 95 percent water
(b) The human body is 65 percent water
(c) Meats are made up of 50 percent water
(d) All above★

8. Which part of our food is responsible to build body tissue and to synthesize enzymes, some hormones such as enzymes, some hormones such as insulin that regulate communication among organs and cells, and other complex substances that govern body processes?
(a) Carbohydrates (b) Fats
(c) Protein (d) None★

9. Milk lacks in one important nutrient which?
(a) Calcium (b) Iron★
(c) Potassium (d) Protein

10. If one chews an unsweetened chapati for a short time, a distinctly sweetish taste becomes noticeable. This is because
(a) Protein is converted into sugar in the mouth
(b) Carbohydrate is converted into sugar in the mouth★
(c) Fat is converted into sugar in the mouth
(d) Vitamins are converted into sugar in the mouth

11. Digestion of fats in the intestines is aided by
(a) Hydrolysis (b) Oxidation
(c) De-emulsification (d) Emulsification★

12. Sucrose is dissolved in water due to
(a) Hydrogen bonding★
(b) Hydration
(c) Van der Wall's forces
(d) Chemical reaction

13. Carbonated drinks are examples of
(a) Gas in gas (b) Gas in water★
(c) Gas in solid (d) Solid in liquid

14. A deficiency of zinc:
(a) Impair growth (b) Cause dwarfism
(c) Both of them★ (d) None

15. In which part of our body Fluorine is retained?
(a) Teeth (b) Bones
(c) Both a and b★ (d) Not a nor b

16. Which of the following statement is correct?
(a) Milk is rich in vitamins but contains no iron.
(b) Pasteurized Milk has no vitamin C
(c) In adults, too much milk can cause unsaturated fatty acids to build in the blood system.
(d) All above

17. Mention the food in which Sodium, cobalt, chloride, copper, magnesium, manganese, phosphorus, and potassium are present?
(a) Milk (b) Pulses
(c) Vegetables (d) fruits★

18. How many people worldwide suffer from iodine-deficiency diseases?
(a) 50 million (b) 10 million
(c) 150 million★ (d) 110 million

19. Copper, zinc, fluorine, chromium, molybdenum, and selenium are important parts of human food. By which name these are called?
(a) Micro elements
(b) Trace elements
(c) Essential elements★
(d) Nano elements

20. Name the nutrient which provides instant energy?
(a) Proteins (b) Carbohydrates★
(c) Minerals (d) Vitamins

21. The micro-organism widely used in preparation of butter or cheese is
(a) Saccharomyces sp.
(b) Mycobacterium sp.
(c) Lactobacillus sp.★
(d) None

22. Fats and their derivatives occurring in living systems are collectively known as
(a) Carbohydrates (b) Proteins
(c) Lipids★ (d) Vitamins

23. Fats are long chain organic compounds consisting of several different kinds of _____
(a) Amino acids (b) Fatty acids★
(c) Iodine (d) Accetic acid

24. What is the main function of water in human body
(a) Provide Energy
(b) Help in growth
(c) Control body process★
(d) All of the above

25. Which of the following minerals are very useful for human body?
(a) Calcium (b) Phosphorous
(c) Sodium (d) All of above★

26. The oil commonly used as an adulterant in cooking oil is
(a) Linseed oil
(b) Sesame oil
(c) Argemone oil
(d) all of the above★

27. Into how many groups, nutrients can be divided?
(a) 7 (b) 5
(c) 6★ (d) 8

28. Including proteins, fats and vitamins, which of the following is/are among the major groups of nutrients?
(a) Carbohydrates (b) Minerals
(c) Both of them★ (d) None

29. The type of sugar present in milk is
(a) Lactose★ (b) Maltose
(c) Galactose (d) Sucrose

30. Of the 20 amino acids that make up Protein, how many are considered essential because the body cannot synthesize them?
(a) 6 (b) 8★
(c) 7 (d) 9

31. Inorganic mineral nutrients are required to build body tissues and clotting of blood. In which of the following function(s) they also participate?
(a) Nerve reactions
(b) The contraction of muscles
(c) In the action of enzyme systems
(d) All of them★

32. Mineral nutrients are divided into two classes, major elements include calcium, phosphorous, magnesium, iron, iodine, and potassium. Which class includes copper, cobalt, manganese, fluorine and zinc?
(a) Minor Elements
(b) Small Elements
(c) Trace Elements★
(d) None Essential Elements

33. The food intake and process of eating is regulated by
(a) Medulla oblongata (b) Cerebrum
(c) Hypothalamus ★ (d) Cerebellum

34. In muscular contraction, the direct source of energy is
(a) Creatinine phosphate (CP)
(b) Adenosine diphosphate (ADP)
(c) Nicotinamide phosphate (NADP)
(d) Adenosine triphosphate (ATP)★

35. Why vitamin A or also called retinal is essential?
(a) Healthy epithelia tissue
(b) Skeletal growth
(c) Eyesight
(d) All of them★

36. Vitamin A is found in the milk, butter and egg yolks. Green leafy or yellow vegetables contain a substance which the body converts to vitamin A. Name the substance?
(a) Carotene★ (b) Calcium
(c) Cadmium (d) Calciferol

37. Which vitamin is found in human skin and activated with the exposure of skin to sunlight?
(a) Vitamin A (b) Vitamin D★
(c) Vitamin C (d) Vitamin K

38. Vitamin D is a crucial factor in calcium metabolism, especially the growth and maintenance of bone. Mention its other name?
(a) Retinal (b) Calciferol★
(c) Calcan (d) Calcium Vitamin

39. Deficiency of vitamin D can cause rickets or bow legs. What can be caused by the overdose of this vitamin?
(a) Kidney damage ★
(b) Liver damage

(c) Lungs damage
(d) Heart damage

40. In which Vitamin E is found?
(a) Peanuts
(b) Vegetable Oils, Wheat germ
(c) Green Leafy Vegetables
(d) All of these★

41. For what vitamin K provides essential cofactors?
(a) For production of white blood cells
(b) For production of Red blood cells
(c) Production of blood.
(d) Production of certain clotting factors in the liver.★

42. Vitamin B_1 or thiamine occurs naturally in whole grains, yeasts and nuts. What is its function?
(a) Bone formation
(b) Meat formation
(c) Acts as a coenzyme in carbohydrate metabolism★
(d) Helps digestion

43. In hemoglobin, the iron
(a) Is absent
(b) Is present in ferrous form★
(c) Is present in ferric form
(d) Is present in both ferrous and ferric form

44. Mention the vitamin that is also a coenzyme, and its deficiency causes lesions of skin, mouth or eyes?
(a) B_1 (b) C
(c) B_2 ★ (d) K

45. B_{12} or cyano-cobalmin is essential for all body's cells and its deficiency can cause Pernicious anaemia. It occurs naturally in bivalves and fish, eggs and lean meat. Who are at risk of it deficiency?
(a) Rigorous vegetarians★
(b) Miners
(c) Old people
(d) Children

46. Which of the following enzyme is absent in man?
(a) Cellulase★ (b) Amylase
(c) Lactase (d) Dipeptidase

47. The phenomenon of thirst is an important function of digestive tract by which
(a) The ionic balance of the body is maintained
(b) The fluid balance of the body is maintained★
(c) The electrical balance of the body is maintained
(d) All of the above

48. Which Vitamin is also called Calciferol?
(a) Vitamin (b) Vitamin A
(c) Vitamin K (d) Vitamin D★

49. Name the ready source of energy available for athletes?
(a) Carbohydrates★ (b) Fats
(c) Minerals (d) Vitamins

50. Which of the following has been found useful in keeping cholesterol level down?
(a) Vitamin A (b) Tulsi★
(c) Saliva (d) Cheese

VITAMINS

1. The vitamin capable of formation of blood is
(a) A (b) B★
(c) C (d) D

2. The vitamin which is generally excreted by humans in urine is:
(a) Vitamin A (b) Vitamin D
(c) Vitamin C★ (d) None

3. Which one of the following vitamins is known as the anti sterile factor?
A. Ascorbic acid B. Retinol
C. Riboflavin★ D. None

4. Deficiency of vitamin C leads to a disease known as
A. Scurvy★ B. Infertility
C. Rickets D. Beri Beri

5. Deficieny of vitamin B1 causes
A. Scurvy B. Infertility
C. Rickets D. Beri Beri★

6. Fat soluble vitamins are
A. Vitamins A, B
B. Vitamins A, D , E ,K★

C. Vitamins A , B , C , D
D. Vitamins B , C

7. Water soluble vitamins are
A. Vitamins B,E B. Vitamins A , B
C. Vitamins C , D D. Vitamins B , C★

8. Which of the following helps in clotting of blood?
A. Vitamins B1 B. Vitamins D
C. Vitamins K★ D. Vitamins B2

9. Vitamin A is found in the
A. White vegetables B. Green★
C. Yellow D. Red

10. Night blindness is due to lack of vitamin
A. Vitamin A★ B. Vitamin B
C. Vitamin C D. Vitamin D

11. Which in our diet promotes bone formation and calcium absorption in our body?
A. Vitamin A B. Vitamin B
C. Vitamin C D. Vitamin D★

12. Rickets in childhood occurs due to the lack of
A. Vitamin A B. Vitamin B
C. Vitamin C D. Vitamin D★

13. Muscular and nervous disorders is due to lack of
A. Vitamin A B. Vitamin B
C. Vitamin C D. Vitamin D★

14. Which vitamin gets destroyed on heating
A. Vitamin A B. Vitamin B
C. Vitamin C★ D. Vitamin D

15. Which vitamin is found in the body by exposure to ultra violet radiation on sunlight?
A. Vitamin A B. Vitamin B
C. Vitamin C D. Vitamin E★

16. The vitamin which can be most easily synthesized in human body is
A. Vitamin A B. Vitamin B
C. Vitamin C D. Vitamin D★

17. Which of the following is known as anti scurvy factor?
A. Vitamin A B. Vitamin B
C. Vitamin C★ D. Vitamin D

18. Which of the following helps in clotting of blood?
(a) Vitamin B_1 (b) Vitamin B_2
(c) Vitamin D (d) Vitamin K★

19. Citrus fruits are considered rich in Vitamin
(a) A★ (b) D
(c) E (d) C

20. Vitamin B complex includes
(a) Vitamins B_1, B_2
(b) Vitamins B_1, B_2, B_6, B_{12}★
(c) Vitamins B_6, B_{12}
(d) Vitamins B_2, B_3, B_9, B_{12}

21. Deficiency of Vitamin B1 causes
(a) Rickets (b) Skin disease
(c) Beri beri★ (d) Infertility

22. Deficiency of Vitamin C leads to a disease known as
(a) Scurvy★ (b) Infertility
(c) Rickets (d) Beri beri

23. Which one of the following vitamins is known as the "anti-sterile" factor?
(a) Ascorbic acid★ (b) α-tocopherols
(c) Retinol (d) Riboflavin

24. The diet should be rich in which of the following to overcome the deficiency in vitamin D?
(a) Eggs and diary products★
(b) Fresh vegetables
(c) Whole grain cereals
(d) Citrus fruits

25. Guava is a rich source of
(a) Vitamin C (b) vitamin D
(c) Vitamin A★ (d) Calcium

26. Which of the following vitamins is useful in Osteoimalacia?
(a) Vitamin D★ (b) Vitamin B_{12}
(c) Vitamin A (d) Vitamin C

27. Which of the following is *not* a source of Vitamin C?
(a) Potato (b) Tomato
(c) Guava (d) Milk★

28. Vitamins acts as
(a) Ribonucleic Acid★ (b) Enzyme
(c) Co-enzyme (d) Amino Acid

29. Lack of vitamin D causes which of the following diseases.
(a) Beri Beri★ (b) Scurvy
(c) Rickets (d) Anaemia

30. Milk, cheese and eggs are the source of vitamins?
(a) B and C (b) A and C
(c) C and D (d) A and D★

31. Which vitamin gets destroyed on heating?
(a) A (b) E
(c) C★ (d) K

32. The human body needs the following vitamins. Arrange them in the increasing order of their requirement.
1. Vitamin A 2. Vitamin D
3. Vitamin E 4. Vitmain K
(a) 1, 2, 3, 4 (b) 4, 3, 2, 1★
(c) 3, 1, 2, 4 (d) 4, 2, 1, 3

33. Healing of wounds is hastened by vitamin:
(a) A (b) C★
(c) E (d) K

34. The richest source of vitamin D is:
(a) Cod liver oil★ (b) Spinach
(c) Milk (d) Cheese

35. Which of the following vitamins is synthesised in the body by intestinal bacteria?
(a) Vitamin B_1 (b) Vitamin B_4
(c) Vitamin D (d) Vitamin K★

36. Vitamin A is present in?
(a) Liver
(b) Milk
(c) Green vegetables
(d) All★

37. Cow milk is a rich source of:
(a) Vitamin A★ (b) Vitamin B
(c) Vitamin C (d) Vitamin D

38. Which Vitamin is known as Ascorbic Acid?
(a) A (b) B
(c) K (d) C★

39. Deficiency of vitamin A in man may result in:
1. Short stature
2. Night blindness
3. Colour blindness
4. Xeropthalmia
(a) 1 and 4 (b) 2 and 4★
(c) 1 and 3 (d) 3 and 4

40. Which vitamin is provided by sunlight to the body?
(a) Vitamin A (b) Vitamin B
(c) Vitamin C (d) Vitamin D★

DISEASES

1. Approximately, how many times each day do our heart valves open and close normally?
(a) 10,000 times
(b) 1,00,000 times★
(c) 1,50,000 times
(d) 2,00,000 times

2. Patients with stickle cell anemia are homozygous for a/an
(a) Abnormal gene located on sex chromosome★
(b) Normal gene located on sex chromosome
(c) Abnormal gene located on autosomal chromosome
(d) Normal gene located on autosomal chromosome

3. Quantity of fresh air required for man is
(a) 1000 cubic feet of air for every 20 minutes★
(b) 1000 cubic feet of air for every 20 seconds
(c) 1000 cubic feet of air for every 10 minutes
(d) 1000 cubic feet of air for every 10 seconds

4. The famous Irish famine of potato was caused by
(a) Phytophthora★
(b) Synchrytrium
(c) Pythium
(d) Pseudomonas

5. Ergot of grains is caused by the pathogen known as
(a) Claviceps★ (b) Puccinia
(c) Ustilago (d) Xanthomonas

6. Which two organs glands are affected by malaria?
(a) Lungs and heart
(b) Spleen and liver★

(c) Kidneys and lungs
(d) Heart and brain

7. Pyorrhoea is a disease of the
(a) Nose (b) Gums★
(c) Heart (d) Lungs

8. Rickets is a disease of the
(a) Bones★ (b) Tissue
(c) Muscles (d) Blood

9. Which of the following diseases has posed a serious threat the world over?
(a) Tumour (b) Paralytic stroke
(c) AIDS★ (d) Tuberculosis

10. BCG vaccine is used to produce immunity against
(a) Whooping cough
(b) Tubreculosis★
(c) Virus fever
(d) Smallpox

11. Primarily, which one of the following systems of the body is attacked by the HIV?
(a) Cardiovascular (b) Immune★
(c) Respiratory (d) Reproductive

12. What type of infection is tuberculosis?
(a) Viral (b) Bacterial★
(c) Fungal (d) Parasitic

13. Dialysis is used for the treatment of
(a) Kidney failure★ (b) Heart weakness
(c) Brain diseases (d) None

14. What is the disease partussis commonly known as?
(a) Poliomyelitis (b) Whooping cough★
(c) Cholera (d) Hepatitis

15. The decreased secretion of insulin causes
(a) Beri beri (b) Rickets
(c) Anemia (d) Diabetes★

16. Iron deficiency causes
(a) Bone deformity
(b) Irregular heart beat
(c) Tooth decary
(d) Anaemia★

17. Disease beri beri is because of
(a) Lack of green vegetables in diet
(b) Use of milled rice★
(c) Deficiency of calcium in bones
(d) Poor use of citrus fruits

18. A hereditary disease in which the affected person is unable to use glucose in its body metabolism is
(a) Sickle cell anaemia (b) AIDS
(c) Diabetes mellitus★ (d) Haemophilia

19. Cataract is a disease which is due to
(a) A defect in the optic nerve
(b) Inflammation in the eye
(c) Opacity of cornea★
(d) Opacity of lens

20 "Parkinson" is a disease of:
(a) Brain★ (b) Heart
(c) Lungs (d) Bones

21. Doctors advise that excess intake of tomatoes, eggs, milk, cabbage, etc. should be avoided in case of persons with kidney stones, bladder stones, etc. to prevent the formation of crystals of
(a) Calcium phosphate
(b) Calcium oxalate★
(c) Calcium chloride
(d) Calcium sulphate

22. Which of the following is *not* caused by bacteria?
(a) Tetanus (b) Whooping Cough
(c) Pneumonia (d) Rabies★

23. Which of the following is caused by bacterial infection?
(a) Malaria (b) Tetanus★
(c) Cancer (d) Rabies

24. Which of the following diseases induces immunity?
(a) Smallpox★ (b) Jaundice
(c) Diabetes (d) Tuberculosis

25. Anaemia is caused in man due to the deficiency of
(a) Folic acid (b) Vitamin A
(c) Vitamin B-12 (d) Iron★

26. Acquired Immunal Deficiency Syndrome (AIDS) is caused by
(a) Protozoa (b) Virus★
(c) Fungus (d) Bacteria

27. ECG is used for the diagnosis of ailment of the
(a) Brain (b) Heart★
(c) Kidneys (d) Lungs

28. Haemophilia means failure of the
(a) Heart to contract
(b) Kidney to filter
(c) Blood to clot★
(d) Stomach to digest

29. Consider the following diseases:
1. Pellagra 2. Albinism
3. Cirrhosis 4. Beriberi
Which of these are nutritional deficiency diseases?
(a) 1, 2, 3 and 4 (b) 2 and 3
(c) 1 and 4★ (d) 1 and 3

30. AIDS virus has
(a) Single-stranded RNA★
(b) Double-stranded RNA
(c) Single-stranded DNA
(d) Double-stranded DNA

31. Deficiency diseases are caused due to the deficiency of
(a) Proteins (b) Vitamins★
(c) Carbohydrates (d) Fats

32. Hepatitis is a disease of which of the following organ?
(a) Heart (b) Liver
(c) Lungs★ (d) Brain

33. Goitre is associated with
(a) Thyroid glands★
(b) Pituitary glands
(c) Para-thyroid glands
(d) Thymus glands

34. Which of the following is not a contagious disease?
(a) Measles (b) Hysteria★
(c) Typhoid (d) Influenza

35. The Bacteriophages are
(a) Virus that attacks bacteria★
(b) Virus that attacks insect
(c) Bacteria that attacks plant
(d) Bacteria that attacks insect

36. Bronchitis is a disease of which of the following organs?
(a) Blood (b) Bladder
(c) Liver (d) Respiratory tract★

37. Cylindrical glasses are advised to a patient suffering from
(a) Hypermetropia (b) Myopia
(c) Astigmatism★ (d) Night blindness

38. Myopia is a defect of vision, blurring
(a) Close objects
(b) Distant objects★
(c) Coloured objects
(d) Identification of objects in dim light
(e) None

39. Meaningitis is a disease of human beings that affects
(a) Kidney
(b) Heart
(c) Liver
(d) Central Nervous system★

40. Which one of the following diseases is genetically linked?
(a) Epilepsy (b) AIDS
(c) Colour blindness★ (d) Leucoderma

41. Which of the following diseases is caused by virus?
(a) Smallpox★ (b) Thyroid
(c) Sleeping sickness (d) Diphtheria

42. Diabetes is a disease in which the urine lacks
(a) Pencillin (b) Streptomycin
(c) Thyroxin (d) Insulin★

43. Jaundice affects the
(a) Lungs (b) Liver★
(c) Kidneys (d) Heart

44. The improper function of which of the following results in condition 'Myxedema' in human beings?
(a) Adrenal gland (b) Pancreas
(c) Liver (d) Thyroid gland★

45. Match the following:

	Disease	Organism
A.	Cholera	1. Bacterium
B.	Mumps	2. Fungus
C.	Ringworm	3. Protozoa
D.	Sleeping sickeness	4. Virus

	A	B	C	D		A	B	C	D
(a)	1	4	2	3★	(b)	1	2	4	3
(c)	3	4	2	1	(d)	3	2	4	1

46. Which of the following combinations are incorrect?
1. Asthma - Lung
2. Influenza - Respiratory tract
3. Rickets - Pancreas
4. Malaria - Spleen
(a) 1 and 2 (b) 1 and 3
(c) 2 and 4 (d) 3 and 4★

47. Which of the following diseases is hereditary?
(a) Dysentery (b) Tuberculosis
(c) Haemophislia★ (d) Cancer

48. Which one of the following sets is correctly matched?
(a) Diphtheria, Pneumonia and Leprosy : Hereditary
(b) AIDS, Syphilis and Gonorrhoea: Bacterial
(c) Colour blindness, Haemophilia and Sickle cell anaemia : Sex linked★
(d) Polio, Japanese B ancephalitis and Plague : Viral

49. Which of the following symptoms are most likely to be observed in a person suffering from scurvy?
1. Swelling and bleeding of gums
2. Dry and scaly skin
3. Decreased resistance to cold
4. Soreness of mouth
(a) 1 and 3★ (b) 2 and 4
(c) 1, 3 and 4 (d) 1, 2 and 3

50. Which one of the following is the correct group of diseases exclusively caused by virus?
(a) Measles, syphilis, rabies, cholera
(b) Poliomyelitis, syphilis, chicken pox, mumps
(c) Cholera, tuberculosis, meningitis, syphilis
(d) Measles, small pox, mumps, rabies★

51. Which of the following diseases is caused by the bite of a mad dog?
(a) Hydrocele
(b) Hydrophobia★
(c) Hydrocephatus
(d) Hydroperitoneum

52. Which of the following is skin disease?
(a) Anaemia (b) Pellagra★
(c) Osteomalacia (d) Rickets

53. Match the following:

A. Typhoid	1. Bacteria
B. Malaria	2. Virus
C. AIDS	3. Protozoa
D. Ringworm	4. Worms
	5. Fungi

	A	B	C	D		A	B	C	D
(a)	2	3	5	2	(b)	1	3	2	5★
(c)	3	1	2	4	(d)	1	2	3	4

54. A person having obesity is more likely to suffer from which of the following diseases?
1. Hypertension 2. Diabetes
3. Coronary attack
(a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) all of above★

55. Match the following:

A. Air-borne	1. Tetanus
B. Water-borne	2. Tuberculosis
C. Contact	3. Cholera
D. Wound	4. Syphilis

	A	B	C	D		A	B	C	D
(a)	4	3	2	1	(b)	3	2	4	1
(c)	2	3	4	1★	(d)	2	3	1	4

56. Three communicable diseases prevalent in developing countries caused by unsafe drinking water and bad sanitation are:
(a) Malaria, acute diarrhoea and schistosomiasis★
(b) Rheumatism, malaria and AIDS
(c) Acute diarrhoea, cancer and gout
(d) Onchocerciasis, leukemia and arthritis

57. Oncogene is responsible for:
(a) AIDS (b) Typhoid
(c) Malaria (d) Cancer★

58. Which of the following statements about AIDS is correct?
(a) It does not affect women
(b) It generally affects the brain
(c) AIDS virus can vary its genetic code outwitting a vaccine★
(d) All those infected by a blood transfusion get AIDS witnin five years

59. Which of the following is a fungal disease?
(a) Ringworm★ (b) Leucoderma
(c) Elephantiasis (d) None

60. Which of the following is least infectious?
(a) Leprosy★ (b) Hepatitis
(c) Tuberculosis (d) Conjunctivitis

61. Which of the following is not a mosquito borne disease?
(a) Dengue fever (b) Malaria
(c) Sleeping sickness★ (d) Filariasis

62. Match the following

A.	Typhoid	1.	Metabolic disorder
B.	Measles	2.	Bacteria
C.	Malaria	3.	Virus
D.	Diabetes	4.	Protozoa

	A	B	C	D		A	B	C	D
(a)	2	3	4	1★	(b)	1	2	3	4
(c)	3	2	4	1	(d)	4	3	2	1

63. Which of the following diseases is/are likely to spread in the entire community if a leaky septic tank contaminates the water supply?
1. Cholera 2. Typhoid
3. Tuberculosis 4. Leprosy
(a) 1 only (b) 1 and 2★
(c) 1, 2 and 4 (d) 2, 3 and 4

64. A girl ate sweets while fanning the flies away. Due to this, she suffered from a disease diagnosed as:
(a) Kwashiorkar (b) Tuberculosis
(c) Diphtheria (d) Cholera★

65. The virus of AIDS affects the growth of:
(a) Haemoglobin
(b) RBCs in blood
(c) T cells in blood★
(d) Grey cells in brain

66. Cirrhosis is a disease that affects:
(a) Heart (b) Liver★
(c) Brain (d) Lungs

67. Which of the following statements is true with respect to Leukaemia:
(a) Number of RBCs increases in blood
(b) Number of WBCs increases in blood★
(c) Number of both RBCs and WBCs decreases in blood
(d) Number of WBCs decreases in blood

68. Which of the following are affected by AIDS?
1. Blood circulatory system
2. Nervous system
3. Immune system
4. Respiratory system
(a) 1, 2 and 3 (b) 2, 3 and 4
(c) 1, 2 and 4 (d) 1, 3 and 4★

69. Alzheimer's disease in human beings is characterised by the degeneration of:
(a) Kidney cells (b) Nerve cells★
(c) Brain cells (d) Liver cells

70. A round worm that enters man's body through the soles of the feet is:
(a) Leech (b) Hookworm★
(c) Tapeworm (d) Trichina

71. Which of the following diseases is characterised by inflammation of the membranes covering the brain and spinal cord?
(a) Hepatits (b) Sinusitis
(c) Tonsilitis (d) Meningitis★

72. Amnesia is related to:
(a) Sleeping sickness
(b) Loss of sight
(c) Loss of hearing
(d) Loss of memory★

73. A form of heart disease in which blood supply to the heart is inadequate is known as:
(a) Hepatitis (b) Alpoecia
(c) Angina★ (d) Pericarditis

74. A person suffering from Beri-Beri should take
(a) Unpolished rice, green vegetables, yeast
(b) Egg yolk, fish, green vegetables
(c) Citrus fruit, mangoes, grapes★
(d) Sweet potato, meat and milk

75. Heart attack is caused due to
(a) Blood sugar (b) Cholesterol★
(c) Blood protein (d) Blood urea

76. Which of the following pairs is incorrect?
(a) Plague: Rat
(b) Rabies: Dog
(c) Tapeworm: Pig
(d) Poliomyelitis: Monkey★

77. Meningitis is caused by
(a) Fungi (b) Salmonella
(c) Meningococcus ★ (d) Virus menin

78. In which of the following diseases do the germs enter through open wounds?
(a) Malaria (b) Tuberculosis
(c) Typhoid (d) Tetanus★

79. Diabetes is caused due to the malfunctioning of:
(a) Liver (b) Kidneys
(c) Pancreas★ (d) Spleen

80. Which of the following diseases usually spreads through milk?
(a) Tuberculosis★ (b) Jaundice
(c) Diphtheria (d) Cholera

81. Which of the following diseases is/are sexually transmitted?
1. Syphilis 2. Gonorrhoea
3. AIDS
(a) 1 and 3 (b) 2 and 3
(c) 3 only (d) 1, 2 and 3★

82. Urine of a diabetes patient contains more than average quality of which of the following?
(a) Sugar★ (b) Uric acid
(c) Urea (d) Albumin

83. Protein which renders a cell less susceptible to attack by viruses is called
(a) Actomyosin (b) Chloromycetin★
(c) Hybridoma (d) Inferon

84. Optic fibres are used in
(a) CAT scans (b) X-ray photos
(c) Ultrasound scans (d) Endoscopy★

85. AIDS is confirmed by
(a) HIV +★
(b) HIV –
(c) Blood grouping
(d) Blood cell counting

86. The best medicine to inject in the case of snake bite is
(a) Antivenin★ (b) Streptomycin
(c) Penicillin (d) Antibiotic

87. Which of the following can be called an example of natural selection in action?
(a) Production of high-yielding varieties of wheat
(b) Increasing incidence of DDT-resistant mosquitoes★
(c) Eradication of smallpox
(d) Extinction of some animals such as cheetah

88. Three communicable diseases prevalent in developing countries caused by unsafe drinking water and bad sanitation are
(a) Acute diarrhea, cancer and gout
(b) Malaria, acute diarrhoa and schistosomiasis★
(c) Onchocerciasis, leukemia and arthritis
(d) Rheumatism, malaria and AIDS

89. Which of the following disease is not water-borne?
(a) Cholera (b) Influenza★
(c) Amoebiasis (d) Typhoid

90. Lock Jaw, i.e., difficulty in opening the mouth is a symptom of
(a) Plague (b) Tetanus★
(c) Cholera (d) None

91. The disease in which bronchial tubes become narrow due to spasms of bronchial muscles is called
(a) Influenza (b) Asthma★
(c) Diphtheria (d) None

92. Which of the following medicines is administered to patients suffering from diabetes?
(a) Penicillin (b) Insulin★
(c) Sulpha drugs (d) Streptomycin

93. Which of the following diseases occur due to consumption of contaminated water?
(a) Cholera★ (b) Influenza
(c) Malaria (d) Tuberculosis

94. Fluorine deficiency in human beings leads to
(a) Dental caries★ (b) Fluorosis
(c) Fibrosis (d) Follicular necrosis

95. AIDS virus destroys the ——— system of the human body.
(a) Circulation (b) Immune★
(c) Digestion (d) Brain

96. When AIDS is diagnosed, the patient may live for about
(a) Ten years (b) Seven years
(c) Five years (d) Two years★

97. Which one of the following plant diseases is an iron deficiency disease?
(a) Dropsy (b) Chlorosis★
(c) Die-back (d) Sunsclad

98. The disease caused by high soil temperature in potato is
(a) Early blight (b) Late blight
(c) Crinkle (d) Black heart★

99. Where does the oxygen that keeps us alive come from?
(a) Carbon dioxide★
(b) Carbonates absorbed from soil
(c) Oxides of minerals
(d) Water

100. Typhoid and cholera are typical examples of
(a) Infection diseases
(b) Air-borne diseases
(c) Water-borne diseases★
(d) None

CHEMISTRY
INTER LEVEL

THERMO-CHEMISTRY

1. The type of work most commonly encountered in chemistry is:
   (a) mechanical work
   (b) negative work
   (c) chemical work
   (d) pressure volume work★
2. The heat contents of all elements in their standard states are taken to be:
   (a) zero★ (b) unity
   (c) hundred (d) infinity
3. Standard enthalpy changes are measured at:
   (a) 298°C (b) 273°C
   (c) 298 K★ (d) 298°F
4. Which of the following forms of carbon has least enthalpy at 25°C?
   (a) diamond (b) graphite★
   (c) coal (d) coke
5. The heat content of a system is called:
   (a) enthalpy★ (b) entropy
   (c) internal energy (d) free energy
6. Bond breaking is always:
   (a) exothermic (b) endothermic★
   (c) isothermic (d) none of above
7. The process of bond formation is alway:
   (a) exothermic★ (b) endothermic
   (c) isothermic (d) none of above
8. The amount of heat evolved or absorbed during a chemical change is called:
   (a) heat of formation
   (b) heat of reaction★
   (c) internal energy
   (d) activation energy
9. During an exothermic reaction, heat is
   (a) conserved (b) absorbed
   (c) evolved★ (d) none of the above
10. During an endothermic reaction, the temperature of the system:
    (a) falls★ (b) rises
    (c) may rise or fall (d) is conserved
11. Formation of CO_2 from C and O_2 is:
    (a) exothermic★ (b) endothermic
    (c) isothermic (d) thermodynamically not feasible
12. The ignition of a mixture of petrol and air in a motor engine evolves a large amount of heat, a part of which is converted into:
    (a) light energy (b) mechanical work★
    (c) electricity (d) sound
13. In a galvanic cell, chemical energy is converted into:
    (a) light (b) sound energy
    (c) work (d) electric current★
14. Reaction between carbon and water to yield CO and H_2 is:
    (a) energetically not possible
    (b) isothermic
    (c) endothermic★
    (d) exothermic
15. Oxidation of iron to ferric oxide is:
    (a) exothermic★ (b) endothermic
    (c) isothermic (d) none of the above
16. Oxyacetylene flame converts chemical energy into:
    (a) heat★
    (b) work
    (c) electrical energy
    (d) potential energy
17. The subject matter of thermochemistry is based on:
    (a) quantum mechanics
    (b) thermodynamics★
    (c) thermostatics
    (d) chemical kinetics
18. When the heat evolves a chemical change, the heat of reaction is indicated with a:
    (a) positive sign (b) negative sign★
    (c) equality sign (d) an arrow
19. When the reaction is endothermic, heat of reaction is:

(a) positive★ (b) negative
(c) zero (d) none of the above

20. A process which takes place on its own without any outside assistance from a non-equibrium towards an equilibrium state, is called:
(a) exothermic (b) endothermic
(c) isothermic (d) natural★

21. A natural process is also referred to as:
(a) spontaneous★ (b) non-spontaneous
(c) exothermic (d) endothermic

22. A spontaneous process is:
(a) unidirectional (b) irreversible
(c) real (d) all of the above★

23. Neutralization of a strong acid with a strong base is a spontaneous:
(a) redox reaction
(b) combustion reaction
(c) endothermic reaction
(d) acid base reaction★

24. Daniel cell generates electricity by utilizing a spontaneous:
(a) redox reaction★
(b) acid base reaction
(c) combustion reaction
(d) hydrolytic reaction

25. Burning of coal is a:
(a) spontaneous process
(b) non-spontaneous process
(c) natural process
(d) Both A or B★

26. The reverse of a spontaneous process is called:
(a) natural process
(b) exothermic process
(c) non-spontaneous process★
(d) limiting process

27. The process of refrigeration is:
(a) exothermic (b) spontaneous
(c) natural (d) non-spontaneous★

28. Which of the following is not spontaneous:
(a) burning of coal
(b) condensation of steam
(c) melting of ice
(d) oxidation of N2 to NO★

29. Which of the following is not true for a non-spontaneous process:
(a) it's always endothermic
(b) it's associated a an increase in heat
(c) it requires energy
(d) it's not possible what so ever★

30. The process of vapourisation of water is:
(a) spontaneous★ (b) non-spontaneous
(c) exothermic (d) isothermic

31. Spontanity of a process can be predicted from a knowledge of:
(a) heat of reactions
(b) free energy of systems★
(c) chemical equilibrium
(d) chemical kinetics

32. Anything under consideration and argumentation may be called:
(a) system★ (b) surroundings
(c) state (d) condition

33. Everything outside the system may be regarded as:
(a) co-system (b) state
(c) surroundings★ (d) observation

34. By state, we mean
(a) system
(b) surroundings
(c) walls of the system
(d) condition of the system★

35. _____ is a macroscopic property of a system which has some definite values for initial and final states and which is .independent of path, followed that brings about a change:
(a) state function★
(b) chemical reactivity
(c) rate of a reaction
(d) all of the above

36. Which of the following is not a state function?
(a) internal energy (b) enthalpy★
(c) entropy (d) reaction rate

37. The branch of science which deals with energy transformation is known as:
(a) thermometry
(b) mechanics
(c) thermodynamics★
(d) energetics

38. Change in the internal energy ·E of a system during a change from initial state A to final state B is given by:
(a) $\Delta E = E_A - E_B$ (b) $\Delta E = E_B - E_A$★

(c) $\Delta E = E_A . E_B$ (d) $\Delta E = \frac{E_B}{E_A}$

39. A state function is:
(a) independent of initial and final state
(b) dependent upon the path followed during change
(c) dependent upon tane
(d) independent of time★

40. Which of the following is a state function?
(a) temperature (b) pressure
(c) enthalpy (d) all of the above★

41. The sum of all the energies of all the atoms, molecules or ions within a system is called:
(a) internal energy★
(b) system energy
(c) enthalpy of system
(d) free energy

42. The change in internal energy of a system is:
(a) a state function
(b) thermodynamic property
(c) depends upon initial and final state of the system
(d) all of the above★

43. Which of the following is not a state function?
(a) entropy (b) enthalpy
(c) heat★ (d) temperature

44. The amount of energy that flows across the boundary of a system during a change in state due to temperature differences between system and surroundings is called:
(a) heat★ (b) internal energy
(c) work (d) enthalpy

45. Heat evolved or absorbed by the system is represented by:
(a) H (b) Q
(c) q★ (d) t

46. Work, w, is defined as:
(a) F·S (b) F.S★
(c) (d) F + S

47. Work is a product of force and:
(a) time (b) momentum
(c) temperature (d) distance★

48. Work is expressed in units same as that of:
(a) heat★ (b) power
(c) force (d) plank's constant

2. A state function represents:
(a) physical state
(b) chemical state
(c) inertial state
(d) thermodynamic state★

50. Work done by a system is given by:
(a) $w = P \Delta V$ (b) $W = -P \Delta V$★
(c) $W = -\frac{P}{\Delta V}$ (d) $W = -\frac{\Delta V}{p}$

ELECTROCHEMISTRY

1. In which of the following oxides, the oxidation state of oxygen is -
(a) normal oxides (b) peroxides
(c) super oxides ★ (d) pentoxides

2. The oxidation number of Mn in $KMnO_4$ is
(a) -4 (b) +4
(c) +6 (d) +7★

3. HCl in fused state is
(a) ionized (b) not ionized ★
(c) non-electrolyte (d) basic

4. Conversion of chemical energy into electrical energy is done using
(a) galvanic cell (b) voltaic cell
(c) electrolytic cell (d) both a & b ★

5. A galvanic cell produces electricity using a sponetaneous
(a) hydrolytic reaction
(b) redox reaction ★
(c) combustion process
(d) catalysis

6. Conventional current is considered to be caused by the flow of
(a) ions (b) positive charge ★
(c) electrons (d) neutrons

7. Metallic conduction involves flow of
(a) protons (b) positrons
(c) electrons★ (d) neutrons

8. In fused state or aqueous solution, electrolytes split up into charged particles called
(a) ions ★ (b) atoms
(c) molecules (d) elementary particles

9. An ion carrying a positive charge is called
(a) proton (b) anion
(c) cation ★ (d) zwitterion

10. Ions carrying negative charge are termed

(a) electrons (b) protons
(c) cations (d) anions ★

11. In an electrolytic cell, cations are attracted towards
(a) anode (b) cathode ★
(c) both a & b (d) none of above

12. During electrolysis, anions are attracted towards
(a) anode ★ (b) cathode
(c) both a & b (d) none of the above

13. During electrolysis, oxidation takes place
(a) at anode★ (b) at cathode
(c) in the solution (d) outside the cell

14. During electrolysis, cations move towards cathode where they are
(a) oxidized (b) reduced ★
(c) anhiliated (d) quantified

15. A chemical species, overall neutral, having regions of opposite charge on the same molecule is called
(a) cation (b) anion
(c) zwitterions ★ (d) partial ions

16. Amino acids at physiological pH are
(a) positively charged
(b) negatively charged
(c) uncharged
(d) zwitterions ★

17. Aqueous solution of _____ conduct electricity
(a) electrolytes ★
(b) non-electrolytes
(c) organic solvents
(d) gases

18. During electrolysis, oxidation takes place
(a) at anode ★
(b) at cathode
(c) in solution
(d) at solution – air interface

19. Oxidation involves
(a) gain of electron
(b) addition of hydrogen
(c) loss of electron★
(d) removal of oxygen

20. Reduction involves
(a) addition of oxygen
(b) removal of hydrogen
(c) loss of electron
(d) gain of electron ★

21. The electro chemical reaction that occurs at the electrode during electrolytic conduction constitute the phenomenon of
(a) spectrometry (b) electrophoresis
(c) electrolysis ★ (d) electrophonia

22. Electrolysis of $PbBr_2$, yields Pb
(a) at anode
(b) at cathode ★
(c) at liquid-atmosphere interface
(d) in solution

23. A voltaic or galvanic cell consists of two half cells which are connected
(a) electrically ★ (b) mechanically
(c) physically (d) chemically

24. A cell used for the generation of electricity from chemical energy is called
(a) galvanic cell (b) voltaic cell
(c) electrolytic cell (d) both a & b ★

25. The instrument used for the measurement of potential difference between two points is called
(a) galvanometer (b) ammeter
(c) voltmeter ★ (d) wheatstone bridge

26. The two half cells of a galvanic cell are connected by means of
(a) salt bridge ★
(b) wheatstone bridge
(c) semipermeable membrane
(d) metallic strip

27. The salt bridge of zinc-copper cell contains an aqueous solution of
(a) KCl ★ (b) KOH
(c) $ZnSO_4$ (d) $CuSO_4$

28. In zinc copper cell, the flow of electrons in the external circuit is directed
(a) from Zinc to $ZnSO_4$
(b) from Cu top $CuSO_4$
(c) from Zn to Cu electrode ★
(d) from Cu to Zn electrode

29. In Zn-Cu cell, which electrode takes on a positive charge
(a) zinc
(b) copper ★
(c) both carries – re charge
(d) both are uncharged

30. In a reversible Zn-Cu galvanic cell, oxidation takes place at
(a) Cu electrode ★

(b) Zn electrode
(c) both Cu & Zn electrodes
(d) none of the above

31. The potential set up when an electrode is in contract with 1M solution of its own ions at 298K is known as
(a) absolute potential
(b) standard electrode potential
(c) standard reduction potential
(d) both b & c ★

32. Standard E_o values are taken at
(a) 0oC (b) 14oC
(c) 25oC★ (d) 100oC

33. Zinc rod in $ZnSO_4$ solution carries
(a) positive charge (b) negative charge ★
(c) no charge (d) none of the above

34. Standard electrode potential of hydrogen is arbitrarily chosen as
(a) zero ★ (b) unity
(c) 12 volts (d) infinity

35. A rod of zinc in zinc sulphate solution will attract an atmosphere of positively charge zinc ions around itself to form an
(a) electric equilibrium
(b) electrical double layer ★
(c) ionic cloud
(d) electric partitioning

36. The apparent charge, positive or negative, which an atom would have in a compound is called
(a) reduction potential
(b) valence
(c) ionization potential
(d) oxidation state ★

37. The valence of an atom and its oxidation number is
(a) same
(b) different & independent
(c) different but dependent ★
(d) same but unrelated

38. The oxidation number of a free elements is
(a) 0★ (b) 1
(c) 2 (d) 3

39. The oxidation number of hydrogen in its diatomic state is
(a) zero★ (b) +1
(c) -1 (d) +2

40. The oxidation number of hydrogen in water is
(a) zero (b) +1★
(c) -1 (d) $\frac{1}{2}$

41. The oxidation number of hydrogen in NaH is
(a) zero (b) +1
(c) -1★ (d) -2

42. Which group of ions has -1 as normal oxidation state
(a) alkali metals
(b) alkaline earth metals
(c) noble gases
(d) halogens ★

43. +2 is the oxidation state of the normal ions of
(a) alkali metals
(b) alkaline earth metals★
(c) actinides
(d) lanthanides

44. Oxidation state of Al in AlCl3 is
(a) +1 (b) +2
(c) +3★ (d) -1

45. The oxidation number of each element of group I –A, II-A and III-A respectively, are
(a) +1, +2, +3★ (b) +1, -2, +3
(c) -1, -2, -3 (d) +3, +2, +1

46. Sum of oxidation numbers of atoms of the elements making up an ionic species is equal to
(a) zero
(b) charge of the ion★
(c) charge of the counter ion
(d) none of the above

47. The oxidation state of oxygen in OF_2 is
(a) -2 (b) -1
(c) $-\frac{1}{2}$ (d) +2★

48. The oxidation number of oxygen in peroxides
(a) -2 (b) -1★
(c) $-\frac{1}{2}$ (d) +2

49. According to Arrhenius theory of ionization complete ionization of electrolyte could only be attained at
(a) maximum saturation
(b) infinite dilution ★

(c) low pressure
(d) absolute zero

50. The electrical conductivity of an electrolyte is proportional to
(a) degree of dissociation
(b) concentration of electrolyte
(c) temperature
(d) all of the above ★

BASIC CONCEPTS

1. 40.92% carbon, 4.58% hydrogen and 54.5? of oxygen by mass, are the components of:
(a) Ascorbic acid★ (b) Citric acid
(c) Oxalic acid (d) Maleic acid

2. To get the number of gram atoms, divide the masses of elements by their _____.
(a) Formula masses
(b) Molecular masses
(c) Atomic masses★
(d) None of them

3. Dextrose is chemically
(a) L-Glucopyranose
(b) D-Glucopyranose★
(c) protein
(d) None of them

4. Dextrose is
(a) Monosaccharide★
(b) Disaccharide
(c) Trisaccharide
(d) Polysaccharide

5. Molar mass of Dextrose is
(a) 160 amu (b) 170 amu
(c) 180 amu★ (d) 210 amu

6. Aspartame (Artificial sugar) is
(a) Beneficial for health
(b) Dangerous for health
(c) Used commercially unfortunately
(d) Both 'b' and 'c'★

7. Commercial name of calcium hydroxide is
(a) Lime stone (b) Slaked line
(c) Lime water (d) Both b and c★

8. What is the molecular formula of serotonin?
(a) $C_{10}H_{12}N_2O$★ (b) $C_{10}H_{12}N_4O$
(c) $C_{10}H_{12}N_6O_2$ (d) $C_{10}H_{12}N_8O_4$

9. Which of the following element contain 20 electrons, 20 protons and 20 neutrons?
(a) Sodium (b) Calcium★
(c) Silver (d) None of them

10. Mass number of calcium (Ca) is
(a) 40★ (b) 30
(c) 60 (d) 70

11. Masses of atoms range from _____ Kg.
(a) 10^{-23} to $10\times^{-21}$ (b) 10^{-19} to $10\times^{-17}$
(c) 10^{-17} to $10\times^{-15}$ (d) 10^{-27} to $10\times^{-25}$★

12. 1 atomic mass unit =
(a) 1.361×10^{-27}kg (b) 1.461×10^{-27}kg
(c) 1.561×10^{-27}kg (d) 1.661×10^{-27}kg★

13. The number of _____ present in a molecule determine its atomicity.
(a) Atoms★ (b) Ions
(c) Electron (d) None of them

14. Molecules can be
(a) Monoatomic (b) Diatomic
(c) Triatomic (d) All of them★

15. Which of the following elements/compounds have one, two or more same type of atoms?
(a) He (b) Cl_2★
(c) HCI (d) both A & B

16. Which of the following molecules consist of different kind of atoms?
(a) NH_3 (b) H_2SO_4
(c) $C_6H_{12}O_6$ (d) all of them ★

17. Haemoglobin is a _____ found in blood.
(a) Micromolecule (b) Macromolecule★
(c) Atom (d) None of them

18. Haemoglobin helps to carry _____ from lungs to all parts of the body.
(a) Carbondioxide (b) Water
(c) Oxygen★ (d) None of them

19. Each molecule of haemoglobin is 68,000 times heavice than a _____ atom.
(a) Oxygen (b) Chlorine
(c) Hydrogen★ (d) Nitrogen

20. A sufficient amount of energy is to be provided to a _____ atom to ionize it.
(a) −ve charged (b) + ve charged
(c) Neutral★ (d) None of them

21. The number of +ve charges present of an ion depends upon:

(a) the number of electron gained by the atom
(b) the number of electron lost by the atom★
(c) the number of protons lost by the atom
(d) the number of protons gained by the atom

22. Formation of _____ ions is an endothermic process.
(a) Neutral (b) Positive
(c) Negative★ (d) All of them

23. Metal atoms form common positive ions are:
(a) Sodium (b) Positive
(c) Negative (d) All of them★

24. Anions are _____ ions:
(a) Positive (b) negative★
(c) Neutral (d) None of them

25. Formation of an _____ ions is an exothermic process:
(a) Inegative (b) Positive★
(c) Neutral (d) None of them

26. The _____ and _____ prossess different properties from their neutral atoms:
(a) Cations and neutral atoms
(b) Anions and neutral atoms
(c) Cations and Anions★
(d) None of these

27. The _____ ions having group of atoms are less common.
(a) Positive★ (b) Negative
(c) Neutral (d) None of them

28. Ions can be generated by passing high electron beam or alpha particles through a gas, are:
(a) Cationic ions★ (b) Anionic ions
(c) Neutral (d) None of them

29. Atomic mass unit is _____ of the mass of one carbon atom:
(a) $\frac{1}{10}$th (b) $\frac{1}{6}$th
(c) $\frac{1}{12}$th ★ (d) $\frac{1}{16}$th

30. On carbon –12 scale, the relative atomic mass of $_6C^{12}$ is _____ amu:
(a) 6.000 (b) 10.000
(c) 12.000★ (d) 16.000

31. The relative atomic mass of 1H1 is ____ amu:
(a) 1.0068 (b) 1.0078★
(c) 1.0088 (d) 1.0098

32. Which one of the following has lowest relative atomic mass?
(a) U★ (b) Cl
(c) Ne (d) Cu

33. Which one of the following has lowest relative atomic mass?
(a) O (b) Ne
(c) H★ (d) He

34. Protium, deuterium and tritium, are the isotopes of,
(a) Oxygen (b) Carbon
(c) Hydrogen★ (d) None of them

35. How many unstable radioactive isotopes have been produced through artificial disintegration?
(a) 280 (b) 300★
(c) 40 (d) None of them

36. The elements of ___ atomic number almost never possess more than two stable isotopes.
(a) odd★ (b) Even
(c) Both A & B (d) None of them

37. Out of 280 isotopes that occur in nature ___ have been mass numbers and even atomic numbers.
(a) 144 (b) 154★
(c) 164 (d) 174

38. O,Mg,Si,Ca and Fe form nearly _____% of the earth's crust.
(a) 50★ (b) 60
(c) 70 (d) 80

39. Which mass spectrometer was designed for the identification of elements which were available in solid state.
(a) Aston's mass spectrometer
(b) Dempster's mass spectrometer★
(c) Both A & B
(d) None of them

40. The substance whose analysis for the separation of isotopes is required, is converted into
(a) Solid state (b) Liquid state
(c) Gaseous state (d) Vapour state★

41. Positive ions are strongly attracted towards negative plate, when potential difference of _____ volts is applied between perforated accelerating plates.
(a) 100-500 (b) 200-700
(c) 500-2000★ (d) 600-2100

42. The mathematical relationship for $\left(\frac{m}{e}\right)$ is:
(a) $\frac{m}{e}=\frac{H^2r^2}{2E}$ ★ (b) $\frac{m}{e}=\frac{H^2r}{2E}$
(c) $\frac{m}{e}=\frac{Hr}{2E^2}$ (d) $\frac{m}{e}=\frac{H^2r}{E}$

43. Simple mass spectrometer consists of :
(a) neon gas inlet (b) magnet
(c) gas envelop (d) all of them★

44. The separation of isotopes can be done by the methods
(a) gaseous diffusion
(b) distillation
(c) ultracentrifuge
(d) all of them★

45. The % of an element is equal to
(a) $\frac{\text{Mass of element}}{\text{Mass of compound}}\times 100$ ★
(b) $\frac{\text{Mass of compound}}{\text{Mass of element}}\times 100$
(c) $\frac{\text{Mass of atom}}{\text{Mass of ion}}\times 100$
(d) $\frac{\text{Mass of compound}}{\text{Mass of element}}\times 50$

46. Percentage composition of a compound can also be determined theoretically if we know the _____ of the compound.
(a) Atomic mass (b) Molecular mass
(c) Formula mass★ (d)None of them

47. Empirical formula can be calculated by:
(a) Determination of percentage composition
(b) finding the no of gram atoms of each element
(c) Determination of atomic ratio of each element
(d) All of them★

48. Organic compounds containing simply _____ can be analyzed by combustion.
(a) C,H,N (b) C,H,O★
(c) H,N,O (d) H,S,N

49. Empirical formula of vitamin C is
(a) $C_3H_4O_3$★ (b) $C_3H_6O_3$
(c) $C_4H_8O_7$ (d) $C_6H_{12}O_6$

50. Molecular formula of Dextrose is
(a) $C_6H_{12}O_6$★ (b) $C_{12}H_{22}O_{11}$
(c) $C_6H_8O_7$ (d) None of them

LIQUIDS AND SOLIDS

1. What is the ·HV value of F2?
(a) +5.9kJ/mole★ (b) +30.1kJ/mole
(c) +15.1kJ/mole (d) + 22.00 kJ/mole

2. What is the ·HV value of CH_4?
(a) +16.9kJ/mole
(b) +8.60kJ/mole★
(c) + 22.00 kJ/mole
(d) +10.0kJ/mole

3. In which one of the following liquid crystal can be divided?
(a) nematic (b) smectic
(c) cholesteric (d) all of them★

4. At what temperature, ice exists in dynamic equilibrium with liquid water?
(a) ·25°C (b) 10°C
(c) 0°C★ (d) none of them

5. A situation when two opposing changes occur at equal rates is called:
(a) static equilibrium
(b) dynamic equilibrium★
(c) Both a and b
(d) none of; hem

6. What is the meaning of amorphous?
(a) shaped (b) volume
(c) shapeless★ (d) indefinite

7. Cleavage is _____ behaviour:
(a) anisotropic★ (b) isotropic
(c) parallel (d) none of them

8. On which of the following isomorphism does not depend?
(a) number of atoms
(b) chemical nature of atoms★
(c) both a and b
(d) none of them

9. Polymorphous have same:
(a) physical property
(b) chemical property★
(c) Both a & b
(d) none of them

10. Polymorphous have different:

(a) physical property★
(b) chemical property
(c) Both a & b
(d) none of them

11. What is the boiling point of fluorine?
(a) +191.6°C (b) -188.1°C★
(c) -198.6°C (d) -190.9°C

12. What is the physical state of hexane?
(a) gas (b) liquid★
(c) solid (d) plasma

13. Which one of the following has low acidic strength?
(a) HC1 (b) HBr
(c) HI (d) HF★

14. What is the physical state of H_2S and H_2Se at room temperature?
(a) gas★ (b) liquid
(c) solids (d) none of them

15. Which one of the following is more electronegative?
(a) fluorine★ (b) oxygen
(c) chlorine (d) none of them

16. How many lone pair are there in ammonia?
(a) zero (b) one★
(c) two (d) three

17. Which one is the best example of H-bonded system?
(a) ethyl alcohal (b) ethane
(c) water★ (d) none of them

18. What is the structure of water?
(a) tetrahedral★ (b) trigonal
(c) pyramidal (d) none of them

19. What happened to the density of freezed water?
(a) increases
(b) decreases★
(c) nothing happens
(d) none of them

20. The spontaneous change of a liquid into its vapour is called:
(a) evaporation★ (b) vapour pressure
(c) tension (d) none of them

21. Which one of the following is weakest intermolecular force?
(a) electrostatic force
(b) dipole dipole forces
(c) dipole induced dipole forces★
(d) ion-dipole forces

22. Evaporation of liquid increases when surface area.
(a) decreases
(b) increases★
(c) nothing happened
(d) none of them

23. What happened to rate of evaporation if intermolecular forces are weak?
(a) slow (b) faster★
(c) moderate (d) nothing happened

24. Which one of the following evaporates faster?
(a) gasoline★ (b) water
(c) both a & b (d) none of them

25. Pressure exerted by the vapour of the liquid in equilibrium with the liquid at given temperature is called:
(a) evaporation (b) vapour pressure★
(c) tension (d) none of them

26. On which one of the following vapour pressure doesn't depend:
(a) amount of liquid
(b) volume of container
(c) surface area of liquid
(d) all of them★

27. Which one is the most important parameter that controls vapour pressure of liquid?
(a) pressure (b) volume
(c) temperature★ (d) none of them

28. What is the vapour pressure of water at 70°C?
(a) 92.51 torr (b) 233.7 torr★
(c) 55.32 torr (d) 355.1 torr

29. What is the vapour pressure of water at 0°C?
(a) 4.579 torr★ (b) 527.8 torr
(c) 760.0 torr (d) 9.209 torr

30. The rate of change of____ with temperature is given by clausius clapeyron equation:
(a) vapour pressure★
(b) evaporation
(c) tension
(d) none of them

31. What is the vapour pressure of chloroform at 20°C?
(a) 580 torr (b) 442.2 torr
(c) 170 torr★ (d) 87 torr

32. What is the vapour pressure of mercury at 20°C?
(a) 43.9 torr (b) 0.012 torr★
(c) 0.00016 torr (d) 170 torr

33. At what temperature evaporation of water is possible?
(a) at all temperature★
(b) 0°C
(c) 50°C
(d) 100°C

34. In an open system what is the vapour pressure of water at 100°C and at sea level?
(a) 670mmHg (b) 760mmHg★
(c) 67mmHg (d) 700mmHg

35. What is the molar heat of vaporization of water?
(a) 40.7 kJ/mole★ (b) 14 kJ/mole
(c) 40.98 kJ/mole (d) 41 kJ/mole

36. What is the boiling point of acetic acid?
(a) 46.30°C (b) 118.50°C ★
(c) 184.4°C (d) 80.15°C

37. What is the boiling point of Ethanol?
(a) 78.26°C★ (b) 198.68°C
(c) 298.68°C (d) 200.0°C

38. The amount of heat required to vapourize one mole of a liquid at its boiling point is called:
(a) heat of vaporization
(b) molar heat of vapourization★
(c) boiling point
(d) none of them

39. What is the vapour pressure of diethyl ether at °C?
(a) 100 torr (b) 150 torr
(c) 200 ton★ (d) 250 torr

40. At what temperature water can hardly overcome its intermolecular forces?
(a) high temperature
(b) low temperature★
(c) moderate temperature
(d) none of them

41. What is the vapour pressure of water at 120°C?
(a) 1.089 torr (b) 1189 torr
(c) 1284 torr (d) 1489 torr★

42. What is the boiling point of water at 23.7 torr?
(a) 20°C (b) 200°C
(c) 25°C (d) 250°C★

43. What is the boiling point of water at the top of mount Everest?
(a) 25°C (b) 69°C
(c) 96°C★ (d) 52°C

44. At what temperature glycerine cannot be distilled?
(a) 260°C (b) 270°C★
(c) 280°C (d) 290°C

45. How enthalpy change is denoted?
(a) ΔE (b) ΔH★
(c) Δl, (d) none of them

46. Which one is the type of enthalpy change?
(a) molar heat of fusion
(b) molar heat of vapourization
(c) molar heat of sublimation
(d) all of them★

47. ·Hv for which one is highest amongst its family member?
(a) fluorine (b) chlorine
(c) iodine★ (d) astatine

48. What is the boiling point of Benzene?
(a) 70°C (b) 80°C★
(c) 90°C (d) 100°C

49. Which of the following is process of molar heat of fusion?
(a) endothermic★ (b) exothermic
(c) reversible (d) none of them

50. Which of the following molecules has highest value of molar heat of vapourization?
(a) ammonia (b) methoane
(c) water★ (d) none of them

ATOMIC STRUCTURE

1. According to which one law the frequency of spectral line in x-ray spectrum varies as the square of atomic number of an element emitting it?
(a) Chadwicklaw (b) Gold stein law
(c) Moselylaw★ (d) none of them

2. Who, arranged k and Al, Ni and Co in a proper way in Mendeleev periodic table
(a) Chadwich (b) Mosely★
(c) Goldstein (d) None of them

3. How many electrons can be accommodated in the outermost shell of an atom of any element?
(a) 2 (b) 8★
(c) 10 (d) zero

4. What are the shell number and sub-shell number of "4p"?
(a) Shell number = 4, Sub-shell number = s
(b) Shell number=4, Sub-shell number=p★
(c) Shell number = p, Sub-shell number = 4
(d) none of them

5. Which of the following statement is false?
(a) Higher the distance of shell from nucleus, lesser will be the energy of shell.
(b) Higher the distance of shell from nucleus, lesser will be the energy of shell. ★
(c) Lower the distance of shell from nucleus, lesser will be the energy of shell.
(d) Both 'a' and 'c'

6. Which of the following elements contain 20 electrons, 20 protons and 20 neutrons?
(a) Magnesium (b) Calcium★
(c) Sodium (d) Carbon

7. What is the electronic configuration of Bryllium?
(a) $1S^2, 2S^2$ (b) $1S^2, 2S^2$
(c) $1S^2, 2S^2$★ (d) $1S^2, 2S^1$

8. What is the electronic configuration of sodium?
(a) [Ne], $3S^1$
(b) [Ne], $3S^2$
(c) $1S^2, 2S^2, 2p^6, 3S^1$
(d) Both 'a' and 'c'★

9. The electronic configuration of an element depends upon.
(a) Atomic number★
(b) Mass number
(c) Both 'a' and 'b'
(d) None of them

10. When proton and electron were discovered?
(a) 1895★ (b) 1875
(c) 1885 (d) 1865

11. Who discovered Neutron?
(a) JJ-Thomson (b) Goldstein
(c) Chadwick★ (d) none of them

12. When Chadwick got noble prize in physics?
(a) 1932 (b) 1933
(c) 1934 (d) 1935★

13. With which speed fast neutrons move?
(a) 1.2 Mev★ (b) 2 Mev
(c) 0.2 Mev (d) 2.02 Mev

14. What is the $\frac{e}{m}$ value of electron?
(a) 1.98×10^{23} C Kg^{-1}
(b) 1.7588×10^{11} C Kg^{-1}★
(c) 1.1×10^{21} C kg^{-1}
(d) none of them

15. Who determine the charge on electron?
(a) J.J-Thomson (b) Chadwick
(c) Millikan★ (d) none of them

16. What is the charge on electron?
(a) 1.6022×10^{-19} C★
(b) 1.6022×10^{-19} C
(c) 1.98×10^{23}C
(d) none of them

17. What is the mass of electron in a.m.u?
(a) 1.0087 (b) 5.4858★
(c) 1.0073 (d) none of them

18. What is the mass of neutron in kg?
(a) 1.6750×10^{-19}★
(b) 9.1095×10^{-4}
(c) 1.0073
(d) none of them

19. What is the charge on neutron?
(a) +1 (b) 1.6022×10^{-19}
(c) 0★ (d) none of them

20. Who proposed quantum theory?
(a) Planck★ (b) J.J-Thomson
(c) Chadwick (d) Goldstein

21. _____ is the number of wave passing through a point per second.
(a) Frequency★ (b) displacement
(c) wavelength (d) none of them

22. What is the value of planck's constant?
(a) 2.98×10^{-30} Js (b) 6.26×10^{-19} Js
(c) 0★ (d) none of them

23. _____ is the distance between the two adjacent crests or troughs:
(a) Frequency (b) displacement
(c) wavelength★ (d) none of them

24. 1 pm = _____ m:
(a) 10^{-10} (b) 10^{-11}

(c) 10^{-12}★ (d) 10^{-13}

25. 1 A· = m.
(a) 10^{-10}★ (b) 10^{-11}
(c) 10^{-12} (d) 10^{-13}

26. _____ is the number of wave per unit length:
(a) wave number★
(b) wave length
(c) frequency
(d) none of them

27. €° is known as:
(a) planck's constant
(b) wave length
(c) vaccum permittivity★
(d) none of them

28. What is the value of r?
(a) 0.52 A° (b) 0.529 x 10'%
(c) both a and b★ (d) none of them

29. If n = 2 what's the value of r?
(a) 0.529A° (b) 2.11A°★
(c) 4.75 A° (d) none of them

30. The second orbit is how many times away from the nucleus?
(a) two times (b) four times★
(c) six times (d) sixteen times

31. What happened to the potential energy of electron when it is brought from infinity to a point at a distance "r" from the nucleus?
(a) increase (b) decrease★
(c) nothing happened (d) none of them

32. In what type of spectrum, the boundary lines between the colours cannot be marked?
(a) continuous spectrum★
(b) line spectrum
(c) both a and b
(d) none of them

33. Rainbow is the example of:
(a) continuous spectrum★
(b) line spectrum
(c) both a and b
(d) none of them

34. X-rays are attracted towards:
(a) cathode (b) anode★
(c) electrode (d) none of them

35. In how many ways atomic spectrum can be viewed?
(a) one (b) two★
(c) three (d) four

36. Hydrogen spectrum is the example of:
(a) continuous spectrum
(b) atomic spectrum★
(c) both a and b
(d) none of them

37. In which one of the following region Paschen series are visible?
(a) U·V region (b) visible region
(c) I·R region★ (d) none of them

38. 1 Hz = _____
(a) 1s (b) $1s^{-1}$
(c) 1 cydes s^{-1}★ (d) 1 cycle s

39. What is the value of $\frac{me4}{8\epsilon^2_o h^3C}$ factor?
(a) $1.09678\times10^8\ m^{-1}$
(b) $1.98076\times10^7\ m^{-1}$★
(c) $1.09678\times10^8\ m^{-1}$
(b) $0.09678\times10^7\ m^{-1}$

40. What is the wave number of first line in lyman series?
(a) $82.26\times10^5\ m^{-1}$★ (b) $97.49\times10^5\ m^{-1}$
(c) $109.678\times10^5\ m^1$ (d) none of them

41. What is the value of wave number of second line in lyman series?
(a) $82.26\times10^5\ m^{-1}$ (b) $97.49\times10^5\ m^{-1}$★
(c) $109.678\times10^5\ m^1$ (d) none of them

42. What is the value of wave number of limiting line in balmer series?
(a) $27.421\times10^5\ m^{-1}$★ (b) $15.234\times10^5\ m^{-1}$
(c) $20.566\times10^5\ m^1$ (d) $23.00\times10^5\ m^{-1}$

43. What type of rays are produced when rapidly moving electrons collide wit heavy metal anode in the discharge tube?
(a) α- rays (b) β – rays
(c) γ - rays (d) χ- rays★

44. On which one of the following wave lengths x-rays depend?
(a) cathode
(b) anode
(c) natural of target metal★
(d) none of them

45. Who undertook the systematic and comprehensive study of x-rays
(a) Chodwick (b) Goldstein
(c) Thomson (d) Moseley★

46. Which one of the following is Planck's equation?
(a) E = hu★ (b) $E = mc^2$
(c) $\lambda = \frac{h}{mc}$ (d) none of them

47. Which one of the following is Einstein's equation?
(a) E = hu (b) $E = mc^2$★
(c) $\lambda = \frac{h}{mc}$ (d) none of them

48. Who did an experiment to verify the wave nature of moving electron?
(a) Davisson (b) Germer
(c) Both a and b★ (d) none of them

49. What is the mass of neutron?
(a) +1 (b) −1
(c) ±1 (d) zero★

50. Uncertainty principle was presented by
(a) Goldstein (b) Chadwick
(c) Heisenberg★ (d) Thomson

EXPERIMENTAL TECHNIQUES IN CHEMISTRY

1. The organic product is separated from ether layer by doing:
(a) Evaporation★ (b) Desiccation
(c) Extraction (d) Filteration

2. Solvent extraction is:
(a) Irreversible process
(b) Non-spontaneous process
(c) Equilibrium process★
(d) Exothermic process

3. The household antiseptic product "Methylated spirit" is sublimed material,
(a) Yes (b) No★
(c) Don't know (d) None of them

4. Element detection is carried out by
(a) Qualitative analysis★
(b) Quantitative analysis
(c) Analytical Spirit
(d) None of them

5. Rectified spirit contains.
(a) 100% alcohol (b) 95%ethanol
(c) 95% ethyl alcohol (d) Both 'b' and 'c'★

6. Distribution Law belongs to
(a) Filtration
(b) Crystallization
(c) Solvent extraction★
(d) Chromatography

7. Partition coefficient is ratio of
(a) $\frac{\text{Solubility in oil}}{\text{Solubility in water}}$ ★
(b) $\frac{\text{Flow rate of oil}}{\text{Flow rate of water}}$
(c) $\frac{\text{Penetration of oil}}{\text{Penetration of water}}$
(d) $\frac{\text{Permeability of oil}}{\text{Permeability of water}}$

8. Filteration may be done using:
(a) Filter paper
(b) Gooch crucible
(c) Sintered glass crucible
(d) All of the above★

9. Funnel should be large enough so that its rim should extend above the top circumference of the paper for about:
(a) 1–2 μrn (b) 1–2 mm
(c) l–2cm★ (d) l–2m

10. A twice folded and opened filter paper provides a cone with apex angle very slightly greater than:
(a) 30° (b) 60°★
(c) 90° (d) 120°

11. A filter paper folded to give fan like arrangement with alternative elevations and depressions is called:
(a) Folded filter paper
(b) Fan filter paper
(c) Fluted filter paper★
(d) Microfilter paper

12. A fluted filter paper is preferred for filteration as it:
(a) Increases filteration rate★
(b) is highly pourous
(c) is esthetic appeal
(d) Gives better filteration

13. A fluled filter paper gives faster filteration due to:
(a) Increased pore size
(b) Increased porosity
(c) Increased surface area★
(d) Increased adsorption

14. Gooch cruible is used for:
(a) Sublimation (b) Filteration★
(c) Extraction (d) Crystallization

15. Gooch crucible is made of:
(a) Steel (b) Tin
(c) Porcelain★ (d) Plastic

16. Gooch crucible is used for solutions that react with paper, when perforations are cavered with:
(a) Asbestos mat★ (b) Porcelain
(c) Sand (d) Arsenic fillings

17. Gooch crucible is useful for filteration of precipitates which need to be ignited at:
(a) Low temperatures
(b) High temperatures★
(c) High pressures
(d) Low pressures

18. Sintered crucible is used for:
(a) Fusion (b) Extraction
(c) Filteration★ (d) Freeze drying

19. Sintered crucible is made of:
(a) Metal (b) Wood
(c) Plastic (d) Glass★

20. Which of the following is the most converient for filteration:
(a) Filter paper (b) Sieve
(c) Sintered crucible★ (d) Gooch crucible

21. Precipitation of a solute out of solution is called:
(a) Precipitation (b) Filteration
(c) Extraction (d) Crystallization★

22. The choice of a solvent for crystallization is a method of:
(a) Calculation (b) Hit and trial★
(c) Identity (d) Solubility analysis

23. Solvent used for crystallization should dissolve a large amount of substance at its:
(a) Boiling point★ (b) Freezing point
(c) Standard state temperature (d) Transition

24. Most extensively used solvent is:
(a) Acetone (b) Ether
(c) Water★ (d) Benzene

25. For an inflammable solvent, heating is done using:
(a) Electrical heater (b) Benson burner
(c) Spirit lamp (d) Water bath★

26. The first step of crystallization is:
(a) Filteration
(b) Preparation of saturated solution★
(c) Cooling
(d) Drying

27. Concentration of a saturated solution is known as:
(a) Solubility★ (b) Solubilizatoin
(c) Dissolution (d) Desiccation

28. Cooling a hot saturated solution makes the solution:
(a) Dilute
(b) Super-saturated★
(c) Opaque
(d) Un-saturated

29. The next step of crystallization, after the preparation of a saturated solution is:
(a) Cooling (b) Filteration★
(c) Collection (d) Drying

30. Filteration is done to avoid:
(a) Removal of impurities
(b) Formation of solvates
(c) Premature crystallization★
(d) Size fluctuations

31. In Crystallization, cooling is done at:
(a) Slow rates (b) Moderate rates★
(c) Fast rates (d) Instantaneously

32. Cooling is down at moderale rates so as to obtain crystals of:
(a) Micro size (b) Small size
(c) Medium size★ (d) Huge size

33. Slow cooling of a saturated hot solution yields crystals of:
(a) Micro size (b) Small size
(c) Medium size★ (d) Big size

34. When crystallization is complete, the mixture of crystals and mother liquor b filtered through a Gooch crucible using a:
(a) Desiccator (b) Vaccum pump★
(c) Dryer (d) Disinlegrent

35. Success of crystallization lies in:
(a) Increased rate (b) Percentage yield
(c) Solvent recovery (d) All of above★

36. Drying is safely done using:
(a) Vacuum pump
(b) Filter paper
(c) Vacuum desiccator★
(d) Solublizing agents

37. Which of the following is used in desiccators as drying agents:
(a) $CaCl_2$ (b) Silica gel
(c) P_2O_5 (d) All of the above★

38. Coloured-impurities may be removed by boiling the substance in solve with:
(a) CaCl2 (b) Silica get
(c) Gelatin (d) Animal charcoal★

39. Vapourization of a solid phase, without its conversion into liquid phase called:
(a) Filteration (b) Extraction
(c) Sublimation★ (d) Evaporation

40. Sublimation of a substance is done at its:
(a) Boiling point
(b) Melting point
(c) Transition temperature★
(d) Triple point

41. The conditions of temperature and pressure at which a substance co-exists its solid liquid and vapour states is called:
(a) Equilibrium point
(b) Melting point
(c) Boiling point
(d) Triple point★

42. Which of the following substances undergoes sublimation at ordinary; conditions:
(a) Iodine★ (b) Sodium chloride
(c) Petrol (d) Benzamide

43. Sublimation is carried out in a better way in:
(a) Gooch crucible
(b) Funnel
(c) Cold finger★
(d) Vacuum desiccator

44. Which of the following is an example of substances purified by sublimation:
(a) Benzoic acid
(b) Naphthalene
(c) Ammonium chloride
(d) All of the above★

45. Separation of a solute from a solution by shaking the solution with a solvent in which the solute is soluble, is a technique refered to as:
(a) Crystallization
(b) Maceration
(c) Leaching
(d) Solvent extraction★

46. The most common laboratory example of solvent extraction is:
(a) Ether extraction★
(b) Preparation of tinctures
(c) Percolation
(d) Counter-current extraction

47. Ether extraction is used to separate organic compounds from:
(a) Water★ (b) Ether
(c) Ethanol (d) Acetone

48. Solvent extraction is mostly done by placing the solution and extracting solvent into:
(a) Gooch crucible
(b) Sintered crucible
(c) Separating funnel★
(d) Percolator

49. Desiccation is
(a) Weting process (b) Drying Process★
(c) Decolourizing (d) None of them

50. Vacuum desiccation is carried out for
(a) Powder drying (b) Liquid drying
(c) Crystal drying★ (d) None of them

CHEMICAL BONDING

1. Cl·Cl bond is _____ than F·F bond:
(a) weaker★ (b) stronger
(c) shorter (d) symmtrical

2. As compared to single bonds, multiple bonds are:
(a) weaker (b) stronger★
(c) longer (d) polar

3. Which of the following equation belongs to percentage ionic character?
(a) $\frac{\mu_{observed}}{\mu_{ionic}}$ (b) $\frac{\mu_{ionic}}{\mu_{observed}}$
(c) $\frac{\mu_{observed}}{\mu_{ionic}} \times 100$ ★ (d) $\frac{\mu_{observed}}{\mu_{ionic}} \times 100$

4. Cation formation belongs to
(a) Ionization energy★
(b) Electron affinity
(c) Electronegativity
(d) None of them

5. Anion formation belongs to
(a) Ionization energy
(b) Electron affinity
(c) Electronegativity
(d) None of them★

6. Tetravalent carbon is formed in
(a) Ground State (b) Excited State★
(c) Physical State (d) Chemical State

7. Molecular formula of "Disilane" is

(a) SiH_2 (b) SiH_2
(c) Si_4H_6 (d) Si_2H_6★

8. Due to sp2- hybridization _____ geometry of compound is formed.
(a) Trigonal★ (b) Hexagonal
(c) Triclinic (d) Triclinic

9. Minimum electronic repulsion1 occurs at
(a) 360° (b) 180°★
(c) 90° (d) 45°

10. Due to sp _____ hybridization,_____ geometry of compound is formed.
(a) Linear★ (b) Trigonal
(c) Non-Linear (d) None of them

11. Which of the following underlines a repulsive interaction?
(a) ionized bond
(b) covalent bond
(c) hydrogen bond
(d) none of the above★

12. The internuclear distance at which the energy of the two atoms bonded together is at a minimum relative to separated atoms is called:
(a) equilibrium bond distance
(b) bond length
(c) Both a & b★
(d) none of them

13. The tendency of the valence shell to contain 8 electrons is called:
(a) octave rule
(b) octect rule★
(c) Hund's rule
(d) pauli exclusion principle

14. What type of bond is predicted if E.N. difference between two bonded atoms is less than 1.7:
(a) covalent★
(b) ionic
(c) co-ordinate covalent
(d) non-polar

15. A bond is said to have 50% ionic and 50% covalent character if the electronegativity difference between the two bonded atoms is:
(a) 0 (b) 1.7★
(c) 2.0 (d) 2.5

16. A bond is absolutely covalent if it's formed between:
(a) homoatoms★
(b) heteroatoms
(c) atoms having EN difference
(d) atoms having EN difference 2.5

17. Bond resulting from electron sharing between two atoms is called:
(a) ionic bond (b) covalent bond★
(c) hydrogen bond (d) no bond

18. A covalent bond is called a triple covalent bond when it's formed by the sharing of:
(a) 2 electrons (b) 4 electrons
(c) 6 electrons★ (d) 8 electrons

19. Which of the molecules has a triple covalent bond?
(a) H_2 (b) $C1_2$
(c) N_2★ (d) O_2

20. In most of its compounds, carbon appears to be:
(a) monovalent (b) divalent
(c) trivalent (d) tetravalent★

21. HC1 molecule has a dipole moment of:
(a) 1.78 (b) 1.03★
(c) 1.07 (d) 1.37

22. Which of the following has zero dipole moment?
(a) CH_3C1 (b) HC1
(c) H_2★ (d) H_2S

23. Bond cleavage is associated with:
(a) decrease in energy
(b) increase in energy★
(c) no change in energy
(d) evolution of heat

24. The enthalpy change in splitting a molecule into its component atoms is called enthalpy of:
(a) formation (b) ionization
(c) atomization★ (d) reaction

25. Average amount of energy required to break all bonds of a particular type in one mole of the substance is called:
(a) bond energy
(b) bond enthalpy
(c) enthalpy of atomization
(d) Both A & B★

26. Bond enthalpy is measured:
(a) 0·C (b) 25·C★
(c) 37·C (d) 100·C

27. Energy required to break Avogadro number of bonds is called:
(a) energy of activation

(b) bond enthalpy★
(c) reaction enthalpy
(d) ionization energy

28. Average bond enthalpy of H·H bond is:
(a) 339 kJ mol^{-1} (b) 431 kJ mol^{-1}★
(c) 413 kJ mol^{-1} (d) 313 kJ mol^{-1}

29. The tendency of an atom to attract a shared pair of electron towards itself is called:
(a) electronegativity★ (b) isotopicity
(c) allotropy (d) isomophism

30. Elements polymosphism is called:
(a) isomorphism
(b) cis-trans isomerism
(c) tautomerism
(d) allotropy★

CHEMICAL EQUILIBRIUM

1. "If a stress is applied to a system at equilibrium, the system acts in such a way as to nullify, as for as possibly the effect of the stress", This is the statement of
(a) law of mass action
(b) le-chatelier's principle★
(c) law of stress in chemical reaction
(d) none of these

2. Which statement about the following equilibrium is correct?
$2SO_2 + O_2 \rightarrow 2SO_3$
(a) the value of kp falls with a rise in temperature ★
(b) the value of kp falls with increasing pressure
(c) addition of V_2O_5 increase equilibrium yield of SO_3
(d) the value of k_p is equal to k_c

3. Which of the following relation is true?
(a) K_a α K_b (b) ka α $\frac{1}{K_b}$ ★
(c) pk_a α pk_b (d) none of these

4. What is the % age ionization of acetic acid of a solution in which 0.1 moles of it has been dissolved per dm^3 of the solution?
(a) 2% (b) 1.3% ★
(c) 2.3% (d) none of these

5. What is the pH of a buffer solution in which 0.11 molar sodium acetate and 0.9 molar acetic acid solutions are present ka for acetic acid is 1.8 x 10–5?
(a) 4 (b) 4.83★
(c) 2.83 (d) 6

6. $Ca(OH)^2$ is a sparingly soluble compound. It's solubility product is 6.5 x 10^{-5} what is it's solubility?
(a) incomplete data has been given
(b) 1.175 x 10^{-2}★
(c) 1.175 x 10^2
(d) 10.175 x 10^{-2}

7. Which one of the following statement is / are true, about common ion effect?
(a) it operates best in buffer solution
(b) it can be used for the purification of certain substances
(c) if is an applications of Le-Chaterier's principle
(d) all of them★

8. Solubility of a sparingly soluble substances are calculated from
(a) solubility product data ★
(b) their pH value
(c) their pOH value
(d) none of these

9. The unit of equilibrium constant is
(a) usually not written★
(b) mole/dm^3
(c) mole
(d) none of these

10. The reaction between acetic acid and ethyl alcohol is
(a) a type of reversible reaction★
(b) a very slow reaction
(c) a type of irreversible reaction
(d) none of these

11. If the concentrations of reactants are measured in moles only, the equilibrium constant is represented by
(a) K_c (b) K_n ★
(c) K_x (d) K_p

12. The relationship between KC and Kp can be represented as
(a) $K_P = K_C (RT)$ (b) $K_p = K_C (RT)^n$
(c) $K_C = K_p (RT)^{\Delta n}$ (d) $K_p = K_c (RT)^{\Delta n}$ ★

13. When the concentrations of reactants and products are expressed in terms of their

partial pressures, the equilibrium constant is then

(a) K_C (b) K_p ★

(c) K_x (d) K_n

14. When the concentrations of substance at equilibrium stage are expressed in terms of mole fractions, the equilibriums constant is denoted by

(a) K_C (b) K_m

(c) K_x ★ (d) K_n

15. Those reactions, which take place with the increase in the number of moles have

(a) lesser K_p and K_C value

(b) greater K_P but lesser K_C value

(c) greater K_p and K_c values ★

(d) greater K_c but lesser K_p value

16. Those reactions which take place with a decrease in the number of moles have

(a) lesser K_p and K_C value

(b) greater K_P but lesser K_C value

(c) greater K_p and K_C values

(d) greater K_p but lesser K_C value ★

17. The study of equilibrium constant provides us information about

(a) direction of reaction

(b) extent of reaction

(c) effect of various factors on equilibrium constant and equilibrium position

(d) none of these ★

18. Direction of a chemical reaction at any particular time can be predicted by

(a) means of $\frac{[\text{reaction}]}{[\text{product}]}$

(b) means of $\frac{[\text{product}]}{[\text{reactant}]}$ ★

(c) mean of reactant concentration only

(d) means of product concentration only

19. If ratio is less than KC, t implies

(a) less product is required to attain chemical equilibrium

(b) more product is required to attain chemical equilibrium ★

(c) more reactant is required to attain chemical equilibrium

(d) none of these

20. If the $\frac{[\text{product}]}{[\text{reactant}]}$ ratio is less than K_c, it implies that

(a) forward reaction will occur to attain equilibrium

(b) more product is required to attain equilibrium

(c) reverse reaction will occur to attain equilibrium ★

(d) none of these

21. When the $\frac{[\text{product}]}{[\text{reactant}]}$ ratio is equal to K_c, it implies that

(a) reaction will proceed in forwards direction to attain equilibrium

(b) reaction will proceed in reverse direction to attain equilibrium ★

(c) reaction is at equilibrium

(d) none of these

22. For the esterification reaction between ethyl alcohol and acetic acid, the value of KC is

(a) 10^{55} (b) 4 ★

(c) 10^{-21} (d) none of these

23. If the equilibrium constant is very large, it indicates

(a) the reaction is almost complete ★

(b) that, reaction does not proceed appreciably in forward direction

(c) that reaction will proceed in reverse direction

(d) none of these

24. If the value of KC is small, it implies that

(a) reaction is almost complete

(b) reaction will not proceed appreciably toward forward direction ★

(c) reaction will proceed very little in reverse direction

(d) none of these

25. If the value of KC is in fractions this shows

(a) a very little forward reactions ★

(b) a very little reverse reaction

(c) reaction is complete

(d) none of these

26. The value of KC of following reaction is 2O3 → 3O2 at 25oC

(a) 10^{-13} (b) 10^{55}

(c) 10^{-21} ★ (d) none of these

27. For the decomposition reaction of HF, the value of KC is 10–13, it indicates
(a) the reaction will proceed rapidly in forward direction
(b) high stability of HF
(c) slow decomposition of HF, even at 2000oC
(d) both b & c options are correct★

28. For the decomposition reaction of ozone to liberate oxygen, the value of KC is 1055, it indicates
(a) greater stability of ozone
(b) ozone is very unstable molecule ★
(c) slow decomposition of ozone even at 2000°C
(d) none of these

29. The $\frac{[\text{product}]}{[\text{reactant}]}$, ratio of esterification between ethyl alcohol and acetic acid is 2.5, while K_c for this reaction is 4, this indicates
(a) reaction will proceed in reverse direction to attain equilibrium
(b) reaction will proceed in forward direction to attain equilibrium★
(c) reaction is in equilibrium state
(d) none of these

30. For which system does the equilibrium constant, K_c has units of $(\text{concentration})^{-1}$?
(a) $N_2 + 3H_2 \rightarrow 2NH_3$ (b) $H_2 + I_2 \rightarrow 2HI$
(c) $2NO_2 \rightarrow N_2O_4$★ (d) $2HF \rightarrow H_2 + F_2$

REACTION KINETICS

1. Photochemical reactions are usually of
(a) zero order★
(b) fractional order
(c) positive integral order
(d) negative integral order

2. When the specific rate constant is dimensionally equal to the reaction rate, the rate of reaction in independent of
(a) concentration of reactants ★
(b) temperature
(c) reaction thermodynamics
(d) catalyst

3. The rate of reaction is defined as
(a) $\frac{dc}{dt}$ ★ (b) $\frac{dt}{dc}$
(c) dc. dt (d) $\frac{(dc)^2}{(dt)^2}$

4. The average rate of reaction between two instants will be equal to instantaneous rate, when
(a) the time internal becomes infinitely large
(b) the time internal becomes infinitely small ★
(c) the conc. of reactant become unity
(d) the equilibrium state is established

5. For each 10oC rise in temperature, the reaction rate gets approximately
(a) double ★ (b) triple
(c) half (d) one fourth

6. The rate of a reaction does not depend upon
(a) temperature (b) pressure ★
(c) concentration (d) catalyst

7. The expression $k = Ac^{-Ea/RT}$ is called
(a) law of mass action
(b) rate law
(c) equilibrium expression
(d) arrhenius equation ★

8. The change in the concentration of a reactant or a product divided by time taken for the change is defined as
(a) reaction order (b) reaction rate
(c) reaction velocity (d) both b and c ★

9. Taking the concentration of the reactants equal to unity, the reaction becomes equal to
(a) unity ★
(b) infinity
(c) specific rate constant
(d) equilibrium constant

10. The sum of the exponents to which the concentrations in rate equation are raised, is called
(a) order of the reaction
(b) velocity of the reaction
(c) molecularity of the reaction ★
(d) reaction status

11. The slowest step of a reaction is called
(a) rate determining step ★

(b) initial step
(c) propagation step
(d) terminating step

12. The substance which makes a catalyst more effective is called
(a) inhibitor (b) enhancer
(c) initiator (d) promoter ★

13. Pt is poisoned by
(a) arsenic ★ (b) silver
(c) cadmium (d) radium

14. A substance which changes the rate of a reaction without itself being consumed in the reaction is called
(a) buffer (b) catalyst ★
(c) indicator (d) promotor

15. The expression $R = k[A]^a [B]^b$ is called
(a) law of mass action
(b) Le-Chatheir Principle
(c) rate law ★
(d) equilibrium expression

16. Time required to convert 50% of the reactants into products is called
(a) half life period ★ (b) quite period
(c) epsilon period (d) reaction period

17. Half life of a second order reaction is inversely proportional to
(a) initial reactant concentration ★
(b) final reactant concentration
(c) initial product concentration
(d) final product concentration

18. Catalysts are of
(a) two types ★ (b) three types
(c) four types (d) five types

19. order of a reaction can be determined
(a) stoichiometrically
(b) thermodynamically
(c) experimentally★
(d) from equilibrium expression

20. Specific rate constant for a first order reaction is expressed in unit of
(a) mol dm^{-3} sec^{-1} (b) sec^{-1}★
(c) mol dm^{-3} N^{-2} (d) mol dm^{-3}

21. Specific rate constant dimensionally becomes equal to the reaction rate when the reaction is of
(a) zero order ★ (b) first order
(c) 2nd order (d) 3rd order

22. The order of the reaction: $NO_2 + CO \rightarrow NO + CO_2$
(a) one (b) two ★
(c) three (d) zero

23. Decomposition of nitrogen pentoxide is a reaction of
(a) first order ★ (b) second order
(c) third order (d) fourth order

24. Hydrolysis of t-butyl bromide is a
(a) zero order reaction
(b) first order reaction
(c) pseudo first order reaction★
(d) second order reaction

25. The reaction: $(CH_3)_3CBr + H_2O \rightarrow (CH_3)_3COH + HBr$ is of first because the rate contribution of H_2O is
(a) zero (b) negligible ★
(c) very large (d) infinite

26. The order of the reaction forming CCl4 from chloroform is
(a) 0 (b) 1
(c) 1.5★ (d) 2

27. During ozone decomposition, when the concentration of oxygen halves, the reaction rate:
(a) doubles★
(b) triples
(c) becomes
(d) remains unaltered

28. For a fourth order reaction, the half life of the reaction, $[t_{1/2}]_4$, Is given by
(a) $\frac{k}{a}$ (b) $\frac{k}{a^2}$
(c) $\frac{k}{a^3}$ ★ (d) $\frac{k}{a^4}$

29. The order of the reaction, for which the rate law is given by k [H2] [Br2]1/2, is
(a) 1 (b) 2
(c) 2.4 (d) ★

30. A chemical reaction is chearacterized by
(a) concentration (b) temperature
(c) catalyst (d) all of above★

GASES

1. According to which one law "the total pressure exerted by a mixture of non-

reacting gases is equal to sum of their individual partial pressure"?
(a) Boyle's law
(b) Charles' law
(c) gas law
(d) Dolton's law of partial pressure★

2. What is the partial pressure of oxygen in air?
(a) 196 torr (b) 100 torr
(c) 109 torr (d) 159 torr★

3. Mathematical expression of Boyle's Law is
(a) $P_1.V_1 = P_2V_2$★ (b) $P,T, = P_2T_2$
(c) $n_1P_1V_1 = n_2P_2V_2$ (d) None of them

4. Molecular motion of ideal gases can be ceased at
(a) Room temperature
(b) 160°C
(c) 127°C
(d) Absolute zero★

5. Mathematical expression of Graham's law is
(a) $\sqrt{\frac{r_1}{r_2}} = \sqrt{\frac{M_1}{M_2}}$ (b) $\sqrt{\frac{r_1}{r_2}} = \sqrt{\frac{M_1}{M_2}}$
(c) $\sqrt{\frac{r_1}{r_2}} = \sqrt{\frac{M_1}{M_2}}$ ★ (d) all of them

6. At what temperature, volume of ideal gas becomes zero?
(a) 273.15K (b) 273.15°C
(c) ·273.15 K (d) ·273.15°C★

7. $\frac{V_T}{V_O} =$
(a) $\frac{T°C}{273}$ (b) $\frac{TK}{273}$
(c) $1+\frac{T°C}{273}$ ★ (d) None of them

8. Manometer is used for
(a) Temperature measurement
(b) Pressure measurement★
(c) Volume measurement
(d) all of them

9. Isotherm is obtained by using
(a) Boyle's Law★ (b) Charles Law
(c) Graham's Law (d) None of them

10. Partial pressure of oxygen gas in lungs is
(a) 160 g/cm^3 (b) 116 g/cm^3★
(c) 610 g/cm^3 (d) None of them

11. Graham's Law is
(a) $r\sqrt{d}=k$ ★ (b) $d\sqrt{d}=k$
(c) $r^2\sqrt{d}=k$ (d) None of them

12. The density of ideal gas is determined by
(a) $\frac{PM}{RT}$ ★ (b) $\frac{RT}{PM}$
(c) $\frac{V}{M}$ (d) None of them

13. When graph is ploted between $\frac{1}{v}$ and P, which one is obtained?
(a) Straight line★ (b) Hyperbola
(c) Curve (d) None of them

14. According to which one law temperature and volume are variable while pressure is constant?
(a) Boyle's law (b) Charles' law★
(c) Avogadro's law (d) All of them

15. In which year, Charles' law was proposed?
(a) 1878 (b) 1787★
(c) 1778 (d) 1777

16. How many scales of thermometry are there?
(a) one (b) two
(c) three★ (d) four

17. Which one formula is correct?
(a) K = C° + 273.16 (b) $C° = \frac{5}{9}$ [F° - 32]
(c) $F° = \frac{9}{5}$ [C° + 32] (d) all of them★

18. Which one is general gas equatin?
(a) Pn = VRT (b) PV = nRT★
(c) PR = nTV (d) PT = nRV

19. What is the volume of one mole of an ideal gas at STP?
(a) 2.2414dm^3 (b) 224.14dm^3
(c) 2241.4dm^3 (d) 22.414dm^3★

20. Which one of the following is value of R?
(a) 0.0821 dm^3 atm k^{-1}mor^{-1}
(b) 62.4 dm^3 mmHg k^{-1} mol^{-1}
(c) 62.4dm^3 torrk^{-1} mor^{-1}
(d) all of them★

21. Idm^3= _____ cm^3:
(a) 10cm^3 (b) 100cm^3
(c) 1000cm^3★ (d) all of them

22. According to which one law "equal volumes of all the ideal gases at the same

temperature and pressure contain equal number of molecules"?
(a) Boyle's law (b) Charles' law
(c) Avogadro's law★ (d) none of them

23. The molar volume of CO: is maximum at:
(a) 127°C and 1 atm★
(b) STP
(c) 227°Cand 2atm
(d) all of them

24. The deviation of gas from ideal behaviour is maximum at:
(a) ·10°C and 4.0 atm
(b) ·10°C and 5.0 atm★
(c) ·100°C and 2.0 atm
(d) ·100°C and 5.0 atm

25. Which one of the following gas diffuses rapidly?
(a) N_2 (b) Cl_2
(c) CH_4★ (d) CO_2

26. What is the approximate weight of one dm3 of H2 at STP?
(a) 0.0899 g★ (b) 10.0899 g
(c) 0.00089 g (d) 0.899 g

27. What is the approximate weight of one dm3 of O2 at STI?
(a) 1.8844 g (b) 1.384 g
(c) 1.8342 g (d) 1.4384 g★

28. At what temperature, gases are solidified?
(a) 0 K★ (b) ·273 C°
(c) 273 C° (d) 273 K

29. Plasma is used as
(a) Semi-conductor's
(b) Particle accelerators
(c) Fluorescent lams
(d) None of them★

30. Ideal gas has
(a) Intermolecular interaction
(b) No intermolecular interaction★
(c) Ultimate temperature
(d) Room temperature

SOLUTIONS

1. The sum of the mole fractions of all the components of a solution must be equal to
(a) 1 (b) 10 ★
(c) 100 (d) none of them

2. Which one of the followings is not a unit of concentration?
(a) normality (b) mole fraction
(c) parts per million (d) none of them ★

3. The amount of energy needed to separate a crystalline compound into isolated ions (or atoms) is called
(a) crystal energy (b) heat of crystal
(c) lattice energy ★ (d) none of them

4. When a hydrated ion is attracted by the solvent dipole, energy is released, this is called
(a) hydration energy (b) solution energy
(c) both a & b ★ (d) none of them

5. The process in which water molecules surround andf interact with solute ion or molecules is called
(a) solvate
(b) hydrate ★
(c) water of crystallization
(d) none of them

6. The crystalline substance which contains chemically combined water in a definite proportion is called
(a) solvate
(b) hydrate ★
(c) water of crystallization
(d) none of them

7. The water molecules in the hydrate are attached more with
(a) cations★ (b) anions
(c) ions (d) none of them

8. In CuSO4 5H2O, four water molecules are attached with
(a) Cu^{2+}★ (b) $SO4^{2-}$
(c) SO_4^{1-} (d) Cu^{1+}

9. Oxalic acid has the number of water of crystallization equal to
(a) 5★ (b) 2
(c) 7 (d) none of them

10. The chemical interaction between water and salts is called
(a) hydration (b) solution
(c) hydrolysis ★ (d) none of them

11. What is the percentage by weight of NaCl, if 2.0 gm of NaCl is dissolved in 20 gm of water
(a) 10% (b) 9.09% ★
(c) 1% (d) none of then

12. 10% w/v solution of sugar contains

(a) 10 gm of sugar dissolved in 90 dm^3 of water
(b) 10 gm of sugar dissolved in 90 cm^3 of water
(c) 10 gm of sugar dissolved in 100 cm^3 of water★
(d) 10 gm of sugar dissolved in 90 mL of water

13. Percentage weight / volume means
(a) weight of solute dissolved in 100 parts by dm^3 of solution
(b) weight of solute dissolved in 90 parts by dm^3 of solution
(c) weight of solute dissolved in 100 parts by volume of solution★
(d) weight of solute dissolved in 100 parts by volume of solvent

14. Concentrated solution of sodium chloride (NaCl) is an example of
(a) a triphasic solution
(b) a heterogeneous mixture
(c) a binary solution★
(d) none of them

15. In which of the following concentration units, the total volume of the solution may not be equal to the sum of volumes of solute and the solvent?
(a) percentage weight / weight
(b) percentage volume / weight
(c) percentage weight / volume
(d) percentage volume / volume ★

16. The number of moles of solute dissolved per dm3 of the solution is called
(a) molarity★
(b) molality
(c) normality
(d) percentage concentration

17. One molar solution of glucose in 1 dm3 contains
(a) 100 gm of glucose
(b) 120 gm of glucose
(c) 180 gm of glucose★
(d) 96 gm of glucose

18. 100 ml of 0.5 molar solution of sucrose contains
(a) 342 gm of sucrose
(b) 141 gm of sucrose★
(c) 171 gm of sucrose
(d) 96 gm of sucrose

19. No. of moles of solute / volume of solution in (dm^3); is the formula for
(a) molality (b) molarity ★
(c) normality (d) mole fraction

20. The molarity of a solution containing 20.7 g of $K_2Cr_2O_7$ dissolved in 500 cm3 of the given solution is
(a) 1.3 M (b) 0.14 M
(c) 30 M (d) None of them ★

21. The number of moles of solutes dissolved in 1 kg of the solvent is called
(a) molarity (b) molality ★
(c) normality (d) mole fraction

22. The molarity of a solution prepared by dissolving 5 g of toluene in 250 g of
(a) 2.17 mole / kg (b) 2170 mole / kg
(c) 0.217 mole / kg★ (d) none of them

23. The ratio of the moles of the solute to the moles of the solvent can be calculated by
(a) measuring molarity
(b) measuring molality ★
(c) measuring normality
(d) none of them

24. Which one of the following statements is correct?
(a) the molal aqueous solution of solute is as concentrated as compared to its molar solution
(b) the molal aqueous solution of solute is dilute as compared to its molar solution ★
(c) both statements may be correct
(d) none of them

25. Which of the following values of concentrations do not change with temperature?
(a) of molarity
(b) of molarity ★
(c) both changes with temperature
(d) none of them

26. Which of the following concentration units is applicable to a solution having more than two components?
(a) normality (b) molality
(c) mole fraction ★ (d) molarity

27. The ratio of the number of moles of a component to the total number of moles of all components present, is called
(a) its molarity (b) its molality
(c) its normality (d) none of them ★

28. The mole fraction of each component in a solution having 92 g of alcohol, 96g of methyl alcohol and 90 g of water
(a) 2, 3, 5 (b) 0.2, 0.3, 0.5★
(c) 20, 30, 50 (d) none of them

29. The quantity of heat, that is absorbed or released when a substance forms solution is termed as
(a) heat of solution★ (b) heat of solvent
(c) heat of solute (d) none of them

30. The heat change when one mole of the substance is dissolved in a specified number of mole, of solvent at a given temperature is
(a) enthalpy of solution
(b) enthalpy of solution★
(c) entropy of solution
(d) none of them

ZOOLOGY
INTER LEVEL

SET – 1

1. Which of these is a single bone in man:
   (a) Ear pinna (b) Pelvic girdle
   (c) Lower jaw ★ (d) Wrist
2. Radioulna in frog is characterized by the presence of:
   (a) Cnemial crest
   (b) Olecranon process★
   (c) Trochlea
   (d) Sigmoid notch
3. Total 33 vertebrae are found in:
   (a) Frog (b) Man★
   (c) Rabbit (d) None
4. The difference in humerus and femur is in having:
   (a) Spine (b) Deltoid ridge★
   (c) Glenoid cavity (d) Sigmoid notch
5. Centrum in vertebrae of man is:
   (a) Amphicoelous (b) Procoelous
   (c) Amphiplatyon★ (d) None
6. Which of these have a glenoid cavity:
   (a) Pelvic girdle of frog
   (b) Pelvic girdle of rabbit
   (c) Pectoral girdle of rabbit ★
   (d) Cranium of frog
7. In a tropibasic skull like that of rabbit and mammals the:
   (a) Orbits are formed as a depression of skin and are separated by cranial elements
   (b) Orbits are in form of sockets and separated by an interorbital septum★
   (c) Skull is monocondylic and orbits are less developed
   (d) Jaw suspension is autostylic
8. In rabbit the cervical vertebrae can be identified by the presence of:
   (a) Presence of odonotoid
   (b) Absence of transverse processes
   (c) Presence of vertebrarteial canals★
   (d) None
9. Prefrontal and lacrimal bones are absent in the skull of:
   (a) Frog ★ (b) Rabbit
   (c) Man (d) None
10. Squamosal with a cartilaginous ring is found in the skull of:
   (a) Frog ★ (b) Rabbit
   (c) Man (d) All of these
11. Sternal parts of first seven ribs in rabbit are connected with:
   (a) Vertebra column (b) Diaphragm
   (c) Pectoral girdle (d) Sternum★
12. Ischium in rabbit is a bone which is situated on the poterodorsal side of the ilium. The two ischia fuse in the middle forming:
   (a) One forth of acetabulum★
   (b) Half of the acetabulum
   (c) One third of acetabulum
   (d) Two-third of acetabulum
13. Acromion process is found in rabbit in:
   (a) Femur (b) Pectoral girdle★
   (c) Vertebral column (d) Palvic girdle
14. Olecranon process is part of which of these in rabbit:
   (a) Ulna bone that forms elbow★
   (b) Zygomatic arch in the skull
   (c) Axis vertebra projecting into atlas
   (d) Spine of scapula projecting downwards
15. Structures indicating true segmentation in rabbit are:
   (a) Hairs
   (b) Vertebrae and ribs★
   (c) Two pairs of limbs
   (d) Paired nostrils, ears and eyes
16. Obturator foramen in rabbit is present in:
   (a) Skull (b) Vertebra
   (c) Pectoral girdle★ (d) Brain
17. Xiphoid process and xiphisternum are parts of:
   (a) Pelvic girdle (b) Sternum★
   (c) Pectoral girdle (d) Skull

18. Pelvic girdle of rabbit can be distinguished from that of frog by the presence of:
(a) Sigmoid notch
(b) Obturator foramen★
(c) Olecranon process
(d) None

19. Which bone in mammals does not serve the usual function of providing support and protection:
(a) Ribs (b) Ear ossicles ★
(c) Atlas (d) Scapula

20. In locomotion,, movement between two structures of which of the following sets takes part in man:
(a) Femur and pelvic girdle★
(b) Humerus and pectoral girdle
(c) Humerus and ulna
(d) Skull and atlas

21. Development in a fertilized egg starts from:
(a) Fragmentation (b) Regeneration
(c) Cleavage ★ (d) Invagination

22. Development in all the fertilized eggs occurs in a definite sequence which of these is a correct sequence?
(a) Zygote, cleavage morula, blastula gastrula★
(b) Zygote, morula, blastula, cleavage, gastrula
(c) Zygote, blastula, morula, cleavage gastrula
(d) Zygote, morula, blastula, gastrula, cleavage

23. Gastrula is a stage in the development of frog in which embryo possesses:
(a) Ectoderm, mesoderm and endoderm layers★
(b) Ectoderm layer surrounding the blastocoel
(c) Ectoderm and endoderm layers forming archenteron
(d) Ectoderm, mesoderm and endoderm layers alongwith a rudimentary nervous system

24. Blastopore is found in:
(a) Morula (b) Blastula
(c) Gastrula★ (d) Neurula

25. Tadpole larva is stage in life history of frog which:
(a) Grows inside the uterus of frog
(b) Lives on land only
(c) Is different in structure an behaviour than adult frog★
(d) Resembles the adult frog

26. Archenteron is a cavity found in which of the following stages of frog's development:
(a) Morula (b) Blastula
(c) Gastrula ★ (d) None

27. Formation of which of these occurs during gastrulation of frog:
(a) Blastocoel (b) Archenteron★
(c) Mesoderm (d) Notochord

28. Gray crescent is present in the:
(a) Fertilized egg of the frog★
(b) Unfertilized egg of the frog
(c) Sperm of the frog
(d) None

29. Upwardly directed pigmented part of frog's egg is related with:
(a) Camouflage★
(b) Supply of the nourishment
(c) Colouration
(d) Respiration

30. Gastrulation in frog involves:
(a) Epiboly (b) Emboly
(c) Invagination (d) All of these★

31. Age of Holocene Epoch is about:
(a) 11 lakh years★ (b) 11 billion years
(c) 5 million years (d) 18 lakh years

32. Quarternary Period of Coenozoic Era began:
(a) 10 lakh years ago
(b) 15 lakh years ago
(c) 17 lakh years ago
(d) 18 lakh years ago★

33. Span of Pleistocer period was:
(a) 4 lakh years (b) 5 lakh years
(c) 6 lakh years (d) 7 lakh years★

34. "First Great Revolution" occurred about:
(a) 1 billion years ago
(b) 2 billion years ago
(c) 3 billion years ago
(d) 4 billion years ago★

35. "Second Great Revolution" occurred about:
(a) 1.5 billion years ago
(b) 2.5 billion years ago★
(c) 3.5 billion years ago
(d) 4.5 billion years ago

35. Himalaya, Andes, Alps etc. evolved during the period:
(a) Tertiary (b) Cretaceous ★
(c) Jurassic (d) Triassic

37. Oldest fossil belonged to the period:
(a) Cambrian ★ (b) Ordovician
(c) Silurian (d) Devonian

38. Narine metazoa originated in "Second Great Revolution" which occurred 2.5 billion years ago in the Era known as:
(a) Proterozoic★ (b) Archaeozoic
(c) Palaeozoic (d) Mesozoic

39. Carboniferous period which existed about 34.5 Crore years ago is responsible for burial of forests leading to formation of:
(a) Chalk
(b) Shale
(c) Coal fields of today★
(d) None

40. Land elevation at places formed deep continental seas in tlie period:
(a) Ordovician (b) Devonian
(c) Cambrian (d) Silurian★

41. How much amount of blood circulates through our kidneys every 24 hours:
(a) 180 litres (b) 1080 litres
(c) 1200 litres (d) 1800 litres★

42. Out of 1800 litres of blood circulating through our kidneys in 24 hours amount of plasma fittered out in tubules is:
(a) 18 litres (b) 108 litres
(c) 120 litres (d) 180 litres★

43. Out of 180 litres of plasma filtered out each day by tubules in our kidneys we form which of these amounts as urine:
(a) 0.5 litres (b) 0.75 litres
(c) 0.95 litres (d) 1.45 litres★

44. Out of 1800 litres of blood circulating through kidneys per day we filter out 180 litres of plasma and out of this we form only 1.45 litres of urine due to which of these mechanisms:
(a) Selective re-absorption
(b) Secretion by tubules
(c) Both by selective re-absorption and secretion★
(d) By something else

45. Selective re-absorption and secretion process occur in:
(a) Glomerulus
(b) Bowman's capsule
(c) In whole of the tubule beyond neck★
(d) In collecting part of tubule

46. Process of selective reabsorption involves:
(a) Only active transport
(b) Only passive transport
(c) Both (a) & (b) ★
(d) None

47. Pressure of the blood flowing through peritubular capillaries of tubule is very slow and equal to:
(a) 13mmHg ★ (b) 5mm Hg
(c) 10mm Hg (d) 7mm Hg

48. About which of the following percentages of filtrate is reabsorbed by epithelium of tubule in its proximal part:
(a) 30-40% (b) 40-50%
(c) 65-80%★ (d) 80-90%

49. Thin segment of the ascending limb of uriniferous tubule is:
(a) Permeable to water
(b) Impermeable to water★
(c) Semipermeable to water
(d) None

50. Thin segment of the ascending limb uriniferous tubule has which of these qualities:
(a) It is impermeable to water
(b) It is permeable to NaCl
(c) It is partially permeable to urea
(d) All of these properties★

51. Earthworm is a:
(a) Free living animal
(b) Burrowing animal★
(c) Fixed animal
(d) Planktonic animal

52. Ring-like divisions over the body of earthworm are called:
(a) Metameres ★ (b) Sarcomeres
(c) Blastomeres (d) None

53. Segments in earthworm are about:
(a) 100- 120 ★ (b) 40-50
(c) 200 - 300 (d) None

54. Which of these segments in earthworm bear clitellum:
(a) 14, 15, 16 ★ (b) 17, 18, 19
(c) 20,21,22 (d) 33,34,35

55. Pair of gonopores in earthworm are found in segment:
(a) 14 ★ (b) 15
(c) 16 (d) None

56. Which of these segments in earthworm has pair of gonopors:
(a) 18 ★ (b) 17
(c) 16 (d) 15

57. Male gonopores in Pheretima are:
(a) One pair ★ (b) Two pairs
(c) Single (d) None

58. Female gonopores in pheretima are:
(a) One pair (b) Two pairs
(c) Single ★ (d) Three pairs

59. Copulatory papillae in earthworm are:
(a) One pair (b) Two pairs★
(c) Absent (d) Single

60. In earthworm the copulatory papillae are found in segments:
(a) 17 and 18 (b) 17 and 19 ★
(c) 18 and 19 (d) 15 and 16

61. Stanley Miller in his classical experiment on formation of amino acids passed an electric discharge in the mixture of:
(a) Steam, Methane, Hydrogen and Ammonia★
(b) Methane, Carbondioxide, Oxygen and Hydrogen
(c) Ammonia, Oxygen, Hydrogen and Water
(d) Methane, Hydrogen, Nitrogen and steam

62. Karyon is the basis of differentiation in between:
(a) Enaima and Anaima
(b) Prokaryotes and Eukaryotes★
(c) Protista and Monera
(d) None

63. In his experiment Stanley Miller was successful to demonstrate the formation of amino acids by passing an electric discharge in a mixture of ammonia, water, hydrogen and:
(a) Ethane (b) Methane★
(c) Carbon-dioxide (d) Ethanol

64. True Nucleus is absent in bacteria because:
(a) The nuclear membrane is absent★
(b) The histones do not form complex with DNA
(c) Bacteria lack nuclear membrane and histones
(d) None

65. According to most accepted theories, the atmosphere of earth before origin of life consisted of a mixture of:
(a) Water vapours, Hydrogen. Ammonia and Methaine
(b) Hydrogen, Carbon Dioxide, Ammonia and Methane
(c) Oxygen, Ammonia, Methane and Water
(d) Ozone, Methane, Oxygen and Water★

66. To prove that organic molecules formed in the primitive ocean were responsible for origin of life on earth, Millar carried out their synthesis from:
(a) CH_4, NH_3, H_2
(b) CH_4, N_2, H_2
(c) NH_3, H_2, water vapours
(d) NH_3, H_2, CH_4, water vapour★

67. The hard Lithosphere was studded with volcanic eruptions pouring out hot lava. The Nitrogen and Carbon Atoms of atmosphere formed nitrides and Carbides respectively by reacting with metallic atoms of lava. The hot water vapours of atmosphere and carbides reacted to form Methane and water vapours and metallic nitrides reacted to form Ammonia. This statement regarding origin and evolution of organic compounds is:
(a) Correct★ (b) Partially wrong
(c) Wrong (d) None

68. Amino acids, Sugards, Glycerol, Fatty acids, Nitrogen bases etc. formed in the primitive ocean survived because they were neither oxidized nor putrified. The reason were:
(a) Absence of oxygen in primitive ocean
(b) Absence of Bacteria in the environment
(c) Both (a) & (b)★
(d) None

69. During the course of time of origin of life, the nucleic acids were formed in the primitive ocean. Certain proteins like histones associated with these nucleic acids to form nucleoproteins which appeared as "Self-duplicating Systems" by virtue of this property the nucleic acid became capable of

performing hereditary function. The statement according to your opinion is:
(a) True ★ (b) Wrong
(c) Partially wrong (d) None

70. The coaservates which acquired nucleoproteins became first cellular organisms and their parts later became modified during the course of time due to chemical changes in the nucleic acid is the view of the scientist:
(a) Oparin ★ (b) Lamarck
(c) Darwin (d) Aristotle

71. Following a castration the animal becomes:
(a) Agile and weak
(b) Agile and strong★
(c) Placid and weak
(d) Placid and strong

72. Thymus develops from which of these embryonic structures:
(a) Endoderm ★ (b) Ectoderm
(c) Mesoderm (d) All of these

73. Hypersecretion of glucagon in an animal would cause:
(a) Glycosuria★
(b) Diabetes insipidus
(c) Tatany
(d) Acromegaly

74. LH and FSH are collectively considered as:
(a) Antistress hormones
(b) Antifertility hormones
(c) Neurohormones
(d) Gonadotrophic hormones★

75. Secretin is:
(a) An enzyme
(b) A catalyst
(c) A hormone★
(d) An excretory waste

76. Secretin is secreted by:
(a) Liver (b) Pancreas
(c) Intestine (d) Duodenum★

77. Secretin stimulates which of these organs:
(a) Pancreas★ (b) Gallbladder
(c) Gastric glands (d) None

78. Neurohypophysis of pituitary contains which of these substances:
(a) Oxytocin
(b) Vasopressin
(c) Both (a) & (b) ★
(d) Oxytocin and prolactin

79. Diabetes mellitus is related with:
(a) Glisson's capsule
(b) Peyer's patches
(c) Graffian follicle
(d) Islets of langerhans★

80. Full chemical structure was elucidated by:
(a) F- Sanger ★
(b) Best
(c) Banting and Best
(d) Banting

81. In which of the following organs of alimentary canal of rabbit the serosa is made up of peritoneum, and loose connective tissue:
(a) Oesophagus (b) Pharynx
(c) Rectum★ (d) None

82. Brunner's glands are found in:
(a) Stomach and oesophagus
(b) Duodenum and ileum★
(c) Buccal cavity and pharynx
(d) None

83. Glottis is a structure which:
(a) Prevents entry of food into wind pipe while swallowing food
(b) Allows food to pass into oesophagus
(c) Produces sound when air passes through it
(d) Allow air to enter in trachea★

84. Which one is a common passage in swallowing food and breathing:
(a) Larynx (b) Gull
(c) Glottis (d) Pharynx★

85. Narrower distal end of stomach is called:
(a) Cardia (b) Pylorus★
(c) Duodenum (d) Pharynx

86. Number of incisors, canines, premolars and molars in each jaw of man is respectively:
(a) 6,2,4,4 (b) 4,2,6,6
(c) 4,2,4,6 ★ (d) 4,4,6,4

87. Which is largest gland in our body:
(a) Pancreas ★
(b) Thyroid
(c) Liver
(d) Mammary glands

88. Which of the following glands has both endocrine and exocrine nature:
(a) Liver
(b) Pancreas★
(c) Thyroid
(d) Mammary glands

89. Cells of liver in man associated with phagocytosis are:
(a) Kupffer's cells★ (b) Dieter's cells
(c) Hansan's cells (d) Aciner cells

90. Glisson's capsule is
(a) Frog (b) Rabbit★
(c) Both of these (d) None

91. The zygotes of all metazoans are single celled and quite comparable with the bodies of simple protozoans. This fact indicates that:
(a) Metazoans formed protozoans
(b) Origin of metazoans has been from protozoan ancestors★
(c) Both protozoa and metazoa are not related to each other
(d) Protozoans after degeneration formed metazonas

92. Most primitive mammals originating in Australia provide evidence of organic evolution from:
(a) Geological distribution
(b) Geographical distribution★
(c) Both (a) & (b)
(d) None

93. Fossils have their importance in studies of organic evolution because their study links:
(a) Zoology with Botany
(b) Biology with Natural Sciences
(c) Zoology with Geology★
(d) None

94. Age of fossils is calculated by calculating the age of rock with the help of:
(a) Chemical analysis
(b) Liquid nitrogen
(c) Carbon dating★
(d) None

95. Which of the following includes most primitive mammals:
(a) Scaly ant-eater
(b) Spiny ant-eater★
(c) Armadillo
(d) All ant-eaters

96. One of the following is an example of connecting link:
(a) Kangaroo (b) Donkey
(c) Monotremes★ (d) Leucosolania

97. Homology and Analogy refer to:
(a) Study of organs similar in origin
(b) Study of organs similar in function
(c) Studies of organs similar in origin and similar in function respectively★
(d) None

98. Which of the following sets of animals is odd:
(a) Fish, whale, elephant, ant, camel
(b) Star-fish, jelly-fish, silver-fish and cray-fish
(c) Ostrich, kiwi, emu and dodo★
(d) Sponge, coelentrate, fish and reptiles

99. Which of the following may be considered a fossil:
(a) Unaltered
(b) Petrified
(c) Casts, moulds, prints etc.
(d) All of these★

100. Petrified fossils include:
(a) Frozen bodies of animal
(b) Hard structure like teeth, shells and bones★
(c) Prints of leaves, feathers, skin etc
(d) None

SET – 2

1. Flow of blood in large arteries is:
(a) 500mm per second★
(b) 300mm per second
(c) 250mm per second
(d) None

2. Flow in medium sized arteries is:
(a) 250mm per second★
(b) 125mm per second
(c) 300mm per second
(d) 400mm per second

3. Rate of flow of blood through a vessel is:
(a) Directly proportional to cross-sectional area of it 1
(b) Inversely proportional to the cross-sectidnal area /of it★

(c) Two times the: cross-sectional area of it
(d) None

4. The total cross-sectional area of capillaries in man is:
(a) 90 times that of aorta
(b) 200 times that of aorta
(c) 400 times that of aorta
(d) 500 times that of aorta★

5. Flow of blood in the capillaries of man will be:
(a) 1/500 times that of aorta ★
(c) 1/750 times that of aorta
(b) 1/250 times that of aorta
(d) None

6. Digestion of proteins occurs with the help of which of the following enzymes:
(a) Amylase (b) Proteoses★
(c) Lipase (d) None

7. Proteins are digested by:
(a) Proteoses (b) Peptidsases
(c) Aminopeptidases (d) All of them★

8. Digestion of carbohydrates in the frog occurs by:
(a) Amylopsin★ (b) Pepsin
(c) Steapsin (d) Rennin

9. Milk, egg, fish and meat are good source of:
(a) Proteins★ (b) Carbohydrates
(c) Minerals (d) All of these

10. Trypsin is secreted by the:
(a) Stomach (b) Pancreas ★
(c) Ileum (d) Liver

11. The rate of blood flow in capillaries of man wili be:
(a) 1mm per second★
(b) 2mm per second
(c) 5mm per second
(d) None

12. 'Heart murmurs' are caused due to the:
(a) Non-functioning of SA-Node
(b) Damage in any of the four valves★
(c) Disturbed impulse conduction through bundle of His
(d) None

13. Which of these muscles in the body have no pause and fatigue:
(a) Skeletal muscles
(b) Cardiac muscles★
(c) Both (a) & (b)
(d) None

14. The depressor nerve in the heart is a branch of:
(a) 8th cranial nerve
(b) 9th cranial nerve
(c) 10th cranial nerve ★
(d) None

15. Heart in vertebrates is:
(a) Neurogenic (b) Myogenic★
(c) Both (a) & (b) (d) None

16. One of the quality of myogenic hearts is that they:
(a) Can only work in presence of a nervous control
(b) Can work partly under nervous and partly under non-nervous control
(c) Cannot work in absence of a nervous control
(d) Can work even in absence of nervous control★

17. Heart rate in neurogenic hearts in increased by release of:
(a) Acetylcholine★ (b) Noradrenaline
(c) Both (a) & (b) (d) None

18. Heart rate in neurogenic nearis is decreased by release of:
(a) Noradrenaline★ (b) Acetylcholine
(c) Both (a) & (b) (d) None

19. Non-stop rhythmic contractions and expansions occur in which of these organs:
(a) Kidney (b) Liver
(c) Heart★ (d) Brain

20. Which of these hearts may function even in absence of a nervous control:
(a) Heart of Pila (b) Heart of rabbit★
(c) Both (a) & (b) (d) None

21. The most recent branch of taxonomy is known as:
(a) Cytotaxonomy
(b) Karyo taxonomy★
(c) Morphotaxonomy
(d) Taxidermy

22. Universe or cosmos began as a dense, red hot, gaseous cloud about:
(a) 1-2 billion years ago
(b) 7-10 billion years ago★
(c) 7-19 million years ago
(d) 1-2 million years ago

23. "Ylem" is term also use for:
(a) Cosmos ★ (b) Ocean
(c) Sun (d) Stars

24. Solar System originated about 4.5-5 billion years ago according to the theory proposed by:
(a) Darwin (b) Lamarck
(c) Kant-Laplace★ (d) None

25. Our earth came into existence about:
(a) 4.6 billion years ago★
(b) 3 billion years ago
(c) 5 million years ago
(d) 2 billion years ago

26. Life originated with the creation of universe and it reached the earth from Sun part of universe is the central idea of:
(a) Theory of spontaneous/sudden creation
(b) Cosmosic Theory★
(c) Theory of special creation
(d) Theory of Chemical evolution

27. Origin of life is now due to:
(a) Spontaneous generation★
(b) Will of God
(c) Effect of Sunshine on mud
(d) None

28. Which of the following is likely to have been absent in free form at the time of origin of life:
(a) Oxygen (b) Methane
(c) Nitrogen (d) Ammonia★

29. Originally the primitive atmosphere was reducing because:
(a) Oxygen was most abundant
(b) Hydrogen was absent
(c) Hydrogen atoms were most abundant and active★
(d) Carbon Atom were most active

30. Believers of theory of spontaneous generation assumed that:
(a) Organisms arose not only from other similar organisms but also spontaneously★
(b) Organisms always arose spontaneously
(c) Organisms arose only from air
(d) Organisms arose only from other similar organism

31. Joints by which the skull bones are articulated in frog are:
(a) Imperfect (b) Movable
(c) Immovable★ (d) Gliding

32. Angulosplenial is a:
(a) Structure in the spleen of rabbit helping in breakage of blood cells
(b) Bone found in the lower jaw of the frog★
(c) Part of lower jaw in rabbit that forms jaw suspension
(d) Part of pectoral girdle in frog

33. Which of these is paired bone in frog:
(a) Septomaxillary★ (b) Parasphenoid
(c) Sphenethmoid (d) None

34. Lower jaw in frog consists of:
(a) Dentary
(b) Dentary and angulosplenial
(c) Dentary, angulosplenial and Mickel's cartilage
(d) Dentary, angulosplenial, Mickel's cartilage and mentomeckelian★

35. Posteriorly the skull opens by a wide gap through which brain continues into spinal cord. It is called:
(a) Foramen of Monro
(b) Foramen magnum★
(c) Foramen of Mgindi
(d) None

36. How many bones form the lower jaw in frog:
(a) Three (b) Four
(c) Five (d) six★

37. How many bones form lower jaw in man:
(a) One★ (b) Tw0
(c) Three (d) Four

38. Which of these bones in frog is unpaired:
(a) Premaxilla (b) Maxilla
(c) Sphenethmoid★ (d) Vomer

39. Lower jaw in mammals is formed of:
(a) Dentary only★
(b) Dentary and Angulosplenial
(c) Dentary, Angulosplenial and Mickel's cartilage
(d) Dentary, Angulosplenial, Mickel's, Cartilage and Mentomeckelian ,

40. Skull in frog, rabbit, man and other mammals is:
(a) Monocondylic (b) Dicondylic ★
(c) Tricondylic (d) Acondylic

41. Secretion of which of these is not much controlled by pituitary:
(a) Adrenal medulla★ (b) Adrenal cortex
(c) Thyroid (d) Testes

42. Neurohypophysis contains:
(a) Oxytocin
(b) Vasopressin
(c) Both (a) & (b) ★
(d) Oxyocin and prolactin

43. Spermatogenesis is under direct regulation of:
(a) Vasopressin
(b) FSH
(c) Luteinizing hormone★
(d) None

44. Secretion of androgens by testes is under the regulatory influence of:
(a) Oxytocin
(b) Follicle stimulating hormone
(c) Luteotropic hormone
(d) Luteinizing hormone★

45. One of the defects of surgical removal of pituitary gland is fall in the level of sodium ions- in blood and rise in potassium level. The reason for this being:
(a) Atrophy of adrenal cortex★
(b) Atrophy of adrenal medulla
(c) LTH is no longer being available
(d) None

46. Which of these is different from rest of three:
(a) Gastrin (b) Secretin
(c) Glucagon (d) Ptylin★

47. Chief similarity between enzymes and hormones is that both are:
(a) Proteins
(b) Used again and again
(c) Used in minimum amount★
(d) Active at particular pH

48. Which of these hormones of pituitary stimulates contraction of uterine muscles to induce labour pains for delivery:
(a) Pitressin ★ (b) Prolactin
(c) Vasopressin (d) None

49. A decrease in amount of ADH in blood would affect nicturition in which of these ways:
(a) Increase ★ (b) Decrease
(c) Unaffected (d) None

50. Iintermedin is also the name of:
(a) ADH★ (b) STH
(c) Oxytocin (d) ICSH

51. In our body the ciliated epithelium is found in:
(a) Trachea, neurocoel of central nervous system and oviducts★
(b) Vagina, ureters and loop of Henle
(c) Bile duct, small intestine and stomach
(d) Pancreatic duct, eustachian tube, vagina and buccal cavity

52. Which of the following substances secreted by Mast cells of areolar tissue is anticoagulant:
(a) Heparin ★ (b) Serotonin
(c) Histamine (d) None

53. One of the following substances acts as a vasoconstrictor to arrest bleeding and also to increase blood pressure is:
(a) Heparin (b) Serotonin★
(c) Histamine (d) None

54. Which of the following cells of areolar tissue form antibodies:
(a) Mast cells (b) Macrophages
(c) Plasma cells ★ (d) Fibrocytes

55. Areolar tissue is found:
(a) Throughout the body under skin and epithelia, in between and around the muscles
(b) Around the nerves, blood vessels and between lobules of compound glands
(c) In the submucosa of gastrointestinal and respiratory tract, omenta and mesenteries
(d) In all of these structures★

56. Main functions of areolar tissue are:
(a) To bind body parts and facilitate the movements of epithelia, muscles etc.
(b) To help in diffusion of metabolites and other substances
(c) To help in vibration of wandering cells to the sites of infection and repair
(d) All of these★

57. White fibres are made up of:
(a) Collagen ★ (b) Elastin
(c) Reticulin (d) None

58. In tanning which of the following fibres are treated with salts of heavy metals:

(a) Collagen ★ (b) Elastin
(c) Both of these (d) None

59. Ligaments and tendons are made up of:
(a) Collagen fibres★ (b) Elastin fibres
(c) Areolar tissue (d) Adipose tissue

60. Ligamentum nuchae found in the neck of quadrupeds is example of:
(a) White fibrous tissue★
(b) Yellow elastic tissue
(c) Both of these
(d) None

61. Shivering of body and clattering of teeth in winters may be associated with:
(a) Thermoregulation★
(b) Vasouialation
(c) Vasoconstriction
(d) Sweating

62. Which type of W.B.Cs. are most abundant in vertebrate blood;
(a) Eosinophils (b) Basophils
(c) Neutrophils ★ (d) Lymphocytes

63. In which solution, R.B.Cs. burst:
(a) Hypertonic (b) Hypotonic★
(c) Isotonic (d) None

64. Under normal conditions, haemopoiesis occurs in:
(a) Bone marrow
(b) Liver
(c) Spleen
(d) Both liver & spleen★

65. Oval R.B.Cs. without nucleus are found in:
(a) Elephant (b) Camel ★
(c) Frog (d) Man

66. R.B.Cs. of frog are:
(a) Spherical
(b) Oval and nucleated★
(c) Oval
(d) Nucleated

67. Haemopoietic tissue is found is:
(a) Pituitary gland
(b) Pancreas
(c) Fat bodies
(d) Bone marrow★

68. Blood corpuscles shrink in a solution, which is:
(a) Hypertonic ★ (b) Hypotonic
(c) Isotonic (d) None

69. Antibodies are:
(a) Lipids (b) Carbohydrates
(c) Proteins ★ (d) Germs

70. R.B.Cs. of mammals are without nucleus because:
(a) They do not need it
(b) They are not true cells
(c) They loose it during their formation ★
(d) They do not have a nucleus from the beginning

71. Muscular movements are coordinated by:
(a) Thyroid (b) Pituitary
(c) Cerebrum (d) Cerebellum★

72. Heart is innervated by:
(a) Trigeminal (b) Vagus★
(c) Glossopharyngeal (d) Facialis

73. A nerve carrying impulses from a tissue to nerve centre is called:
(a) Efferent (b) Afferent ★
(c) Motor (d) Mixed

74. Which of these cranial nerves are purely:
(a) I, II & VIII ★ (b) I, II & IV
(c) I, V & VII (d) None

75. Cranial nerves of purely motor nature are:
(a) III, TV, VI, XI & XIII★
(b) I, II & VII
(c) V, VII, IX & XII
(d) None

76. Cranial nerves of mixed nature are:
(a) V,VII,IX&X★
(b) I, II & VIII
(c) III, IV, VI, IX & XII
(d) None

77. Depressor nerve innervating diaphragm is the branch of:
(a) Glossopharyngeal (b) Vagus ★
(c) Facialis (d) Abducens

78. Which of the following nerves originates from medulla:
(a) Occulomotor (b) Acoustic
(c) Optic (d) Vagus★

79. Which one of the following is a mixed nerve:
(a) Olfactory (b) Auditory
(c) Facialis★ (d) Occulomotor

80. Longest cranial nerve that supplies regions of body other than head is:
(a) Trochlear (b) Occulomotor
(c) Vagus ★ (d) Auditory

31. Craniata groups of chordates comprises of:
(a) Cyclostcmes and pi sees
(b) Amphibians and reptiles
(c) Birds and mammals
(d) All of these★

32. Wnich of the following is not an amphibian:
(a) Bufo (b) Rana
(c) Ichthvophis (d) Helodernia★

83. Fastest running bird is:
(a) Kiwi (b) Ostrich★
(c) Parrot (d) Emu

84. Limbless amphibian is;
(a) Rana (b) Bufo
(c) Ichthyophis★ (d) None

85. Power of regeneration is present in:
(a) Hydra (b) Earthworm
(c) Star-fish (d) All of these★

86. The birds are first:
(a) Cold-blood bipeds
(b) Warm-blood bipeds★
(c) Partial homeo thermous bipeds
(d) None

87. Coelom in echinoderms is:
(a) Simple body cavity
(b) Divided into sinuses★
(c) Pseudocoel
(d) None

88. Exoskeleton in birds is made up of:
(a) Contour feathers (b) Down feathers
(c) Filoplumes (d) All of these★

89. The major difference between reptiles and amphibians is:
(a) Cold-blooded nature ★
(b) Terrestrial life
(c) Formation of extra-embryonic membranes during development
(d) None of these

90. Difference in the scales of fishes and reptiles lies in their being:
(a) Endodemal and dry
(b) Epidermal and dry★
(c) Epidermal and wet
(d) Endodermal and wet

91. Q-wave and ascent of R-wave in electrocardiogram is indicative of:
(a) The time preceeding immediately the ventricular contraction★
(b) Ventricular relaxation
(c) Activation by SA-Node
(d) None

92. Systemic circulation in human body contains about:
(a) 64% of blood at a particular time★
(b) 84% of blood at a particular time
(c) 74% of blood at a particular time
(d) None

93. Which one of these is percentage of blood in veins, arteries and capillaries during systematic circulation in human body?
(a) 64% in veins, 15% in arteries and 5% in capillaries★
(b) 55% in veins, 15% in arteries and 14% in capillaries
(c) 50% in veins, 20% in arteries and 14% in capillaries
(d) None

94. Percentage of blood contained in pulmonary circulation in man is:
(a) 16% ★ (b) 20%
(c) 25% (d) 12%

95. Which one is the percentage of blood contained in the heart in man is:
(a) 7% ★ (b) 9%
(c) 9% (d) 12%

96. Bile juice contains:
(a) Bilirubin, biliverdin, bicarbonates, glycholates and taurocholates★
(b) Amylopsin steapsin, erepsin, trypsin, rennin and chymotrypsin
(c) Pepsin, rennin, ptylin, entrokrinin, gastrin and secretin
(d) None

97. Bilirubin and biliverdin are:
(a) End products of digestion
(b) Components of bile, juice formed by breakdown of RBCs ★
(c) Components of food
(d) None of these

98. The main function of bile is to:
(a) Regulate process of digestion by enzymatic action
(b) Regulate process of ingestion in the animal
(c) Emulsify the fats for further digestion★

(d) Eliminate the waste products of excretion

99. Pepsin helps in the digestion of proteins in:
(a) Acidic medium★ (b) Alkaline medium
(c) Neutral medium (d) None

100. Trypsin helps in the digestion of proteins, in:
(a) Acdic medium
(b) Alkaline medium★
(c) Slightly acidic medium
(d) None

SET – 3

1. In which of the following phyla of animals are found animals with porous body, canal system, archaeocyte cells, gemmules etc.
(a) Annelida (b) Mollusca
(c) Arthropoda (d) Porifera★

2. Which of the following animals is a ruminant:
(a) Horse (b) Pig
(c) Cow ★ (d) Rhino

3. Bipedal animals with beak in jaws and no teeth are:
(a) Amphibians (b) Reptile
(c) Bird ★ (d) Mammal

4. Which of these may be regarded as connecting link between reptiles and birds:
(a) Hemidactylus
(b) Ichthyophis
(c) Archaeopteryx★
(d) Ornithorhynchus

5. The connecting link between reptiles and mammals are:
(a) Flying reptiles
(b) Egg-laying mammals ★
(c) Marsupials
(d) Birds

6. In the ornithine cycle the enzyme arginase breaks down arginine into:
(a) Citruline and urea
(b) Ornithine and ammonia
(c) Citruline and ornithine
(d) Ornithine and urea★

7. Urea forming cycle in the liver of ureotelic animals is called:
(a) Ornithine cycle
(b) Kreb Henseleit, cycle
(c) Kreb's ornithine cycle
(d) All of these★

8. Reabsorption of glucose from glomerular filtrate is carried out by:
(a) Active transport★ (b) Osmosis
(c) Diffusion (d) None

9. Which of these is actively secreted in the glomerular filtrate of kidney tubule:
(a) Potassium ions (b) Sodium ions★
(c) Amino acids (d) Chloride ions

10. What causes liquid art of the blood to filter out from glomerulus into renal tubule?
(a) Osmosis
(b) Diffusion
(c) Dialysis
(d) High hydrostatic pressure★

11. Which of the following groups has water vascular system:
(a) Sponges (b) Arthropods
(c) Echinoderms★ (d) None

12. Which one of these is a cnidarians:
(a) Sea-horse (b) Sea-mouse
(c) Sea-urchin (d) Sea-pen★

13. Class of phylum chordata to which bat belongs is;
(a) Chiroptera (b) Mammalia ★
(c) Prototheria (d) Metatheria

14. Whale is a mammal because it:
(a) Is aquatic animal
(b) Has 3-chamabered heart
(c) Has a diaphragm between abdomen and thorax ★
(d) Lays eggs

15. Water vascular systems is found respectively in:
(a) Protozoans and cnidarians
(b) Protozoans and nematodes
(c) Sponges and echinoderms ★
(d) None

16. Mesohyal layer is characteristic of:
(a) Coelenterates (b) Sponges★
(c) Annelids (d) Helminthes

17. Which of the following groups has mesogloea layer in body:
(a) Sponges (b) Coelentrates★
(c) Annelids (d) Echinoderms

18. Class of phylum Protozoa to which Amoeba belongs is:
(a) Rhizopoda ★ (b) Sporozoa
(c) Ciliata (d) Flagellata

19. Protozoans with pseudopodia as locomotory organelles are:
(a) Ciliatcs (b) Masiigophores
(c) Sarcodines ★ (d) Flagellates

20. Branch of Biology related with classification is called:
(a) Taxidermy (b) Toxicology
(c) Taxonomy ★ (d) Genecology

21. Which of these does not digest proteins:
(a) Erepsin (b) Chymotrypsin
(c) Amylopsin ★ (d) Steapsin

22. Action of sucrose or invertase on cane sugar would result in the formation of:
(a) Glucose + Glucose
(b) Glucose + Galactose
(c) Glucose + Fructose ★
(d) None

23. According to Horowitz (1945) and Leslie Orgel (1975) the life originated in the sea as free naked gene which linked into chains and later proteins gathered around them to form viruses. The viruses by gathering other molecules and forming a thin binding membrane organized into prokaryotes. Whether this statements is:
(a) Correct (b) Incorrect
(c) Partially incorrect (d) Absurd★

24. Milk sugar is digested by:
(a) Sucrose (b) Invertase
(c) Lactose ★ (d) Maltose

25. pH of succus entericus is:
(a) 1.0-3.0 (b) 5.0-6.8
(c) 7.5-8.0 ★ (d) 8.0-105

26. All the proteolytic enzymes are secreted in their inactive form in order to prevent:
(a) Their own digestion
(b) Autodigestion of the body★
(c) Peristalsis in the gut wall
(d) Essential bacteria from death

27. Symbiotic bacteria doing synthesis of vitamins in the intestine are:
(a) Entamoeba coli
(b) Balantidium coli
(c) Entamoeba histolytica
(d) None★

28. Formation of protein is a type of:
(a) Hydration process
(b) Dehydration process★
(c) Hydration analysis
(d) Dehydration analysis

29. Intestinal villi are more numerous and larger in posterior part of the intestine as compared to anterior part because:
(a) Digestion is faster in posterior part than that of anterior
(b) Blood supply is poorer in the posterior part than the anterior
(c) Blood supply is poorer in the anterior part than the posterior
(d) There is more of digested food in the posterior part than anterior★

30. Cellulose digestion in rabbit, cows and herbivorous mammals occurs in which of these structures with the help of bacteria:
(a) Intestinal villi
(b) Vermiform appendix
(c) Pyloric caeca
(d) Vermiform appendix and caecum★

31. Which of the following sets includes generic names of seals, walrus and sea-lion:
(a) Phoca, Acinus, Panthera leo
(b) Phoca, Panthera leo, Zalophus
(c) Phoca, Odobanus, Zalophus ★
(d) Phoca, Acinus, Zalophus

32. Lion and sea-lion are members of order:
(a) Carnivora ★ (b) Cetacea
(c) Both (a) & (b) (d) None

33. Testes in Primate group of mammals are:
(a) Abdominal (b) Inguinal
(c) Scrotal★ (d) None

34. Opposable thumbs are characteristic feature of:
(a) Lagomorpha (c) Primates ★
(c) Edentata (d) None

35. Which of the following is mammalian character of Prototheria:
(a) Hair
(b) Mammary glands
(c) Diaphragm
(d) All of these★

36. Prototherians are:
(a) Poikilothermal
(b) Homeothermal

(c) Stemothermal ★
(d) None

37. Which of the following are poikilotherrns:
(a) Reptile (b) Amphibians
(c) Both (a) & (b) ★ (d) None

38. Which of the following does not belong to group Pisces:
(a) Flying fox (b) Filter-mice
(c) Lung-fish (d) Hag-fish★

39. Desomodus is generic name for:
(a) Flying fox (b) Filter-mice
(c) Vampire-bat★ (d) None

40. "Filter-Mice" is common name for which of the following animal:
(a) Pteropus (b) Vespertilio★
(c) Desomodus (d) None

41. Which of the following is associated with name of Darwin:
(a) Philosophic Zoologique
(b) Special Creation
(c) Variation
(d) Galapago's islands★

42. Darwin did not have much idea of mutations but he used a word to denote them which was:
(a) Variation (b) Sports★
(c) Phenotype (d) None

43. In formulating his theory of organic evolution by "Natural Selection", Darwin was greatly influenced by the writings of:
(a) Malthus★ (b) Mendel
(c) De Vrics (d) Lamarck

44. The theory of organic evolution by process of natural selection was proposed by:
(a) Mendel
(b) Darwin and Wallace
(c) Lamarck
(d) Darwin★

45. The book "Origin of Species" was published in the year:
(a) 1809 (b) 1858
(c) 1859★ (d) 1959

46. The idea of "Survival of fittest" was - first presented by:
(a) Lyell (b) Mendel
(c) Darwin (d) Spencer★

47. Which of the following was most tipfluential in formulation of "Theory of Natural Selection":
(a) Inheritance of acquired characters
(b) Malthus's essay on population★
(c) Struggle for existence
(d) MendeTs laws of inheritance

48. Key point of Lamarck's Theory was:
(a) Survival of fittest
(b) Continuity of germplasm
(c) Inheritance of acquired characters★
(d) Descent with modifications

49. Ship on which Darwin travelled was:
(a) Beagle ★ (b) Begle
(c) Baegle (d) Bieggle

50. One major criticism against Darwin's Theory on evolution is:
(a) That it does not explain presence of vestigial organs found in many mammals
(b) That is overestimates the reproductive capacity of organisms
(c) That it does not take into account the variations with heredity in the organisms★
(d) That it pre-supposes that environment upon earth has been changing through ages

51. Bartholin's glands in the female correspond to which glands in the male?
(a) Inguinal glands
(b) Cowper's glands★
(c) Prostrate gland
(d) Rectal glands

52. The seminal fluid contains sperms and secretions of:
(a) The prostate, Cowper's and Bartholin's glands
(b) The seminal vesicle, prostrate and Cowper's glands★
(c) The seminal vesicle, ureter and prostrate glands
(d) The follicles, ureters and prostrate gland

53. In the absence of pregnancy, corpus luteum
(a) Becomes active and. secretes FSH and LH
(b) Produces lot of oxytocin and relaxin
(c) Degenerates after some time★
(d) Is maintained by progesterone

54. What are the diploid stages in gametogenesis?
(a) Spermatogonia and spermatids
(b) Spermatogonia and primary spermatocytes★
(c) Spermatogonia and sperm
(d) Primary spermatocytes and secondary spermatocytes

55. The middle piece of mammalian sperm possesses:
(a) Mitochondria and centriole★
(b) Mitochondria only
(c) Centriole only
(d) Nucleus and mitochondria

56. After a sperm has penetrated an ovum, the entry of other sperms is prevented by:
(a) Condensation of yolk
(b) Formation of pigment coat
(c) Development of vitelline membrane
(d) Development of fertilization membrane★

57. Tailless sperm is found in:
(a) Frog (b) Ascaris★
(c) Amphioxus (d) Rabbit

58. The egg of certain mammals have more yolk. They are known as:
(a) Aquatic mammals (b) Metatherians
(c) Protherians ★ (d) Eutherians

59. Bartholin's glands occur in:
(a) Females and help in vestibular lubrication★
(b) Females and produce oestrogen for regulating secondary sexual characters
(c) Males and form the liquid part of spermatic fluid
(d) Males and produce alkaline fluid for neutralising urethral acidity

60. The loss of reproductive capacity in women after the age of 45 years is known as:
(a) Menstruation (b) Ageing
(c) Menopause ★ (d) Menarche

61. Which one of the following is total lung capacity in man:
(a) 2300ml (b) 3500ml
(c) 4600ml (d) 5800ml★

62. Accumulation of fluid in pleural cavity generally associated with bacterial infection loads to a disease called:
(a) Pellagra (b) Beri-beri
(c) Pleurisy★ (d) None

63. Various pulmonary volumes in man are:
(a) Same in woman
(b) 20-25% lesser in woman★
(c) 20-25% higher in woman
(d) Almost equal in woman

64. Robust persons and athletes have:
(a) Greater pulmonary volumes than normal man★
(b) Lesser pulmonary volumes than normal man
(c) Almost equal as in normal man
(d) Equal as in normal man

65. During sleep various pulmonary volumes in our body:
(a) Become slightly higher than normal
(b) Become slightly lesser than normal★
(c) Remains almost same as in normal condition
(d) Remains exactly same as in normal conditions

66. Vestibules of nasal chamber in rabbit has:
(a) Vibrissae ★ (b) Cuniculi
(c) Follicles (d) Folliculi

67. The space between two pleural cavities in rabbit is called:
(a) Mediastinum★ (b) Diaphragm
(c) Diastema (d) None

68. What is specially common in alveoli of lungs and villi of intestine in mammals:
(a) Both provide a large surface area★
(b) Both are lightly suited for diffusion of gases
(c) Both have rich supply of blood vessels and lymph ducts
(d) Both have ciliated epithelium

69. Common feature between trachea of rabbit and brachea of cockroach is that:
(a) Both are paired and branched
(b) Both have ciliated epithelium
(c) Both have non-collapsible walls ★
(d) Both originate from pharynx in head region

70. During inspiration in rabbit, the diaphragm:
(a) Relaxes to become dome-shaped
(b) Contracts and flattens★
(c) Expands
(d) Shows no change

71. Which of these secretes gonadotropins:
(a) Hypothalamus (b) Post pituitary
(c) Ant pituitary★ (d) Gonads

72. Acromegaly results after adolescence due to hypersecretion of:
(a) Insulin
(b) Thyroxine
(c) Prolactin
(d) Growth hormone★

73. Which of these secretes oxytocin:
(a) Adrenals (b) Pituitary ★
(c) Thyroid (d) Ovaries

74. Which of these parameters are true for thyroid gland in man:
(a) 3-5 cms and 25 - 30 gms★
(b) 8-01 cms and 40-50 gms
(c) 0.5 - 1.0 cms and 0.5 gms
(d) None

75. Which of these hormones are secreted by thyroid gland:
(a) Tetra-iodothyronine
(b) Tri-iodothyronine
(c) Both (a) & (b) ★
(d) None

76. Thyroid secretes its hormones under the influence of:
(a) Nervous control
(b) TSH of adenohypophysis ★
(c) . ACTH of adrenals
(d) None

77. Rate of oxidative metabolism in man is increased by:
(a) Thyroxine ★ (b) ATCH
(c) ADH (d) None

78. Hyposecretion of thyroid hormone causes:
(a) Cretinism in children
(b) Myxodema in adults
(c) Both (a) & (b) ★
(d) None

79. Simple goiter is caused due to:
(a) Hypersecretion of thyroid horomone
(b) Hyposecretion of pituitary horomones
(c) Iodine deficiency in food leading to hyposecretion of thyroid★
(d) None

80. Asymmetrical protrusion of eye balls giving an angry, frightened look is seen in which of these:
(a) Simple goitre
(b) Exophtalmic goitre★
(c) Both (a) & (b)
(d) None

81. Elementary particles are found on which of these structures of mitochondria:
(a) Cristae★
(b) Outer membrane
(c) Both (a) & (b)
(d) None

82. Elementary particles on cristae of mitochondria are also called:
(a) F_0 F_1 panicles (b) Oxysomes
(c) Both (a) & (b) ★ (d) None

83. Lysosomes were first isolated by:
(a) de Duve ★ (b) Dujardin
(c) Rhodin (d) None

84. Lysosomes are reservoirs of which of these substances:
(a) Hydrolytic enzymes★
(b) Oxidative enzymes
(c) Fats and RNA
(d) Glycoproteins

85. Who named lysosomes:
(a) Virchow (b) Novikoff★
(c) Kolliker (d) None

86. Suicide bags of the cell are:
(a) Ribosomes (b) Oxysomes★
(c) Lysosomes (d) None

87. Endoplasmic reticulum is the main centre of:
(a) Cellular excretion
(b) Carbohydrate synthesis
(c) Protein synthesis★
(d) Blood formation

88. Animal cell is limited outside by:
(a) Basement membrane
(b) Cell wall
(c) Plasma membrane ★
(d) None

89. Wall of mitrochondria is made up of:
(a) Protein (b) Lipids
(c) Lipoproteins★ (d) Carbohydrates

90. Peroxisomes are vesicles like lysosomes but they contain:

(a) Proteolytic enzymes
(b) Oxidative enzymes★
(c) Both (a) & (b)
(d) None

91. Which is the correct set for classification of Hydra:
(a) Cnidaria, Hydrozoa, Hydrida, Hydra★
(b) Cnidaria, Scyphozoa, Hydrida, Hydra
(c) Cnidaria, Anthozoa, Hydra
(d) Cnidaria, Anthozoa, Hydrida, Hydra

92. Plasmodium belongs to which of the following classes of phylum Protozoa:
(a) Mastigophora (b) Ciliophora
(c) Sporozoa★ (d) Sarcodina

93. Trypanosoma and Euglena are members of class:
(a) Mastigophora ★ (b) Sarcod
(c) Sporozoa (d) None

94. Which of the following molluscs is called "Elephant-tusk mollusc"
(a) Chiton (b) Pila
(c) Dentalium ★ (d) Octopus

95. Which of these birds sucks nector from flowers:
(a) Parrot
(b) Red-vented bulbul
(c) Sunbird ★
(d) Myna

96. Ammonia is chief excretory product in the:
(a) Reptiles
(b) Turtles
(c) Mammals
(d) Tadpole of frog★

97. Yellow colour in human urine is due to the presence of:
(a) Urochrome formed by degration of haemoglobin★
(b) Haematochrome formed by the breakdown of haemoglobin
(c) Bilirubin formed by haemolysis of RBCs
(d) None

98. Which of these imparts yellow colour to urine:
(a) Urochrome ★ (b) Albumen
(c) Cholesterol (d) Urea

99. Distal convoluted tubule is generally impermeable to water but becomes permeable under the influence of:
(a) ACTH (b) ADH★
(c) STH (d) ICSH

100. Due to insufficient filtration in the Bowman's capsule all the following are likely to happen except:
(a) Increase in the blood pressure
(b) Increase in blood urea level
(c) Loss of glucose through urine★
(d) Accumulation of fluid in the body

SET – 4

1. Star-fishes, brittle-stars, sea-cucumber, sea-urchins etc. belong to phylum:
(a) Echinodermata★ (b) Arthropoda
(c) Mollusca (d) Annelida

2. Scorpions, spiders, ticks etc, are members of which of the following class of phylum Arthropoda:
(a) Archnida ★ (b) Insecta
(c) Diplopoda (d) Crustacea

3. King-crab is not the member of class Crustacea" whether this statement is:
(a) True ★ (b) Wrong
(c) Partially true (d) No idea

4. Which of the following arthropods is an ectoparasite:
(a) Tick (b) Bed-bug ★
(c) Rat-flea (d) All of these

5. Which of the following is aquatic carnivorous mammal:
(a) Zalophus ★ (b) Phoca
(c) Odobanus (d) All of these

6. Which of the following animals has gills and pulmonary sac for respiration:
(a) Nereis (b) Pila★
(c) Lamellidens (d) All of these

7. Jelly fish is a:
(a) True fish (b) Cnidarian ★
(c) Molluscs (d) Arthropoda

8. Difference in a lizard and salamander is:
(a) Webbed toes (b) Scaly skin★
(c) Milk gland (d) None

9. Gavialis, alligator and crocodiles belong to which of the following groups of class Reptilia:

(a) Ophidia (b) Lacertilia
(c) Crocodilia ★ (d) Chelonia

10. Snakes belong to one of the following groups of class Reptilia:
(a) Lacertilia (b) Ophidia★
(c) Chelonia (d) None

11. In a virus, the virion consists of:
(a) Capsid and DNA
(b) Capsid and RNA
(c) Capsid and both nucleic acids★
(d) None

12. The enzymes helping a virus to penetrate into host cell by dissolving its wall is:
(a) Nuclease (b) Cellulase
(c) Neuroaminidiase★ (d) Phosphorylase

13. Which of the following characters justify the non-living nature of viruses:
(a) Non-cellular structure of viruses
(b) Absence of metabolism and enzymes
(c) Property of being crystallized and stored in the bottles
(d) All of these★

14. Which of the following characters justify the living nature of viruses:
(a) They can multiply within host cells
(b) They have capability of mutations
(c) They can synthesize proteins for forming capsid
(d) All of these★

15. Term bacteriophage is given to:
(a) A bacteria which is parasite on viruses★
(b) A virus which is a parasite on bacterium
(c) Both (a) & (b)
(d) None

16. "Smallest virus is 10m in size while largest known virus is 350m, whether this statement is:
(a) Correct ★ (b) Wrong
(c) Partially wrong (d) None

17. "TMV (Tobacco Mosaic Virus) is rod shaped while Polio and Influenza viruses are spherical" whether this statement is:
(a) True ★ (b) False
(c) Partially false (d) None

18. "Core" in the virus is made up of:
(a) Cellulose
(b) Nucleic acids★
(c) Plasma membrane
(d) Nuclear membrane

19. Protective sheath in virus is called:
(a) Capsid★
(b) Plasma membrane
(c) Sarcolemma
(d) None

20. Which is first known human viral disease:
(a) Polio★ (b) Yellow fever
(c) Influenza (d) Typhoid

21. Eustachian valve is found is:
(a) Middle ear
(b) Internal ear
(c) Left ventricle of heart
(d) Right auricle of heart★

22. Cardiac muscles:
(a) Contract quickly and get fatigued
(b) Contract slowly and get fatigued
(c) Contract slowly and do not get fatigued
(d) Contract quickly and do not get fatigued★

23. Eustachian valve is present in rabbit at:
(a) The opening of right precaval into right auricle
(b) The opening of left precaval into right auricle
(c) The opening of postcaval into right auricle★
(d) None

24. Blood from the wall of heart itself in rabbit is collected by:
(a) Coronary sinus ★ (b) Pulmonary vein
(c) Coronary artery (d) None

25. Coronary sinus in heart of rabbit opens:
(a) In left auricle
(b) In postcaval
(c) At a small pore close to the opening of left precaval★
(d) At a small pore close to the opening of right precaval

26. Only one precaval is found in which of the following mammals:
(a) Cat (b) Man
(c) Both of these ★ (d) None

27. Thebesian valve is present in the heart of rabbit at:
(a) The opening of postcaval

(b) The opening of pulmonary vein
(c) The opening between left precaval and coronary sinus ★
(d) None

28. Papillary muscles are found in the:
(a) Ventricles of heart in rabbit★
(b) Dermis of mammalian skin
(c) Orbits of vertebrate eyes
(d) Pylorus of rabbit's stomach

29. Term "Bicuspid" is applied to:
(a) A value in the heart and a bone of pelvic girdle
(b) A muscle in the heart and a valve in the heart
(c) A valve in the heart and surface of mammalian teeth
(d) A valve in the heart★

30. Bicuspid valve is also called:
(a) Mitral valve★
(b) Spiral valve
(c) Eustachian valve
(d) Thebesian valve

31. One of the richest sources of vitamin B, is:
(a) Curd (b) Eggs
(c) Cod-liver oil (d) Wheat bread★

32. Ascorbic acid is the name of:
(a) Vitamin A (b) Vitamin C★
(c) Vitamin D (d) Vitamin E

33. Vitamins are the substances which:
(a) We use as extra source of energy in our body
(b) We store in our body as fuel
(c) We use but cannot synthesize them★
(d) Form the largest percentage in our body

34. Deficiency of vitamin C will cause:
(a) Beri-beri (b) Architis
(c) Scurvy★ (d) Night-bindness

35. A man suffering from rhodopsin deficiency must take:
(a) Potatoes (b) Tomatoes
(c) Carrots★ (d) None

36. Which one ot these vitamins is essential for normal vision in our eyes:
(a) D (b) K
(c) E (d) A★

37. Rickets is a disease which is caused by deficiency of one of the following vitamins:
(a) Vitamin A (b) Vitamin B
(c) Vitamin E (d) Vitamin D★

38. Ascorbic acid is richly found in:
(a) Potatoes (b) Banana
(c) Lemon ★ (d) Mangoes

39. Anaemia in our body is caused due to deficiency of:
(a) Folic acid
(b) Cyanacobalamine
(c) Both (a) & (b) ★
(d) None

40. Vitamin C is helpful in:
(a) Wound healing★
(b) Formation of visual pigment
(c) Blood coagulation
(d) Treatment of anaemias

41. Glare due to tepatum layer in the eyes of certain mammals helps to:
(a) Act as aggressive mechanism
(b) Increase the stimulation of retinal cells
(c) Perform both of these functions ★
(d) Perform None functions

42. The diameter of eye ball in an adult man is:
(a) 10-15 cms (b) 15-20 cms
(c) 20-21 cms ★ (d) None

43. In which of these eye defects the anteroposterior diameter of the eye ball is short:
(a) Hypermetropia★ (b) Myopia
(c) Astigmatism (d) None

44. Owing to reduction of the diameter of eye ball the retina comes close to lens and the light rays strike the retina before they have converged again resulting in blurred image, this defect is called:
(a) Hypermetropia and generally occurs with the aging★
(b) Myopia in which one can see only nearby objects
(c) Astigmatism in which light in one plane is focused in other plane
(d) None

45. In which of these eye defects the lens looses its transparency and the defect occurs at the aging:
(a) Hypermetropia (b) Myopia
(c) Astigmatism (d) Cataract★

46. Increase in intraocular pressure of aqueous humour results in development of:
(a) Cataract (b) Glaucoma★
(c) Astigmatism (d) None

47. Opacity of lens interfering in the transmission of light to retina is seen during:
(a) Astigmatism (b) Cataract★
(c) Strabismus (d) None

48. Which of these is a balancing organ:
(a) Eye (b) Ear★
(c)Both (a) & (b) (d) None

49. Which equilibrium is concerned with the orientation of the animal at rest:
(a) Kinetic equilibrium★
(b) Static equilibrium
(c) Both (a) & (b)
(d) None

50. During change in our body balance, the otoconia of endolymph stimulate the cells of:
(a) Macula utriculi★ (b) Scala media
(c) Scala vestibuli (d) None

51. Hormone responsible for puberty in man is:
(a) Thyoxine (b) Testesterone★
(c) Cortisol (d) Pitressin

52. Deficiency of iodine in a man would lead to:
(a) Simple goitre★
(b) Exophtalmic goitre
(c) Acromegaly
(d) Myxodema

53. Diabetes mellinus is a disease which is caused due to lack of:
(a) Starches in our food
(b) ADH from pituitary
(c) Trypsin in the pancreatic juice
(d) Insulin in the blood★

54. Androgens are secreted by:
(a) Ovaries (b) Thyroid
(c) Testes (d) Pituitary★

55. Which of these are increased by administration of adrenaline:
(a) Heart rate (b) Blood pressure
(c) Both (a) & (b) ★ (d) None

56. Which of these hormones governs the metabolish of carbohydrates:
(a) Insulin★ (b) Glucocorticoids
(c) Thyroxine (d) All of these

57. Which of these organs do not secrete any hormone:
(a) Stomach (b) Intestine
(c) Spleen ★ (d) Testes

58. A diabetic person has more thirst as he needs water to eliminate from blood the extra amount of which of these:
(a) Salts (b) Sugars★
(c) Insulin (d) Proteins

59. Progrestrone is secreted by which of these:
(a) Corpus callosum
(b) Corpus luteum★
(c) Corpus albicans
(d) None

60. Testes secrete androgens under the influence of:
(a) Oxytocin
(b) FSH form pituitary
(c) LTH of pituitary
(d) LH of pituitary★

61. A zygote has:
(a) x number of chromosomes
(b) 2x number of chromosomes ★
(c) 3x number of chromosomes
(d) 4x number of chromosomes

62. Number of chromosomes, in human karyotype is:
(a) 23 (b) 46★
(c) 92 (d) None

63. DNA duplication is:
(a) Conservative
(b) Semiconservative★
(c) Complete
(d) Incomplete

64. Which of these marks the beginning of diploid phase in our life cycle:
(a) Zygote ★ (b) Sperm
(c) Ovum (d) None

65. Commencement of diploid phase in the life cycle ef an animal is marked by:
(a) Zygote ★ (b) Microspore
(c) Megaspore (d) Embryo

66. A cell cycle has which of the following phases:
(a) G_1 and G_2 - phase (b) S - phase
(c) M or D - phase (d) All of these★

67. Interphase is constituted in cell cycle by:
(a) G_1 phase (b) G_2 – phase
(c) S - phase (d) All of these★

68. Duration of G_1 - phase in cell cycle is:

(a) 5 hours (b) 10 hours★
(c) 8 hours (d) None

69. Duration of S - phase of cell cycle is:
(a) 5 hours (b) 8 hours★
(c) 10 hours (d) None

70. G_2 - phase of cell cycle lasts for about:
(a) 5 hours ★ (b) 8 hours
(c) 10 hours (d) 1 hours

71. Lamarckism envisages that the:
(a) Organisms tend to grow in the size
(b) Organisms inherit the characters acquired by their parents★
(c) Environment influences the organisms
(d) Enormous fertility in the organisms leads to over production

72. Hugo De Vries pioneered the theory of mutations to explain the mechanism of organic evolution. The material on which he performed experiments was:
(a) Drosophila melanogaster
(b) " Pisum sativum
(c) Oenothera Lamarckiana★
(d) Escherichia coli

73. Oenothera Lamarckiana the plant which was used by De Vries is commonly called:
(a) Sweet-pea
(b) China-rose
(c) Evening primrose★
(d) None

74. According to the "Theory of Continuity of Germplasm" which was put forward by August Weismann:
(a) The acquired characters of organisms that have passed to somatoplasm are inherited in their offsprings
(b) The acquired character of organism which have passed only to germplasm are inherited in their offsprings★
(c) The acquired characters of organism that have passed only to somatoplasm and not to germplasm are inherited in their offsprings
(d) The acquired characters of organism are inherited due to principle of recapitulation

75. Mutations are:
(a) Heritable changes★
(b) Inheritable changes
(c) Changes that may or may not be inherited
(d) Changes acquired by organisations in the time

76. Which of the following facts does not hold truth with reference to De Vries Theory of organic evolution:
(a) New species evolve by sudden and distinct heritable changes called by mutations and not by natural selection
(b) First individual showing is called "mutant'. It is pure breeding as well as transmits mutations to its progeny and thus starts a new species
(c) All organisms have tendency to mutate but the rate of mutation varies from time to time depending upon environmental and physiological conditions
(d) The development and deficiency of organs are in proportion to use and disuse of these organs★

77. De Vries Theory of Organic Evolution is longer accepted because of one of the lowing criticisms:
(a) Oenothera Lamarckiana is highly inconsistent hybrid species and distribution of 14 chromosomes is highly anamolous
(b) Mutants often render mutants so much different from other members of species that they fall to compete and perish
(c) Being random, the mutations are hardly useful in adaptability, therefore, they bring extinction of species rather than evolution
(d) All of these★

78. Currently "Evolution" and "Natural Selection" are regarded as natural phenomena. "Principles of Genetics" applied to "Population Dynamics" have removed the drawbacks of Darwin's Theory as a result "neo Darwinism" has emerged out as "Modern Synthetic Theory of Organic Evolution". The theory was designated to explain organic evolution by:
(a) Charles Lyell
(b) Herbert Spencer
(c) Huxley★
(d) De Vries

79. Initial material to "Modern Synthetic Theory of Organic Evolution" was provided by Dobzhansky's book entitled:
(a) "Natural Selection and Origin of Species"
(b) "Origin of Species"
(c) "Genetics and Origin of Species"★
(d) "Philosophic Zoologique"

80. Which of the following Scientists contributed a lot to "Modern Synthetic Theory of Organic Evolution":
(a) Muller(1949) (b) Fischer (1958)
(c) Wright (1968) (d) All of these★

81. Respiratory quotent (RQ) means:
(a) Volume of CO_2 given in unit time
(b) Volume of oxygen absorbed in unit time★
(c) Ratio of carbondioxide liberated to that of oxygen taken
(d) None

82. RQ for carbohydrates is:
(a) 1.0 ★ (b) 0.71
(c) 0.8 (d) None

83. RQ for proteins is:
(a) More than 1.5
(b) Less than 1 (0.71)
(c) 0.8★
(d) None

84. RQ for fats is:
(a) 1.5 (b) 1.0
(c) 0.71 (d) 0.8★

85. For a man using carbohydrates, proteins and fats in diet the figure for RQ is:
(a) 0.7 (b) 0.85★
(c) 1.5 (d) 0.75

86. RQ for carnivores is:
(a) 0.75 ★ (b) 0.85
(c) 0.96 (d) None

87. RQ for omnivores is:
(a) 1.0 (b) 0.96
(c) 0.75 (d) 0.80★

88. RQ for herbivores is:
(a) 0.7 (b) 0.75
(c) 0.80 (d) 0.96★

89. Imitation of throat and respiratory passage due to smoking and dust allergy causes:
(a) Cough★ (b) Tuberculosis
(c) Whooping cough (d) None

90. Reduced supply of oxygen to tissues is termed:
(a) Asphyxia (b) Anoxia
(c) Hypoxia★ (d) Pyrexia

91. Which of the following animals has only one ovary and oviduct:
(a) A fish (b) An amphibian
(c) A reptile (d) A bird★

92. Sinus venosus is absent in:
(a) Mammals ★ (b) Birds
(c) Reptiles (d) Amphibians

93. R.B.Cs. in mammals are:
(a) Oval and nucleated
(b) Biconcave and enucleated★
(c) Oval and enucleated
(d) Of different types than these

94. Mammals can be defined best as:
(a) Cold-blooded animals with four limbs
(b) Warm-blooded animals with hair and mammae★
(c) Animals with scaly skin and diaphragm
(d) Cold-blooded animals with fur and mammae

95. Which is most important character of birds:
(a) Claws (b) Beak★
(c) Tail (d) None

96. A small sized animal with 3 pairs of leg, 1 pair of wings, sponging mouth parts and carrier of various germs win be:
(a) Musca domestica★
(b) Culex bipiens
(c) Anopheles
(d) None

97. Millipedes and centipedes belong respectively to classes:
(a) Onychophora and Trilobita
(b) Diplopoda and Chilopoda★
(c) Merostomata and Archanida
(d) Crustacea and Archnida

98. In which of the following groups the excretory system is absent:
(a) Annelida (b) Platyhelminthes
(c) Echinodermata ★ (d) None

99. Which of the following animals has podia or tube-feet for locomotion:
(a) Amoeba (b) Leucosolenia
(c) Chiton (d) Pentaceros★

M.B.D.

100. Animals which well developed foot belong to phylum:
(a) Annelida (b) Nematoda
(c) Arthropoda (d) Mollusca★

SET – 5

1. Which of these are used for the treatment of allergies:
(a) Glucocoticoids★
(b) Mineralocoticoids
(c) Both (a) & (b)
(d) None

2. Prostglandins help in which of these functions:
(a) Fertilization going on with semen
(b) Induce labour when injected during birth
(c) Cure of asthma
(d) All of these★

3. Pheromones help in:
(a) Affecting mutual behaviour of members of a species★
(b) Affecting rate of metabolism by increasing adrenaline
(c) Regulating water and salts in the body
(d) None

4. The study of endocrines is called:
(a) Endocrinology★ (b) Neurology
(c) Enterology (d) None

5. Retardation of digestive activities is done by:
(a) Adrenaline ★ (b) Insulin
(c) Both (a) & (b) (d) None

6. Term "Epithelia" was introduced by:
(a) Mayer
(b) Marcello Malpighi
(c) Ruysch ★
(d) Bichat

7. Desmosomes which are button-like junctions between epithelial cells with tonofibrils are responsible for:
(a) Bearing mechanical stress★
(b) Providing chemical exchange
(c) Both (a) & (b)
(d) None

8. Basement membrane upon which the epithelial cells rest is formed of:
(a) Hyaluronicacid + glycoproteins + layer of reticular fibres★
(b) Hyaluronicacid + lipids + layer of reticular fibres
(c) Hyaluronicacid + carbohydrate + layer of reticular fibres
(d) None

9. Epithelial cells lining cavities have:
(a) Microvilli (b) Stereocilia
(c) Cilia (d) All of these★

10. Simple, squamous epithelium is found in the lining of:
(a) Body cavities like blood vessels, peritonium, Bowmann's capsule etc.
(b) Trachea, large bronchi, epididymis etc.
(c) Oesophagus, anal canal, vagina etc.
(d) All of these★

11. Who coined the term protoplasm?
(a) Dujardin (b) Von Mohl
(c) Purkinja (d) None★

12. Simple epithelium is associated with:
(a) Secretion (b) Absorption
(c) Diffusion (d) All of these★

13. Stratified epithelum is found on:
(a) Protective surfaces★
(b) Absorptive surfaces
(c) Both (a) & (b)
(d) None

14. Groups of similar cells specialized to perform specific functions constitute:
(a) Organs (b) Systems
(c) Tissues ★ (d) Body

15. Branch of Science dealing with microscopic anatomy of tissues is called:
(a) Cytology (b) Histology★
(c) Morphology (d) None

16. Exchange of materials between blood and tissue cells occurs through:
(a) Lymph (b) Plasma
(c) Water (d) Tissue fluid★

17. Exchange of materials between blood and tissue fluid occurs through:
(a) Veins (b) Arteries
(c) Capillaries ★ (d) Lymph

18. Stratum corneum has dead, cornified cells but hadjbese cells been living, the possible disadvantage would be that:
    (a) Skin would be hairless
    (b) Bacteria and other microbes could freely enter the inner tissues
    (c) Microbes could grow freely on skin surface★
    (d) Sweat could not be poured out
19. Mast cells are present in:
    (a) Epithelial tissue (b) Areolar tissue★
    (c) Muscular tissue (d) Nervous tissue
20. Which of the following is a single type of tissue:
    (a) Liver (b) Stomach
    (c) Blood ★ (d) Pancrea
21. Which of these facts suggests that oxygen is transported from lungs to the tissues combined with haemoglobin rather than dissolved in blood plasma:
    (a) Haemoglobin can combine with oxygen
    (b) Oxygen carrying capacity of whole blood is higher than that of plasma
    (c) Oxyhaemoglobin can dissociate into haemoglobin and oxygen★
    (d) Increase in CO_2 concentration decreases the O_2 affinity of haemoglobin
22. How much oxygen binds with 1 gm of haemoglobin in normal state:
    (a) 0.5ml (b) 0.75ml
    (c) 1.0 gm (d) -34gm★
23. Oxygen capacity of haemoglobin is:
    (a) The amount of oxygen whicn i gm of haemoglobin can bind★
    (b) The amount of oxygen which haemoglobin exchanges with similar amount of carbondioxide
    (c) The amount of oxygen which is present in blood of alveolar circulation
    (d) None
24. Deoxygenation of oxyhaemoglobin is:
    (a) Directly proportional to blood PCO_2★
    (b) Inversely proportional to blood PCO_2
    (c) Directly proportional to PO_2
    (d) Inversely proportional to PO_2
25. Which of these is termed Bohr effect:
    (a) Deoxygenation of oxyhaemoglobin is directly proportional to PCO_2★
    (b) Oxygen carrying capacity of whole blood is higher than plasma
    (c) Increase in CO_2 concentration decreases O_2 affinity of Hb
    (d) None
26. Haldane effect states that:
    (a) Oxyhaemoglobin behaves as a strong acid so more and more amount of it formed releases more and more H^+ ions★
    (b) Deoxygenation of oxyhaemoglobin is directly proportional to PCO_2
    (c) Increase the oxygen affinity of haemoglobin
    (d) None facts
27. The atmosphere of industrial area loaded with chimines is considered harmful to health because:
    (a) There is more and more carbondioxide
    (b) There is carbonmonoxide which can bind with Hb 230 times more than oxygen and its pressure of about 0.7 mm Hg is lethal★
    (c) There is more water vapour which makes breathing difficult
    (d) The air has very low percentage of oxygen
28. A catabolic process by which the chemical degradation of body fuel substances is done to obtain energy is called:
    (a) External respiration
    (b) Metabolism
    (c) Tissue respiration★
    (d) None
29. During one circuit of blood from lungs to the tissue and back through circulatory system the percentages of haemoglobin giving up its oxygen to tissues is:
    (a) 50% (b) 25%★
    (c) 75% (d) 100%
30. A person on inhaling air having normal concentration of oxygen as well as carbon monoxide suffers from suffocation because:
    (a) CO reacts with O_2 reducing its percentage in the air
    (b) Hb of blood combines with CO instead of O_2 and the product cannot dissociate★
    (c) CO affects diaphragm and internal muscles
    (d) CO affects nerves of the lungs

31. In plasma membrane protein molecules penetrating deeply into lipid layer are:
(a) Intrinsic molecules★
(b) Extrinsic molecules
(c) Both (a) & (b)
(d) None

32. Which is the correct sequence of composition of plasma membrane in an animal cell:
(a) Proteins 42% lipids 32% Carbohydrates 6% and water 20%★
(b) Proteins 32% lipids 42% Carbohydrates 6% and water 20%
(c) Proteins 52% lipids 22%, Carbohydrates 6% and water 20%
(d) None

33. Carbohydrates link with proteins and fats of plasma membrane form:
(a) Glycoproteins
(b) Glycolipids
(c) Both (a) & (b) ★
(d) None

34. Who defined cytoplasm?
(a) Strausberger ★ (b) Overton
(c) Dujardin (d) None

35. Cytoplasm in the cell is:
(a) Substance between plasmalemma and karyon★
(b) Subtance inside the nuclear membrane
(c) Substance filled in between two layers of plasma membrane
(d) None

36. The matrix of cytoplasm having various structures suspended in it is called:
(a) Cytosol ★ (b) Cortisol
(c) Cholesterol (d) None

37. Transport of materials inside the cell in fluid state is called:
(a) Pinocytosis★ (b) Phagocytosis
(c) Cytolysis (d) None

38. Transport of solid substances inside the cell is termed:
(a) Phagocytosis★ (b) Pinocytosis
(c) Cytopenphes (d) None

39. Cell membrane in animals is composed mainly of molecules of:
(a) Lipids
(b) Proteins
(c) Carbohydrates
(d) Lipids and proteins★

40. Organelles are the structures in cytoplasm which are:
(a) Living structures
(b) Structures taking part in cell functions
(c) Capable of multiplication
(d) Provided with all of these characteristics★

41. Which of the following statement is true for viruses:
(a) They always have RNA
(b) They always have DNA
(c) They are only bacteriophage
(d) They multiply in host cells★

42. Prokaryotic Genetic System contains:
(a) DNA and histones
(b) DNA or histones
(c) Only DNA and no histones★
(d) Neither DNA nor histones

43. Viruses are:
(a) Unicellular (b) Bicellular
(c) Multicellular (d) None★

44. A Virion is:
(a) Outer covering of the virus
(b) Inactive particle - like form of virus★
(c) DN A complex of the virus
(d) None

45. Virion of a virus consists of:
(a) Caspid and DNA
(b) Caspid and both nucleic acids★
(c) Caspid and RNA
(d) None

46. Which of the following planets has conditions essential for life:
(a) Jupiter (b) Mars★
(c) Venus (d) Mercury

47. Genetic system in prokaryotes and eukaryotes:
(a) Are similar and enclosed in the nuclei
(b) Dissimilar but enclosed in nuclei
(c) Differ in the fact that prokaryotes system lack histones★
(d) Differ in several respects

48. A Cell devoid of nuclear membrane and mitochondria will belong to:
(a) Bacteria★ (b) Protozoans
(c) Sponges (d) None

49. Chemosynthetic bacteria are able to:
(a) Synthesize all their food
(b) Utilize radiant energy for preparation of food★
(c) Perform both these functions
(d) Perform None functions

50. Miller synthesized:
(a) Aminoacid (b) Proteins★
(c) Carbohydrates (d) Vitamins

51. Development in frog begins:
(a) Immediately after fertilization★
(b) Two and half hours after fertilization
(c) Six hours after fertilization
(d) Twelve hours after fertilization

52. 1st cleavage in frog's egg begins after:
(a) 2/2 hours fertilization★
(b) 4 hours of fertilization
(c) 6 hours of fertilization
(d) 8 hours of fertilization

53. 2nd cleavage in frog's egg begins after*
(a) 30 minutes of 1st cleavage★
(b) 60 minutes of 1st cleavage
(c) 90 minutes of 1st cleavage
(d) 120 minutes of 1st cleavage

54. 3rd cleavage in frog's egg begins after:
(a) 1-2 hours of fertilization
(b) 3-4 hours of fertilization
(c) -4-5 hours of fertilization★
(d) 8-10 hours of fertilization

55. Gastrula is completed in about:
(a) 10 hours of oviposition
(b) 20 hours of oviposition
(c) 30 hours of oviposition ★
(d) 50 hours of oviposition

56. Tadpole in frog hatches out in about:
(a) 50 hours of oviposition
(b) 110 hours of oviposition★
(c) 200 hours of oviposition
(d) 250 hours of oviposition

57. A tadpole of frog metamorphoses into adult after:
(a) One week (b) Two weeks
(c) Three week★ (d) Four weeks

58. Yolk plug in frog's embryo appears during:
(a) Morula formation
(b) Blastula formation
(c) Gastrula formation★
(d) Neurula formation

59. Fully grown tadpole breathes mainly with the help of:
(a) Skin
(b) Lungs
(c) Gills★
(d) Skin and lungs both

60. Addition of a trace of thyroid extract to water containing tadpole will:
(a) Kill all the tadpoles
(b) Keep them in larval stage
(c) Accelerate their metamorphosis★
(d) Slow down their metamorphosis

61. Endoplasmic reticula bring detoxification of:
(a) Lymphocytes (b) Plasma cells
(c) Liver cells (d) All of them★

62. Nuclear membrane at telophase is formed by:
(a) Endoplasmic reticula
(b) Mitochondria★
(c) Both (a) & (b)
(d) None

63. Endoplasmic reticulum is present in the:
(a) Nucleus (b) Cytoplasm★
(c) Chromosomes (d) None

64. Function of centrosome is to:
(a) Initiate cell division★
(b) Inhibit cell division
(c) Provide site of cell division
(d) Do None

65. Organoids in cell associated with secretroy activities are:
(a) Mitochondria (b) Golgi complex★
(c) Chloroplasts (d) None

66. Intake of fluid by the cell is called:
(a) Phagocytosis★ (b) Pinocytosis
(c) Exocytosis (d) None of them

67. Cell membrane is made up of:
(a) Glycoproteins
(b) Phospholipids and proteins★
(c) Phosphoproteins
(d) Double layer of proteins

68. Centrosome is:
(a) A nuclear structure in the animal cell
(b) A cytoplasmic structure of animal cell★
(c) A cytoplasmic structure of plant cell

(d) A cytoplasmic structure of both animal and plant cells

69. Cell organoids with electron transport system and considered as powerhouse of the cell are:
(a) Mitochondria★
(b) Nucleus
(c) Endoplasmic reticula
(d) None

70. Mitochondria are associated with:
(a) Cellular digestion
(b) Cellular excretion
(c) Cellular respiration ★
(d) Cellular synthesis

71. Blood in chordates and non-chordates is different in which of the following respects:
(a) Chordates have haemoglobin but non-chordates do not
(b) Respiratory pigment in chordates is present in plasma but inside the definite cells in non-chordates
(c) Respiratory pigment in chordates is present inside definite cells but dissolved in plasma in non-chordates★
(d) Blood of chordates is colourless but coloured in non-chordates

72. Arthropods may have blood which:
(a) Resembles human blood
(b) Circulates in arteries and veins
(c) Has haemoglobin in cells
(d) Circulates through an open system★

73. To which group do snakes belong to:
(a) Annelids (b) Reptilia★
(c) Amphibia (d) None

74. An operculum covering gills is characteristic of:
(a) Bony-fishes★
(b) Cartilagenous fishes
(c) Both (a) & (b)
(d) None

75. Sepia and Octopus are two common marine animals. Their active swimming is affected by:
(a) Adhering with their suckers, to other fast moving animals
(b) Characteristic undulation of their lateral fins
(c) Lashing movements of their cephalic arms
(d) Expelling water in a gut through siphons★

76. In which of the following Indian states, the lion are found:
(a) M.P. (b) U.P.
(c) Gujrat★ (d) West Bengal

77. Some times different authors give different names to same species. In such a situation:
(a) Name under which species was first described is valid★
(b) Latest name under which species has been described is valid
(c) People are at liberty to use any one of the name of species
(d) All known names are discarded and new name is given to it

78. Animals living at the bottom of the sea are known as:
(a) Leutic (b) Lotic
(c) Benthic ★ (d) Pelagic

79. Animals living at the surface of the sea are called:
(a) Leutic (b) Lotic
(c) Benthic (d) Pelagic★

80. A new species is formed when:
(a) An individual with a new genotype is formed due to exchange of chromosome segments during crossing over in gametogenesis
(b) Genotypic changes accumulates in a population resulting in its reproductive isolation from other populations★
(c) Variants with new phenotypes are produced due to new combination of genes during reproduced due to new combination of genes during reproduction
(d) Homologous chromosomes exchanges segments during crossing over

81. Which of these courses blood circulation takes in human heart:
(a) Left auricle → left ventricle → lungs → right auricle → right ventricle
(b) Right auricle → left ventricle
(c) OK Left auricle → left ventricle★
(d) None

82. Pace-maker in heart of man influences:
(a) Contraction of pelvis
(b) Rate of heartbeat
(c) Contraction of heart muscles★
(d) Nerve impulse formation

83. A pace-maker is found in the:
(a) Liver (b) Brain
(c) Heart ★ (d) Lungs

84. Heart beat in man is initiated by:
(a) SA-Node ★ (b) AV-Node
(c) Purkinjie fibres (d) Carotid labyrinth

85. Sphygnomanometer means an instrument that measures:
(a) Heart rate (b) Blood pressure★
(c) Pulse rate (d) All of these

86. Heart beat is under the control of:
(a) Vagus nerve
(b) Glossopharyngeal nerve
(c) Autonomic system★
(d) None

87. During diastole the:
(a) Blood enters the heart
(b) Blood leaves the heart★
(c) Blood leaves the ventricle
(d) Blood enters the lungs

88. Heart beat is conducted by a nodal tissue made up of specialized muscles called:
(a) Myonemes★ (b) Purkinjie fibres
(c) Telodendrites (d) Collagen fibres

89. Physiology of blood circulation was first described by:
(a) William Harvy★ (b) Carl Landsteiner
(c) Carl Correns (d) None

90. First heart sound is:
(a) 'Lubb' at the end of systole
(b) 'Dup' at the end of systole
(c) 'Lubb' at the beginning of ventricular systole ★
(d) 'Dup' at the beginning of ventricular systole

91. Beginning of menstrual cycle under the influence of female sex hormones in a woman is called:
(a) Menarche ★ (b) Puberty
(c) Menopause (d) None

92. Menopause is stopage of menstruation in a female and occurs at the age of:
(a) 35-45 years (b) 45 -55 years★
(c) 25 -35 years (d) None

93. Stomach wall secretes which of these hormones:
(a) Gastrin ★ (b) Secretin
(c) Pancreozymine (d) None

94. Secretion of gastric juices from gastric glands is stimulated by:
(a) Secretin (b) Gastrin★
(c) Both (a) & (b) (d) None

95. 'First Aid' in the body is provided by which of these substances:
(a) Kinins★ (b) Pheromones
(c) Neurohormones (d) None

96. Tissues can be defined as:
(a) Layers or groups of structurally similar cells performing the same function★
(b) Groups of structurally dissimilar cells performing the same function
(c) Group of structurally similar cells forming different function
(d) Group of structurally dissimilar cells performing different function

97. Study of tissues is called:
(a) Cytology (b) Histology★
(c) Anatomy (d) Morphology

98. Term "Histology" to separate branch for study of tissues as given by:
(a) Bichat(1771 - 1802)
(b) Marcello Malpighi (1628 -' 1694)
(c) Mayer (1819) ★
(d) None

99. Histology is considered synonymous to:
(a) Comparative anatomy
(b) Microanatomy★
(c) Gross-anatomy
(d) Functional anatomy

100. Tissues found in our body are derived from:
(a) Embryonic ectoderm
(b) Embryonic endoderm
(c) Embryonic mesoderm
(d) All of these★

SET – 6

1. Term metabolism means the total sum of:
(a) All chemical activities taking place in living organism or energy release or gain in the body★
(b) Only energy gaining processes in the body
(c) Only energy releasing processes in the body
(d) None

2. All the reactions during anabolism are:

(a) Endothermic ★ (b) Exothermic
(c) Both (a) & (b) (d) None

3. The catabolism generally included reactions that are:
(a) Endergpnic (b) Exergonic★
(c) Endothermic (d) None

4. Which of these is example of anabolism:
(a) Protein synthesis★
(b) Respiration
(c) Both (a) & (b)
(d) None

5. Respiration is an example of:
(a) Anabolism (b) Catabolism★
(c) Both (a) & (b) (d) None

6. Anaerobic respiration involves partly or wholly the process of:
(a) Kreb's cycle (b) Glycolysis★
(c) Both (a) & (b) (d) None

7. Glycolysis means:
(a) Synthesis of carbohydrates
(b) Formation of pyruvic acid from glucose★
(c) Formation of glucose from glycogen
(d) None

8. Process of glycogenesis is:
(a) Synthesis of glycogen from excess glucose monosaccharides★
(b) Synthesis of carbohydrates
(c) Formation of glucose in body
(d) All of these

9. Process of glycogenolys is means:
(a) Breakdown of glycogen glucose★
(b) Formation of carbohydrates
(c) Formation of glucose
(d) None

10. Which hormone controls process of glycogenesis:
(a) Insulin ★ (b) Glucagon
(c)Both (a) & (b) (d) None

11. Which of these is commonly called Portuguese man of war:
(a) Hyara (b) Metridium
(c) Physalia ★ (d) Aurelia

12. Physalia belongs to order:
(a) Siphonophora★ (b) Scyphozoa
(c) Anthozoa (d) None

13. Dactylozooids are found in which of these:
(a) Obelia (b) Aurelia
(c) Anemone (d) Physalia★

14. Gastrozooids in which of these do not have tentacles:
(a) Obelia (b) Aurelia
(c) Sea-Anemone (d) Physalia★

15. Sea-anemone belongs to class:
(a) Hydrozoa (b) Scyphozoa
(c) Anthozoa ★ (d) None

16. The common name of jelly-fish is used for:
(a) Oelia (b) Aurelia★
(c) Metridium (d) None

17. Jelly-fish represents:
(a) Polypoid form
(b) Medusoid form★
(c) Both (a) & (b)
(d) None

18. Gonads in Obeha are:
(a) One (b) Two
(c) Three (d) Four★

19. Margin in jelly-fish is provided with:
(a) Two lappets (b) Four lappets
(c) Six lappets (d) Eight lappets★

20. Which of these reproduces only sexually:
(a) Hydra (b) Obelia
(c) Aurelia★ (d) None

21. Which of the following is viral disease:
(a) Polio (b) Mumps
(c) Rabies (d) All of these★

22. Which one of the following is not a viral disease?
(a) Polio (b) Common cold★
(c) Chickenpox (d) Typhoid

23. Nucleic acids form:
(a) 6% of virus★ (b) 100% of virus
(c) 50% of virus (d) 25% of virus

24. Protein molecules forming capsid in a virus are called:
(a) Capsomeres★ (b) Macromeres
(c) Chromomeres (d) None

25. A collar-like structure between head and tail as well as an end plate is present in:
(a) Bacteria
(b) Bacteriophage viruses
(c) All viruses other than bacteriophages★
(d) None

26. Which of the following will survive if boiled in a test tube at 100°C:
(a) Bacteria (b) Viruses★
(c) Both (a) & (b) (d) None

27. What will happen if capsid of a virus is removed:
(a) Will it die★
(b) Will it germinate
(c) Will it remain normal
(d) Will it change in nature

28. Which of the following is an interesting feature of viruses:
(a) That they occur only inside the bacteria
(b) That they behave as plants
(c) That they multiply only inside the cytoplasm of host cell ★
(d) That they are made up of proteins only

29. A bacteriophage consists of:
(a) Only proteins
(b) Carbon and nitrogen
(c) DNA
(d) Nucleoproteins★

30. Which of the following characters justifies the living nature of viruses:
(a) They are only nucleoproteins but without histones
(b) They can be crystallized and stored for many years
(c) Nucleic acids in them can induce protein synthesis to form capsid★
(d) All of these

31. White muscle fibres are adapted for:
(a) Rapid and powerful contractions in body★
(b) More and prolonged muscle activity
(c) " Adapted for involuntary activity
(d) None

32. Fine fibrils in the cytoplasm of muscle fibre are called:
(a) Tonofibrils (b) Myofibrils★
(c) Neurofibrils (d) Intercalations

33. Striped muscles differ with unstriped muscles in having:
(a) Sarcolemma ★ (b) Myofibrils
(c) Both of these (d) None

34. A-band in striped muscle fibre is crossed with:
(a) Hensen'sdisc★ (b) Z-disc
(c) Kraus's disc (d) None

35. A-band is composed of:
(a) Actin (b) Myosin★
(c) Both of these (d) None

36. Cross-bridges are helpful in:
(a) Muscular contraction★
(b) Muscular nutrition
(c) Muscular respiration
(d) Muscular attachment with bones

37. Which of the following muscles do not have stripes:
(a) Biceps
(b) Triceps
(c) Intestinal muscles★
(d) Chest muscles

38. Rate of contraction is maximum in:
(a) Striped muscles★
(b) Unstriped muscles
(c) Cardiac muscles
(d) All of these

39. Striped muscles are present in:
(a) Lungs (b) Heart
(c) Intestine (d) Limbs★

40. Which one is formed during muscle contraction:
(a) Myosin (b) Actin
(c) Actomyosin★ (d) ATP

41. Coughing and sneezing are reflex actions which are controlled by centres present in:
(a) Cerebrum
(b) Cerebellum
(c) Medulla oblongata ★
(d) None

42. Nasal cavities in rabbit help it:
(a) Removing dust particles, large bacteria, spores etc. from air going in
(b) Warming the cool air and cooling the warm air going in
(c) Both of these functions ★
(d) None functions

43. During coughing the amount of air inspired by man is:
(a) 0.5 litre (b) 1.0 litre
(c) 1.5 litres (d) 2.5 litres★

44. Branches of bronchial tree have mucous membrane containing:
(a) Ciliated epithelium
(b) Goblet cells

(c) Both of these★
(d) None

45. Lungs in rabbit and other mammals do not stick with walls of thoracic cavities because of:
(a) Fluid filled double layer jacket of pleural membranes over them★
(b) Being spongy in nature
(c) Presence of bronchial tree inside them
(d) None reasons

46. During inspiration in rabbit the picssure of air inside alveoli becomes:
(a) 757-759 mm of Hg★
(b) 761-763 mm of Hg
(c) 760 mm of Hg
(d) None

47. Amount of air inspired and expired is called:
(a) Tidal volume ★
(b) Residum
(c) Vital capacity
(d) Total lung capacity

48. Tidal (volume in human beings is about:
(a) 250 ml (b) 500 ml ★
(c) 75 ml (d) 1000 ml

49. Tidah volume + inspiratory reserve volume is called;
(a) 1 Residual volume
(b) Inspiratory capacity★
(c) Vital capacity
(d) Lung capacity

50. Inspiratory capacity in man is about:
(a) 3000 ml (b) 500 ml
(c) 3500 ml ★ (d) 4000 ml

51. Which of these structures of ear are associated with kinetic equilibrium:
(a) Macula utriculi
(b) Crista ampullaris★
(c) Both (a) & (b)
(d) None

52. Pressure of vibrations received by membrane of fenestra ovalis are received by perilymph present in:
(a) Scala Vestibuli★ (b) Organ of Corti
(c) Helicotremma (d) None

53. Impulses of gravitational disturbances are responded by:
(a) Macula utnculi ★ (b) Scala tympani
(c) Organ of Corti (d) None

54. Stato. acaustic impulses are transmitted to brain by which of these nerves:
(a) V cranial nerve
(b) VII cranial nerve
(c) VIII cranial nerve★
(d) All of these cranial nerves plus autonomic nerves

55. In which of these segments are found pharyngeal nephridia:
(a) 4, 5, 6 ★ (b) 7, 8, 9
(c) 10,11,12 (d) None

56. Paired excretory ducts for pharyngeal nephridia are:
(a) One pair (b) Two pairs
(c) Three pairs ★ (d) Four pairs

57. In which of these the ducts of pharyngeal nephridia open:
(a) Pharynx
(b) Pharynx and oesophagus★
(c) Stomach
(d) None

58. Cerebral ganglia are found in:
(a) Prostomium
(b) Buccal segment
(c) 3rd segment★
(d) 2nd and 3rd segment

59. How many nerves cerebral ganglia give out:
(a) Two (b) Four
(c) Three (d) 8-10★

60. Number of subpharyngeal ganglia in earthworm is:
(a) Single (b) One pah★
(c) Two pairs (d) Three pairs

61. "Loan boy of Russia" is example of:
(a) Atavism★ (b) Recapitulation
(c) Mutation (d) None

62. Antiserum is the serum that contains
(a) Antigens (b) Antibodies★
(c) Both (a) & (b) (d) None

63. A Vestigial organ in man is:
(a) Ear pinnae (b) Ileum
(c) Ear muscles★ (d) Tooth

64. Most primitive living mammals which provide an evidence of organic evolution from Geographical distribution are found in:
(a) China (b)India
(c) Australia ★ (d) Africa

65. Which of the following is example of evidence of organic evolution from comparative physiology:
(a) Homologous organs and homologies
(b) Analogous organs and analogies
(c) Precipitation test of blood★
(d) Connecting links

66. Fossils are studied under the branch called:
(a) Paleontology★ (b) Phylogeny
(c) Serology (d) Tectology

67. Fossils are remains of:
(a) Present organisms
(b) Dead organisms
(c) Connecting links
(d) Extinct animals★

68. Biogenetic Law in Organic Evolution States that:
(a) Life originates from pre-existing life
(b) Life originates from non-living substances
(c) Phylogeny repeats ontogeny
(d) Course of evolution of a race is repeated in the life history of its individuals★

69. A Star Fish having 6 arms instead of 5 arms show s the example of:
(a) Biogenesis (b) Metamorphosis
(c) Evolution (d) Variation★

70. Which of the following sequences is correct for evolution of horse as revealed by paleontology:
(a) Eohippus, Mesohippus, Merychippus, Equus★
(b) Eohippus, Equus, Mesohippus, Merychippus
(c) Equus, Eohippus, Mesohippus, Merychippus
(d) None

71. Skeleton is found in members belonging to class:
(a) Anthozoa ★ (b) Hydrozoa
(c) Scyphozoa (d) All of these

72. Which of the following is not a tapeworm:
(a) Schistosoma ★ (b) Taenia
(c) Hymenolepis (d) Echmococcus

73. Best example of polymorphism is exhibited by:
(a) Hydra (b) Obelia
(c) Physalia ★ (d) Aurelia

74. Platyhelminthes and Namathelminfnes are parasite of:
(a) Vertebrates only
(b) Invertebrates only
(c) Both (a) & (b) ★
(d) None

75. Genus Schistosoma is found in the:
(a) Human blood★
(b) Human intestine
(c) Human liver
(d) Human brain

76. Each mature proglotid in Taenia solium is provided with:
(a) Unisexual reproductive organs
(b) Hermaphrodite reproductive organs in one set★
(c) Double set hermaphrodite reproductive organs
(d) None

77. Annelids are commonly called:
(a) A tube within a tube★
(b) Mussels
(c) Slugs
(d) None

78. Exchange of gases in arthropods takes place by:
(a) Exosmosis
(b) Diffusion★
(c) Both (a) & (b)
(d) Neither of these

79. Scorpion is a:
(a) Nocturnal and terrestrial★
(b) Nocturnal and aquatic
(c) Atrial and nocturnal
(d) Diurnal and terrestrial

80. A craniates are the chordates which include:
(a) Cephalochordata (b) Urochordata
(c) Both (a) & (b) ★ (d) None

81. A fall in count of R.B.Cs. is a condition termed:
(a) Anaemia★ (b) Polycythemia
(c) Ferpura (d) None of these

82. An increase in count of R.B.Cs. is a condition known as:
(a) Polycythemia★ (b) Anaemia
(c) Erythropoiesis (d) Thrombosis

83. Often during haemolysis, the R.B.Cs. loose their haemoglobin by diffusion and maintain their shape, they are then called:
(a) Plasma cells (b) Erylhroblasts
(c) Ghost cell ★ (d) Myeloblasts

84. "Roulex formation" occurs when a drop of mammalian blood is kept on side due to the fact that:
(a) R-B.Cs adhere together by their concave surfaces like piles of coins★
(b) R.B.Cs haemolyze on exposure to air
(c) R.B.Cs. increase in their volume
(d) None reasons

85. In which type of immunity the body develops circulating antibodies which attack invading pathogens
(a) Cellular (b) Humoral ★
(c) Both of these (d) None ot these

86. Sensitized lymphocytes are produced to attack and destroy pathogens in:
(a) Humoral immunity
(b) Cellular immunity★
(c) Both of these
(d) None

87. Which of the following is auto immune disorder:
(a) Wilson's disease
(b) Parkinson's disease
(c) Hashimoto's disease ★
(d) Sprue

88. An auto immune disorder is a condition when:
(a) T-and-B-lymphocytes of body are sensitized for its own secretions and destroy the body tissue★
(b) T-and-B-lymphocytes fail to elicit an immune response
(c) Vaccines do not act in body
(d) Antibodies are not produced in the body

89. Creamy paste of debris of invading pathogens, broken tissue cells, neutrophils, macrophages etc. is called:
(a) Serum (b) Mucous
(c) Pus★ (d) None

90. Cellular immunity provides protection against:
(a) Tuberculosis (b) Leprosy
(c) Both of these ★ (d) None

91. Olive green colour of skin of frog is due to:
(a) Xanthophores only
(b) Melanophores only
(c) Guanophores only
(d) Du.e to combined effect of all of these★

92. Which of the following chromatophores in frog have guanin in
(a) Lipophores (b) Melanophores
(c) Iridiccytes ★ (d) None

93. Capability to change the colour of skin in frog is termed:
(a) Metamorphosis (b) Metachyosis★
(c) Both of these (d) None

94. Some mammals also hibernate. The body temperature of these animals' remains:
(a) Same as that of surrounding
(b) Normal because of temperature regulation by skin
(c) Normal because of accumulation of fat prior to hibernation
(d) Slightly higher than that of surroundings due to combined regulation by skin and fat★

95. Temperature regulation by sweating occurs in:
(a) Fish (b) Frog
(c) Lizard (d) Rabbit★

96. Which of the following glands in skin are responsible for temperature regulation:
(a) Cutaneous glands
(b) Mucous glands
(c) Sweat glands★
(d) Sebaceous glands

97. Temperature regulation in animals involves:
(a) Increase in temperature according to environment temperature
(b) Decrease in body temperature according to environmental temperature
(c) Increase or decrease in body temperature with rise or fall in environmental temperature
(d) Maintenance of a constant body temperature in all conditions★

98. Excessive sweating or perspiration in mammals helps mainly in:
(a) Getting rid of excess water from body
(b) Maintaining body temperature at a constant level by losing heat★
(c) Elimination of nitrogenous waste matter

(d) Elimination of excess of salts from the body

99. Poikilothermy in the animals means:
(a) 0°C body temperature
(b) Fluctuating body temperature★
(c) Constant body temperature
(d) Temperature resistance by the body

100. Skin of frog is characterized by the absence of:
(a) Scales★ (b) Mucous glands
(c) Chromatophores (d) None

SET – 7

1. Hormone for parathyroids is called:
(a) Collip's hormone
(b) Parathormone
(c) Both (a) & (b) ★
(d) None

2. Parathormone regulates amount of:
(a) Calcium and phosphorous in blood★
(b) Glucose in the blood
(c) Fatty acids and aminoacids in the blood
(d) None

3. The optimum level of calcium in the blood should be:
(a) -11.5mg/0ml of blood★
(b) 0 - 115 mg/0 ml of blood
(c) 50-75.5 mg/0 ml of blood
(d) 80- 120 mg/0 ml of blood

4. Parathormone helps to:
(a) Accelerae reabsorption of calcium from kidneys and elimination of phosphate in urine★
(b) Accelerate the reabsorption of phosphates from kidneys and elimination of calcium in the urine
(c) Excretion of viamin-D from body to prevent loss of calcium
(d) None functions

5. Tetany is the manifestation of:
(a) Hyposecretion of parathormone★
(b) Hypersecretion of parathormone
(c) Excess of thyroid hormone in the body
(d) None

6. Failing of skeletal muscles to relax is caused by the:
(a) Hyposecretion of parathormone★
(b) Oversecretion of parathormone
(c) Undersecretion of pituitary
(d) None

7. Osteoporosis is a condition seen during:
(a) Hypersecretion of parathormone★
(b) Undersecretion of parathormone
(c) Undersecretion of TSH form pituitary
(d) None

8. Hypocalcemia and hypercalcemia are the conditions resulting respectively due to:
(a) Hyposecretion and hypersecretion of parathormone★
(b) Hyposecretion and hypersecretion of thyroxine
(c) Hyposecretion and hypersecretion of pituitary hormones
(d) None

9. Retarded growth of bones and teeth in children due to hjperparathyroidism can be cured by giving them:
(a) Vitamin-D★ (b) Vitamin-A
(c) Thyroxine (d) None

10. Hormone responsible for the regulation of calcium and phosphorous is secreted by:
(a) Thyroid (b) Parathyroids★
(c) Adrenals (d) Thymus

11. Which of the following concepts is attributed to Lamarck:
(a) Struggle for existence
(b) Survival of the fittest
(c) Inheritance of acquired characters★
(d) Cells come from pre-existing cells

12. Which of the following theories of evolution can best explain the vestigial organs:
(a) Darwinism (b) Lamarckism★
(c) Natural selection (d) Special creation

13. Lamarck's theory of organic evolution cannot give best explanation for one of the following:
(a) Rudimentary eyes in deep-sea fishes
(b) Strong canines and claws of carnivores
(c) Fast running adaptations in deers
(d) Only those which are fittest can survive and are selected by the nature★

14. Which of the following facts is not correct about Lamarckism in the light of current scientific knowledge:
(a) All the characters acquired by the individuals during life time and inherited
(b) Organs used more by the organism grow more in size
(c) Both (a) & (b)★
(d) None

15. Which of the following statements will be wrong in contest of modern concept of evolution:
(a) Isolation prevents interbreeding between members of same species
(b) Appreciably small "Gene Pool" will lead to significant variations
(c) Variations in the organisms are caused by sexual reproduction
(d) None★

16. "Neolamarckism" states that:
(a) There is enormous fertility in organisms but their number always remains constant
(b) "Like begets Like"
(c) All the heritable characters are carried by 'genes' which become incorporated in the genotype and are heritable★
(d) The life cycle of an individual repeats the characters which were present in its ancestors

17. Greatest blow to Lamarckism came from the work of:
(a) Charles Darwin
(b) August Weismann★
(c) Hugo De'Vries
(d) Alfred Russell Wallace

18. From the experiments upon nice by 'cutting' the tail's of new-born mite for more than twenty generations and yet no hereditary effect, Weismann could conclude:
(a) "Theory of survival of fittest"
(b) "Theory of continuity of germplasm"★
(c) "Inheritance of acquired characters"
(d) "Isolation plays significant role in evolution"

19. Weismann stated that a multicellular body is divisible into somaplasm and germplasm which separate at early embryonic life. Therefore only link between these will be:
(a) Environment (b) Gametes★
(c) Both (a) & (b) (d) None

20. According to Weismann theory which of the following facts will be correct:
(a) Change occurring in somaplasm during life time are inherited
(b) Germplasm continues generation after generation as impartial matter whereas somaplasm only functions to house the germplasm★
(c) In the struggle for existence due to over production, environmental effects the individuals which are best suitable to get maximum chances for mating
(d) None

21. Which of these is not an excretory waste product:
(a) Allantion
(b) Trimethylaminoxide
(c) Guanine
(d) Pyruvic acid★

22. Hippuric acid excreted in rabbit's urine is formed by combination of:
(a) Benzoic acid in food with glycine★
(b) Ammonia with guanine
(c) Deamination of amino acids
(d) None

23. In which of these the benzoic acid of food combines with ornithine to form ornithuric acid:
(a) Rabbit (b) Birds★
(c) Man (d) Frog

24. In biochemical phase of excretion, the ammonia is formed by:
(a) Deamination of excess of amino acids★
(b) Transmination of excess of amino acids
(c) Decarboxylation of excess of amino acids
(d) None processes

25. Deamination of excess of amino acids occurs in the:
(a) Liver of all vertebrates★
(b) Kidney of all vertebrates
(c) Spleen of all vertebrates
(d) Intestine of all vertebrates

26. In which of these animals the ammonia formed by deamination of excess of amino acids is converted to urea:
(a) Aminotelic animals
(b) Ammonotelic animals
(c) Ureotelic animals★
(d) None

27. Which of these is also called ornithine cycle resulting in the formation of urea from ammonia:
(a) Kreb's cycle ★
(b) Glycolysis
(c) Both (a) & (b)
(d) None

28. Ornithine cycle occurs in the:
(a) Liver of all ureotelic animals★
(b) Kidney of all ureotelic animals
(c) Both (a) & (b)
(d) None organs

29. Process of ultrafiltration occurs:
(a) Within the glomerulus when blood from efferent renal arteriole passes through its capillaries★
(b) Within loop of Henle when the filtrate passes through it:
(c) Jointly in both of these parts of the nephron
(d) In none of the parts of the nephron

30. Glomerulus in man is a network of about:
(a) 20 capillaries (b) 30 capillaries
(c) 50 capillaries★ (d) None

31. Life originated during:
(a) Pre-cambrian period★
(b) Mesozoic era
(c) Coenozoic era
(d) Proterozoic era

32. Which of the following theories of origin of life was contradicted by experiment of Louis-Pasteur:
(a) Theory of special creation
(b) Cosmozoic theory
(c) Biogenesis★
(d) Abiogenesis

33. Experiments of Spallazani and Pasteur lead to the conclusion that:
(a) Air is essential for biogenesis★
(b) Air is not essential for biogenesis
(c) The air went out of the jars and carried micro-organisms with it
(d) It was merely a chance

34. Louis-Pasteur succeeded in disproving the spontaneous generation theory because:
(a) He was lucky enough
(b) He was ingenious in drawing out necks of glass flasks so as to provide access to air but not to micro-organisms★
(c) Air must have gone out through holes of corks and must have carried the micro-organisms along with it
(d) Of the fact that the yeast sample taken by him was dead

35. Instruments in the hospital are boiled prior to surgery in order to make them:
(a) Clean for use (b) Sterilized ★
(c) Immunized (d) Pasteurised

36. Moon is:
(a) A planet
(b) Satellite of Earth★
(c) Both of these
(d) None

37. There is no life on Moon because there is deficiency of:
(a) Carbon (b) Hydrogen
(c) Nitrogen (d) Water★

38. Why is it must to boil the instruments in hospitals before surgery:
(a) To kill all pathogene present at the site of operation in the patient's body
(b) To kill all the pathogene which may be infecting the instrument★
(c) To facilitate the handling of instruments
(d) To enable the patient to feel warm during operation

39. The organism having characteristics of both living and non-living are:
(a) Bacteria (b) Monera
(c) Viruses★ (d) None

40. True nucleus is not present in:
(a) Fungi (b) Green Algae
(c) Viruses (d) Lichens★

41. Circulatory system of rabbit differs from that of frog chiefly in absence of:
(a) Renal portal system★
(b) Hepatic portal system
(c) Superior vena cava
(d) Dorsal aorta

42. Pulmonary aorta in embryo communicates with carotico-systemic aorta by a thin vessel called ductus Botalli which later closes and remains in adult as:
(a) Fossa ovalis
(b) Ligamentum arteriosus★
(c) Carotico-pulmonary aperture
(d) None

43. Mitral valve in mammals guards opening between:
(a) Stomach and intestine
(b) Pulmonary vein and left auricle
(c) Right auricle and right ventricle
(d) Left auricle and left ventricle★

44. Right auricle in mammalian heart receives blood from:
(a) Sinus venosus

(b) Pulmonary veins
(c) Precavals
(d) Precavals and postcavals★

45. Venus system of frog differs from that of rabbit in presence of:
(a) Renel portal system★
(b) Hepatic portal system
(c) Three superior venae cavae-
(d) Hepatic vein

46. Which of the artery in frog has a receptor in form of a labyrinth:
(a) External carotid artery
(b) Internal carotid artery★
(c) Both of these
(d) None

47. Blood to hind limbs is supplied by:
(a) Pelvic artery
(b) Hiac arteries★
(c) Hypogastric artery
(d) Vesicular artery

48. Which of he following arteries is absent in frog:
(a) Renals (b) Iliacs
(c) Phrenics★ (d) None

49. Which of the following artery supplies blood to urinary bladder:
(a) Renal
(b) Posterior mesenteric
(c) Hypogastric★
(d) Iliac

50. Dorsal acrta in frog is formed by the union of:
(a) Systemic and pulmonary arches
(b) Only two systemic arches★
(c) Carotid and systemic arches
(d) None

51. We drink water and also derive it from:
(a) Breakdown of glycogen into glucose
(b) Oxidation of glucose★
(c) Secretion of saliva
(d) Conversion of oxyhaemoglobin into haemoglobin

52. Fats are found excessively in:
(a) Areolar tissue
(b) Lymph glands
(c) Adipose tissue★
(d) Liver cells

53. Main enzyme present in the gastric juice is:
(a) Pepsin ★ (b) Amylase
(c) Lipase (d) Trypsin

54. Which of the following is a correct statement:
(a) Neutral starches are of D-type
(b) Neutral sugars of D-type★
(c) All vitamins are obtained from food
(d) Few vitamins are synthesized in our body

55. Which of these is function of liver:
(a) Formation of urine
(b) Secretion of digestive enzymes
(c) Formation of haemoglobin
(d) Formation of urea★

56. Surgical removal of gall bladder in our body would lead to:
(a) Fat digestion impossible
(b) Acidity in the duodenum
(c) Impairment in the action of pancreatic juice
(d) All of these★

57. Day faeces in rabbit are hard, brownish pallets but night faeces are loose and blackish, this is due to the fact that:
(a) Rabbits take different types of food during day and night
(b) Rabbits swallow their faeces in night and recycle it for cellulose digestion to make full use of the food★
(c) Bile pigments are not secretion during the night hours
(d) There is less absorption of water from faeces during right

58. Which of these animals do coprophagy:
(a) Frog (b) Man
(c) Rabbit★ (d) None

59. Which of these is absorbed in large intestine of man:
(a) Amino acids (b) Sugars
(c) Water ★ (d) Fatty acids

60. Maximum absorption takes place in:
(a) Duodenum (b) Stomach
(c) Ileum ★ (d) Rectum

61. Nervous inervation of heart is primarily meant for:
(a) Starting the heart beat★
(b) Regulating the heart beat
(c) Releasing acetylcholine
(d) Releasing adrenaline

62. On cutting off the parasympathetic supply to heart completely, the heart will:
(a) Stop beating
(b) Beat rapidly
(c) Beat slowly
(d) Beat but without nervous control★

63. When sympathetic nerve supply to heart is completely cut off then heart rate will:
(a) Increase (b) Decrease
(c) Show no change★ (d) Show None

64. If heart is stimulated through vagus nerve, the heart rate will:
(a) Increase (b) Decrease★
(c) Show no change (d) None

65. When stimulation of heart is done through sympathetic nerve, then heart rate will:
(a) Increase ★
(b) Decrease
(c) Show no change
(d) Show None

66. Stimulation of heart through sympathetic nerve is a result of:
(a) Release of acetylcholine
(b) Release of adrenaline★
(c) Inhibition of acetylcholine
(d) Inhibition of adrenaline

67. Chemical transmission of nerve impulses from one neuron to the other or from neuron to muscle is done by:
(a) Acetylcholine★ (b) Cholecystokinin
(c) Cholesterol (d) ATP

68. When an electric shock is given to a pithed frog it:
(a) Shows contraction of leg muscles★
(b) Blinks its eyes
(c) Puts out its tongue
(d) Shows no response

69. Which of these processes are only found in the animals:
(a) Nervous control★
(b) Hormonal control
(c) Respiration
(d) Diffusion

70. Response is
(a) Nervous reaction to stimuli★
(b) Metabolic activity in the body
(c) Both (a) & (b)
(d) None

71. Which of the following are aquatic mammals:
(a) Whale (b) Dolphin
(c) Seal (d) All of these★

72. In which of the following mammals canines are absent:
(a) Dog (b) Cat
(c) Rabbit ★ (d) Man

73. Tusks of elephant are modified:
(a) Lower incisors
(b) Canines
(c) Upper incisors★
(d) None

74. In which of the following mammals hair are absent:
(a) Whale
(b) Dolphin
(c) Both (a) & (b) ★
(d) None

75. Nephrostome is found in:
(a) Septal nephridia★
(b) Pharyngeal nephridia
(c) Both (a) & (b)
(d) None

76. Proboscidian mammals are found in:
(a) India
(b) Africa
(c) Both (a) & (b) ★
(d) None places

77. Seal is a:
(a) Carnivorous animal★
(b) Herbivorous animals
(c) Amphibian
(d) Fish

78. Silver-fish is a:
(a) True fish (b) Insect★
(c) Mollusc (d) Coelenterate

79. Scales are absent in:
(a) Snakes
(b) Fishes
(c) Both (a) & (b)
(d) None★

80. Which of the following is not an insect:
(a) Bed-bug (b) Spider ★
(c) Housefly (d) Mosquito

81. Which of the following statements is best to explain the meiosis:

(a) It is essential for sexual reproduction★
(b) It eliminates occurrence of mutations
(c) It alternates with mitosis from generation to generation
(d) It ensures transfer of same genetic complement from one to' next generation

82. During fertilization two cells fuse, yet blastomeres of the zygote contain the same number of chromosomes as in all cells because:
(a) Meiosis occurs during cleavage
(b) Chromosomes are absent in sperms
(c) Meiosis occurs during gamete formation★
(d) Parthenogenesis occurs during gametogenesis

83. Which of the following has haploid number of chromosomes:
(a) Bacteria
(b) Sperms and ova★
(c) Zygote
(d) All of these

84. Ovulation in mammals is a process which means:
(a) Release of eggs from graffian follicles★
(b) Release of egg from fallopian tube
(c) Passage of egg through fimbriated funnel of fallopian tube
(d) Passage of unfertilized egg out of female's body

85. How many secondary spermatocytes will be required to form 200 spermatozoa:
(a) 25 (b) 50
(c) 75 (d) 100★

86. Formation of polar bodies occurs:
(a) Only during spermatogenesis
(b) Only during oogenesis★
(c) During both of these
(d) During None

87. How many primary oocytes will form 100 ova:
(a) 25 (b) 50
(c) 75 (d) 100★

88. Cowper's glands in mammals secrete a substance to:
(a) Neutralize acidity★
(b) Nourish sperms
(c) Kill pathogens
(d) Perform all these functions

89. Viviparity is found in:
(a) Frog (b) Lizard
(c) Shake (d) Rabbit★

90. Uterus masculines in man is remainant of:
(a) Functional embryonic kidney
(b) Embryonic mullerian duct★
(c) Embryonic an wolffiduct
(d) None

91. Role of pace-maker is:
(a) To increase heart beat
(b) To decrease the heart beat
(c) To initiate the heart beat★
(d) To control the blood supply to heart

92. Pulse is defined as:
(a) An alternate expansion and recoil of an artery★
(b) Ventricular systole during which blood is passed into ventricles of heart
(c) Clossure of semilunar valves at the entrance of aortae
(d) None

93. Electrocardiogram is:
(a) Recording of electrical activity in the heart★
(b) Recording of passage of nerve impulses in the heart
(c) Recording of cardiac outputs in the heart
(d) None

94. In an electrocardiogram the deflections above the base level are designated by which of the following letters:
(a) P, Q, R, s, T★ (b) A, B, C, D, E
(c) M,N,0,P,Q (d) T, U, V, W, X

95. P-wave in electrocardiogram is produced by:
(a) Activation of SA-Node★
(b) Contraction of ventricles
(c) Discharge of impulse from AV-Node
(d) Beginning of ventricular relaxation

96. T-wave in the electrocardiogram is produced by:
(a) Beginning of ventricular relaxation★
(b) Beginning of ventricular contraction
(c) Activation of SA-Node
(d) None

97. S-T interval in the electrocardiogram occur:
(a) As the ventricles are contracting★
(b) As the SA-Node is activated
(c) During ventricular relaxation
(d) Preceeding ventricular contraction

98. R-wave in electrocardiogram preceeds:
(a) The ventricular contraction★
(b) Activation of SA-Node
(c) Transmission through bundle of His
(d) None

99. P-Q interval in electrocardiogram represents:
(a) The time when the auricles are contracting★
(b) The interval when ventricles are contracting
(c) Transmission of impulse through bundle of His
(d) None

100. Any abnormality in T-wave like absence, spiking, inversion etc. indicate:
(a) Severe pathology of heart★
(b) Well developed state of heart
(c) Normal functioning of the heart
(d) None

SET – 8

1. Excretion, in strict sense, is the process of:
(a) Removal of waste products of carbohydrate metabolism
(b) Removal of waste products of protein metabolism★
(c) Removal of waste products of fat metabolism
(d) None

2. Amino acids are formed as waste products of protein metabolism in:
(a) Certain molluscs
(b) Certain echinoderms
(c) Both (a) & (b)★
(d) None

3. Ammonia is formed as a result of deamination of amino acids in vertebrates and those which pass" out urine in form of ammonium hydroxide are called:
(a) Ureotelic (b) Uricotelic
(c) Ammonotelic★ (d) Aminotelic

4. In which of these animals the ammonia formed primarily as a result of protein metabolism is converted to urea:
(a) Frog (b) Rabbit
(c) Man (d) All of these★

5. In case of ureotelic animals:
(a) Urine is passed out in form of amino acids
(b) Urine is passed out in form of solution of urea★
(c) Urine is passed out in form of solution of ammonia
(d) Urine is passed out in none forms

6. Ammonia is the chief nitrogenous excretory material in which of the following animals:
(a) Rat
(b) Fowl
(c) Fresh water fishes★
(d) Adult mosquito

7. Chief nitrogenous waste product present in the urine of frog is:
(a) Ammonia (b) Urea ★
(c) Uric acid (d) Allantion

8. Excretion of nitrogenous wastes mainly in form of uric acid in the birds is an example of:
(a) Conservation of heat
(b) Conservation of water★
(c) Elimination of water
(d) Elimination of heat

9. Excretory substance is ammonia in:
(a) Camel
(b) Cartilagenous fishes
(c) Whale
(d) Fresh water fishes★

10. Aquatic animals are mostly ammonotelic because:
(a) Ammonia is useful to check inflow of water within the body
(b) Excretion of this type requires plenty of water which is available to animals★
(c) Both (a) & (b)
(d) None

11. Cell division in eukaryotic cells involves:
(a) Karyokinesis only
(b) Cytokinesis only
(c) Both (a) & (b) ★
(d) None

12. Cell division in apimal cells occur by:
(a) Amitosis
(b) Mitosis

(c) Meiosis
(d) All of these methods★

13. During amitotic cell division in animals there is:
(a) Formation of chromosomes, spindle, and division of chromatids
(b) Reduction in the number of chromosomes in the daughter cells
(c) Only elongation of nucleus and subsequent breaking into two daughters★
(d) None

14. Mitosis occurs:
(a) Somatic cells only★
(b) Reproductive cells only
(c) Both (a) & (b)
(d) None

15. Prophase in mitotic division is characterized by which of these events:
(a) Nuclear membrane starts disintigrating
(b) Chromatin material changes into chromosomes
(c) Nucleolus starts disappearing and centrioles start moving towards opposite poles
(d) All of these★

16. Spindle is formed during cell division by:
(a) Centrioles and astral rays
(b) Nucleolus
(c) Both (a) & (b) ★
(d) None

17. Mitosis is a process of cell division during which there is:
(a) Doubling of chromosomes at the end of the process
(b) Reduction in the number of chromosomes at the end
(c) Distribution of same number of chromosomes in daughter cells ★
(d) None

18. Mitotic cell division results in the:
(a) Reduction in chromosomal number
(b) Doubling of chromosomal
(c) No change in chromosomal number ★
(d) Increase in cell volume

19. Meiosis differs from mitosis because in it:
(a) Homologous chromosomes pair and exchange segments
(b) Chromosomal number is halved★
(c) The four daughters-nuclei formed are genetically dissimilar
(d) All of these

20. Separation of chromatids and their movement to opposite poles of the spindle occurs in which of these:
(a) Prophase (b) Metaphase
(c) Anaphase ★ (d) Telophase

21. Marine animals have special arrangement for preventing loss of one of the following substances from their bodies:
(a) Water ★ (b) Salt
(c) Food (d) All of these

22. One of the following classes does not belong to phylum mollusca:
(a) Gastropoda
(b) Cephalochordata★
(c) Scaphopoda
(d) Pelecypoda

23. Which of the following class of phylum arfhropoda includes spiders, scorpions and ticks;
(a) Crustacea (b) Merostomata
(c) Arachnida ★ (d) Diplopoda

24. Which of the following are radially symmetrical animals:
(a) Coelenterates (b) Echindoerms
(c) Both (a) & (b) ★ (d) None

25. All worms are:
(a) Marine
(b) Fresh water forms
(c) Parasites
(d) Triploblastic★

26. A common cloacal chamber is found in:
(a) All mammals (b) Eutherians
(c) Marsupials (d) Prototherians★

27. Turbellarians are:
(a) Free-living nematodes
(b) Free living flat-worms★
(c) Parasitic nematodes
(d) Parasitic flat-worms

28. In which of the following animals the radially symmetry is not found:
(a) Sea-anemone (b) Jelly-fish
(c) Star-fish (d) Pin-worm★

29. Class of animals with three pairs of jointed legs is:
(a) Gastropoda (b) Crustacea
(c) Diplopoda (d) Insecta★

30. Cass Trematoda includes:
(a) Flukes ★ (b) All worms
(c) Round-worms (d) None

31. Which of the following valves in the heart of rabbit is tricuspid:
(a) Left auriculo-ventricular valve
(b) Right auriculo-ventricular valve ★
(c) Eustachian valve
(d) None

32. Number of aortic arches arising from heart of rabbit are:
(a) One (b) Two★
(c) Three (d) Four

33. An artery is:
(a) Thin-walled vessel in which blood flows under low pressure:
(b) Thick-walled vessel in which blood flows under high pressure★
(c) Thin-walled vessel in which blood flows under high pressure
(d) Thick-walled vessel in which blood flows under low pressure

34. The DNA is composed of smaller units called _____.
(a) Genes ★ (b) Molecule
(c) Sperms (d) None

35. Compared to a vein in mammals, an artery:
(a) Has thinner walls
(b) Is located more superficially
(c) Carries blood away from an organ
(d) Has no internal valves★

36. Heart of frog differs that of rabbit by presence of:
(a) Mitral valve
(b) 4 chambers
(c) Two aortae
(d) Sinus venosus★

37. Which of the artery supplies blood to diaphragm:
(a) Splenic (b) Phrenic ★
(c) Renal (d) Caudal

38. To reach the left side of heart, the blood must pass through:
(a) Lungs ★ (b) Liver
(c) Kidneys (d) Sinus venosus

39. Which vessels carry blood from lungs to heart:
(a) Pulmonary arteries★
(b) Coronary arteries
(c) Pulmonary veins
(d) Cardiac veins

40. Which of these has oxygenated blood:
(a) Renal veins
(b) Pulmonary veins★
(c) Pulmonary arteries
(d) Hepatic portal vein

41. After fertilization, the urine of the mother would contain:
(a) LH (b) Progesterone
(c) FSH (d) HCG★

42. The extrusion of the second polar body from the egg nucleus occurs:
(a) After the fry of sperm but before the completion of fertilization★
(b) After completion of fertilization
(c) Before entry of sperm
(d) None of the above

43. The acrosome reaction in the sperm is triggered off by the:
(a) Release of fertilizing
(b) Release of lysins★
(c) Capaciation
(d) Influx of Na"1" in the sperm

44. Which of the following is a primary sex organ?
(a) Scrotum (b) Penis
(c) Testes ★ (d) Prostrate

45. The phenomenon of fertilization was first perceived by:
(a) Weismann (b) Leuwenhoek
(c) Robert Hooke (d) Hertwig★

46. What is emboly?
(a) The migration of micromeres into the blastocoel
(b) The migration of macromeres into the blastocoel
(c) The migration of endoderm, mesoderm and notochord in the blastocoel★
(d) None of the above

47. Cleavage was first observed by:
(a) Spallanzani ★ (b) Aristotle
(c) Hertwig (d) Harvey

48. The heart is:
(a) Ectodermal (b) Mesodermal★
(c) Endodermal (d) None

49. The skeleton and muscles originate from the:
(a) Yolk plug ★ (b) Mesoderm
(c) Endoderm (d) Ectoderm

50. The development of fertilized egg starts from:
(a) Invagination (b) Regeneration
(c) Cleavage★ (d) Fragmentation

51. Promotion of thyroid growth and synthesis as well as release of hormones from it is controlled by:
(a) TSH ★ (b) FSH
(c) ICSH (d) LTH

52. CRF (corticotropic release factor) from hypothamus controls release of which of these from pituitary:
(a) ACTH ★ (b) LTH
(c) ICSH (d) None

53. Undersecretion of STH or GH from pituitary would cause:
(a) Nanism ★ (b) Gigantism
(c) Acromegaly (d) None

54. Acromegaly is caused by:
(a) Hyposecretion of GH
(b) Hypersecretion of GH★
(c) Both (a) & (b)
(d) None

55. Fluffy body, weak body, shrunken genitals and declined fertility are symptoms seen in:
(a) Pituitary myxodema★
(b) Ateliosis
(c) Acromegaly
(d) None

56. Acromegaly is exhibited by which of these symptoms:
(a) Coarse skin with folds and hairs
(b) Enlargement of nose, lips, tongue, foot, hands, lower jaw and internal organs
(c) Muscular pain and impaired vision
(d) All of these symptoms★

57. Both in gigantism and acromegaly there is enlargement of body but the major difference is:
(a) In gigantism the growth of body and skeleton is symmetrical but not in acromegaly★
(b) In gigantism the growth of body and skeleton is asymmetrical but not in acromegaly
(c) Gigantism is due to hyposecretion and acromegaly due to hypersecretion of STH
(d) None

58. Acromegaly and gigantism are due in:
(a) Hypothyroidism
(b) Hypopituitarism
(c) Hyperthyroidism★
(d) Hyperpituitarism

59. Secretion of which of these is under nervous control:
(a) Post pituitary
(b) Anterior pituitary
(c) Pineal body
(d) Adrenal cortex★

60. Chemicals directly released into blood are called:
(a) Pheomones ★ (b) Enzymes
(c) Vitamins (d) Hormones

61. A single mature Hydra may bear:
(a) One ovary and one testis
(b) Many ovaries and testes
(c) Many ovaries and one testis
(d) One ovary and many testes★

62. Zoochlorellae lives inside the Hydra as;
(a) Parasite (b) Symbiont★
(c) Predator (d) Commensal

63. Digestion in cnidarians is:
(a) Extracelular (b) Intracellular
(c) Both (a) & (b) ★ (d) None

64. Zoochlorellae provides to Hydra:
(a) Maltose ★ (b) Fat
(c) Proteins (d) None

65. Hydra feeds upon:
(a) Fishes
(b) Small crustaceans★
(c) Algae
(d) Crabs

66. Intracellular digestion is Hydra takes place in:
(a) Acidic medium
(b) Alkaline medium
(c) Neutral medium
(d) First acidic and then alkaline medium★

67. Hydra shows positive responses as well as negative responses, in dim and bright light it shows:

(a) Negative responses to both
(b) Positive response to both
(c) Positive response to weak light and negative to bright one★
(d) Negative response to weak light and positive response to bright light

68. In Hydra the reproduction is:
(a) Sexual
(b) Asexual
(c) Both asexual and sexual
(d) None★

69. In Hydra eggs and sperms are formed from:
(a) Cnicloblasts
(b) Interstitial cells★
(c) Epifhellomuscular cells
(d) None

70. Egg of Hydra is:
(a) Naked
(b) Covered by chitinous shell★
(c) Covered by perisrac
(d) None

71. Elastic pads at articular ends of long bones are formed of:
(a) Hyaline callage★ (b) Muscles
(c) Ligaments (d) Tendons

72. Hardest connective tissue in our body is:
(a) Nerve (b) Bone★
(c) Muscle (d) None

73. Chondrin is found in the matrix of:
(a) Muscle (b) Nerve fibre
(c) Bone (d) Cartilage★

74. Chondrin is made up of:
(a) Chondrotin sulphate + mucoprotein★
(b) Chondrotin sulphate + lipids
(c) Chondrotin sulphate + calcium salts
(d) None

75. Chondrin is transleuscent and pearly white/bluish in:
(a) Fibre cartilage
(b) Hyaline cartilage★
(c) Elastic cartilage
(d) Calcified cartilage

76. Rings of trachea and hyoid are made up of:
(a) Fibro cartilage
(b) Elastic cartilage
(c) Hyaline cartilage ★
(d) None

77. Our body becomes bit taller during sleep or after death because:
(a) White fibrous cartilage present on intervertebral discs contract during sleep
(b) White tibrous cartilage present on intervertebral discs relax during sleep and after death★
(c) Muscles of our body relax and increase body length
(d) Of some other reason

78. Ear pinnae, epiglottis and bronchiolar cartilages are:
(a) Hyaline (b) Fibro
(c) Yellow elastic★ (d) None

79. A bone kept in 10% KOK solution for three days will:
(a) Become soft and elastic
(b) Dissolve in it
(c) Remain unchanged★
(d) Will crack down

80. Bones are joined to bones with the help of:
(a) Tendons (b) Ligaments★
(c) Both of these (d) None

81. Scapula in rabbit is provided with:
(a) Acromion process
(b) Metacromion structures
(c) Both (a) & (b)★
(d) None

82. In rabbit the coracoids are:
(a) Reduced and fused with the scapula of their sides★
(b) Well developed and joined with suprascapula of their side
(c) Reduced and fused with suprascapula of their side
(d) Well developed but cartilagenous

83. In rabbit the glenoid cavity is formed by:
(a) Scapula only★
(b) Coracoid only
(c) Scapula and coracoid
(d) None

84. Coracoids in the pectoral girdle of frog are:
(a) Reduced and fused with scapula
(b) Well developed with cartilaginous pre and epicoracoids★
(c) Reduced and fused with suprascapula
(d) None types

85. Coracoid with a coracoid process is present in the:
(a) Frog (b) Rabbit★
(c) Both (a) & (b) (d) None

86. The scapula in frog is different than rabbit in:
(a) Having an acromion process and spine
(b) Not having an acronion process and spine★
(c) Having both acromion and metacromion processes
(d) Having None

87. The fore limbs are articulated at:
(a) Pectoral girdle★ (b) Pelvic girdle
(c) Sternum (d) None

88. Articulation of hind limbs is affected at:
(a) Pectoral girdle (b) Pelvic girdle★
(c) Sacrum (d) None

89. Pelvic girdle in frog has two arms which:
(a) Articulate movably with 9th vertebra★
(b) Articulate immovably with 1st vertebra of sacrum
(c) Articulate at public symphysis
(d) Articulate at none of these

90. Stout, slender, rod-like ilium with a crest is found in:
(a) Rabbit (b) Frog★
(c) Man (d) None

91. Mapacrine and Paludrin are drugs used for the treatment of:
(a) Malaria ★ (b) Filaria
(c) Kala-azar (d) All of these

92. Sporozoites of Plasmodium are formed in:
(a) Spores (b) Oocysts★
(c) Sporoblasts (d) Gametocytes

93. Just as pseudopodia are found in Amoeba, there are found:
(a) Legs in cockroach★
(b) Teeth in rabbit
(c) Suckers in tape-worm
(d) Spicules in sponges

94. Which of these represent an association:
(a) Herbivore (b) Carnivore
(c) Ommvore (d) Parasite★

95. Example of two organisms living in close bodily contact is exhibited by:
(a) Two earthworms during copulation
(b) Entamoeba histolytica in intestine of man★
(c) Mosquitoes and man
(d) None

96. Incubation period in Plasmodium vivex is:
(a) 10 hours (b) 10 days
(c) 10 weeks (d) 14 days★

97. Which of these stages of Plasmodium are likely to be found in the stomach of a female anopheles which has taken a blood meal from a person suffering with malaria:
(a) Merozoites, trophozoites and gametocytes★
(b) Sporozoites, trophozoites and gametes
(c) Merozites, gametocytes and zygotes gametes
(d) None

98. A liquid fat is called ———
(a) Oil★ (b) Glycerol
(c) Benzyl (d) None

99. Which of these have pseudopodia:
(a) Amoeba only
(b) A number of protozoa only
(c) Amoeba and leucocytes
(d) A number of protozoa and leucotytes★

100. Which of these species are connected to one genus:
(a) Sapieus and cristatus
(b) Vivax and falciparum★
(c) Proteus and gingivalis
(d) Coli and Vivax

SET – 9

1. The study of nuclear cytology is known as:
(a) Neurology (b) Mycology
(c) Rhinology (d) Karyology★

2. The study of preservation of life or the study of organisms at low temperature is known as:
(a) Kalology (b) Malacology
(c) Cryobiolpgy★ (d) Dermatology

3. The study of animals with respect of their environment is termed as:
(a) Ecology ★ (b) Cytology
(c) Physiology (d) Limnology

4. The study of molluscan shells is called:

(a) Neurology (b) Conchology★
(c) Craniology (d) Malacology

5. The study of animal behaviour is nown as:
(a) Ecology (b) Sociology
(c) Ethology★ (d) Anthropology

6. The study of snakes is called:
(a) Ichthyology (b) Serpentology★
(c) Herpatology (d) Entomology.

7. The study of growing old is known as:
(a) Genology (b) Generology
(c) Gerontology★ (d) Gynaecology

8. The study of interaction of antigens and antibodies in the blood is known as:
(a) Serology★ (b) Haematology
(c) Angiology (d) Cryobiology

9. The study of nests of birds is known as:
(a) Craniology (b) Nidology★
(c) Ichnology (d) Myremecology

10. Science for the genetical improvement of human race is called:
(a) Euthenics (b) Eugenics★
(c) Genetics (d) Genecology

11. The difference in cartilaginous and bony fishes is that:
(a) Cartilagenous fishes have scales on the body which bony fishes do not
(b) Cartilagenous fishes dc not have single and common gill opering as bony fishes★
(c) Cartilagenous fishes do not have teeth as bony fishes
(d) Cartilagenous fishes have air-bladder but bony fishes do not

12. Group amniota includes:
(a) Reptiles, birds and mammals★
(b) Cephalochordates, urochordates and hemichordates
(c) Cyclostomes, fishes and amphibia
(d) Protochordate, fishes and amphibia

13. One of the following animals has no skeleton at all:
(a) Butterfly (b) Jellyfish★
(c) Sponge (d) Starfish

14. Exoskeleton in cow, goat, sheep etc, consists of:
(a) Hair
(b) Hair and Claws
(c) Hair, horns and hoofs★
(d) None

15. A salamander is a:
(a) Bird (b) Reptile
(c) Amphibian ★ (d) None

16. Which of these is not a fish:
(a) Dog-fish (b) Cat-fish
(c) Lung-fish (d) Cuttle-fish★

17. Which of these is a matching set in classification:
(a) Nereis, planarian, cockroach, centipede
(b) Millipede, centipede, cockroach, crab★
(c) Star-fish, cuttle-fish, jelly-fish, silver-fish
(d) Leech, lobster, locust, lung-worm

18. Best aquarium in India is located in:
(a) Calcutta (b) Bombay ★
(c) Madras (d) Trivandrum

19. One of the following characters is a diagnostic character of chordates distinguishing them from non-chordates:
(a) Brain
(b) Dorsal tubular nerve cord★
(c) Ganglionated nerve cord
(d) Double ventral nerve cord

20. The number of segments and locomotor/ organs is fixed in which of the following animals:
(a) Earthworm
(b) Taenia
(c) Ascaris
(d) Ants and Cockroaches★

21. The fore and hind limbs are divisible into:
(a) Stylopodium (b) Zeugopodium
(c) Metapodium (d) AH of mese★

22. Stylopodium in fore limb is supported by:
(a) Humerus ★ (b) Femur
(c) Radiu + Ulna (d) Tibia + Fibula

23. Stylopodium if hind limb is supported by:
(a) Femur only★ (b) Tibia + Fibula
(c) Both (a) & (b) (d) None

24. In a fore limb the stylopodium represents:
(a) Upper arm ★ (b) Forearm
(c) Both (a) & (b) (d) None

25. In a hind limb the stylopodium represents:
(a) Thigh★ (b) Shank
(c) Foot (d) None

26. Zeugopodium in fore limb is:
(a) Upper arm (b) Forearm ★
(c) Hand (d) Fingers

27. In a fore limb the zeugopodium is supported by:
(a) Femur only
(b) Tibia + Fibula
(c) Humerus
(d) Radius + Ulna★

28. In a hind limb of frog the zeugopodium is supported by:
(a) Femur
(b) Tibia + Fibula★
(c) Astragalus + Calcaneum
(d) None

29. Autopodium in fore limb and hind limb represents respectively:
(a) Upper arm and thigh
(b) Fore arm and shank
(c) Hand and foot★
(d) None

30. The skeletal support in autopodium of fore limbs is formed by:
(a) Carpals, metacarpals and phalanges★
(b) Tarsals, metatarsals and phalanges
(c) Carpals and phalanges only
(d) None

31. How can combining of haemoglobin with oxygen in the lungs be promoted?
(a) By decreasing the concentration of oxygen in blood★
(b) By increasing the concentration of oxygen in blood
(c) By increasing the concentration of CO_2 in blood
(d) By inducing CO in the blood

32. Oxygen carrier in the blood of vertebrate is:
(a) Haemoglobin★ (b) Haemocyanin
(c) Cytochrome (d) All of these

33. Oxygen in the blood is transported mainly by:
(a) Blood plasma (b) WBCs ★
(c) RBCs (d) Platelets

34. Oxygen content in our expiratory air is:
(a) 4% (b) 20%
(c) 16% (d) 25%★

35. Respiratory centre in medulla is directly affected by:
(a) Venous blood entering it
(b) Arterial blood entering it★
(c) Venous blood leaving it
(d) Arterial blood leaving it

36. Which of these factors influence our respiratory centre:
(a) CO_2 (b) Water vapour★
(c) Both (a) & (b) (d) None

37. Which of these statements are correct:
(a) All of the animals need a medium for cellular respiration★
(b) Oxygen is transported in all animals by blood
(c) All animals take oxygen from water or air through lungs or gills
(d) All animals need oxygen for their respiration

38. Major portion of CO_2 formed during cellular respiration is transported to lung in form of:
(a) HCO_3
(b) H_2CO_3
(c) As free CO_2
(d) In combination of $HbCO_2$★

39. Sudden deep inspiration may be due to:
(a) Increase in the concentration of oxygen
(b) Increase in concentration of carbondioxide
(c) Decrease in the concentration of carbondioxide★
(d) Either increase in the concentration of oxygen or decrease in concentration of carbndioxide

40. The impulse for voluntary forced breathing starts in the:
(a) Medulla (b) Vagus nerve
(c) Spinal cord (d) Cerebrum★

41. Nucleolus originates from:
(a) Lysosomes
(b) Golgi complex
(c) Mitochondria
(d) Chromosomes★

42. Mitotic spindle is formed in:
(a) Amitotic division only
(b) Mitosis only
(c) Meiosis only
(d) Both mitosis and meiosis★

43. Anaphase occurs in:
(a) Amitosis
(b) Mitosis
(c) Meiosis
(d) Both mitosis and meiosis★

44. Most important signincance oi mitosis lies in which of these:

(a) It regulates karyo-cytoplasmic relation★
(b) It reduces chromosomal number to half
(c) It doubles the number of chromosomes
(d) None

45. In a cell the number of chromosomes after first meiotic division is 46, the number of chromosomes in its daughters after completion of ohe process will be:
(a) Same ★ (b) Doubled
(c) Half (d) None

46. Process of meiosis is seen to occur when a cell:
(a) Is haploid
(b) Has attained maximum growth
(c) Has to undergo sexual reproduction ★
(d) Has to form spores

47. In a cell, the cell division occurs when:
(a) It is haploid
(b) It is diploid
(c) It has attained optimum growth ★
(d) It is disintigrating

48. Daughter cells of meiotic division are haploid which shows:
(a) That chromosomes are located on genes
(b) That genes are located on chromosomes★
(c) Genes are located on spindle fibres
(d) Chromosomes have no genes

49. The correct sequence of various substages in first meiotic prophase is:
(a) Leptonema, zygonema, pachynema, diplonema and diakinesis★
(b) Diakinesis, leptonema, zygonema, pachynema and diplonema diplonema, diakinesis and pachynema
(c) None

50. The replication of chromosomes occurs in:
(a) Anaphase (b) Telophase
(c) Prophase (d) Interphase★

51. Carbondioxide of the present atmosphere is entirely produced by:
(a) Forest fire
(b) Respiration of animals and plants★
(c) Industrial smoke
(d) Microbial activity

52. Miller synthesized simple amino acids from:
(a) Hydrogen, Ammonia, Methane and Water Vapours★
(b) Ammonia, Methane, Cyanide and Oxygen
(c) Methane, Cyanide, Hydrogen and Oxygen
(d) Hydrogen, Oxygen Nitrogen and water

53. Nucleoproteins most probably gave the first sign of:
(a) Life (b) Evolution
(c) Mutation (d) Speciation★

54. Oxygen present in the atmosphere has been formed by:
(a) Evaporation of sea water
(b) Photosynthesis by plants★
(c) Putrefaction of animals and plants
(d) Metabolism of micro-organisms

55. It can be concluded on the basis of Miller's experiment that:
(a) Organic compounds contain hydrogen, oxygen and carbon
(b) Complex organic compound were first formed on the primitive earth
(c) Life originated in form of amino acid★
(d) The organic compound can be synthesized in the laboratory

56. Most important condition for the origin of life is presence of:
(a) Oxygen (b) Nitrogen★
(c) Water (d) Carbon

57. Life originated about:
(a) One billion years ago
(b) Three billion years ago★
(c) Six billion years ago
(d) Nine billion years ago

58. Louis-Pasteur is known for:
(a) Germ Theory of disease★
(b) Germ Plasm Theory
(c) Recapitulation Theory
(d) Cell Theory

59. Life originated:
(a) In air (b) On land
(c) In water★ (d) In all of these

60. Which of the following must have evolved in the direction of "Origin of Life":
(a) Proteins and amino acids★
(b) Proteins and nucleic acids.
(c) Urea and proteins
(d) None

61. Intestinal villi are more larger in posterior part of intestine than in the anterior part because:

(a) Digestion is faster in posterior part
(b) Blood supply is poorer in anterior part
(c) Blood supply is poorer in posterior part
(d) There is more digested food in the posterior part★

62. In colon of rabbit, the constrictions of its walls form a series of pocket like structures called:
(a) Haustra★
(b) Crypts of leiberkuhn
(c) Zymogen cells
(d) Teniae

63. Diastema is a:
(a) Space in teeth in mammals★
(b) Part of pelvic girdle in rabbit
(c) Type of tooth in rabbit
(d) Structure in the eye ball of rabbit

64. Vermiform appendix is a part of:
(a) Nervous system
(b) Alimentary canal★
(c) Vascular system
(d) Reproductive system

65. Teeth in frog are:
(a) Heterodont (b) Thecodont
(c) Acrodont ★ (d) Pleurodont

66. Space between incisors and cheek teeth in rabbit is called:
(a) Diaphysis (b) Diapedesis
(c) Diapause (d) Diastema★

67. Caecum is meant for digestion of:
(a) Proteins (b) Lipids
(c) Cellulose ★ (d) Starch

68. Pylorus in frog is found between:
(a) Stomach and oesophagus
(b) Stomach and duodenum★
(c) Duodenum and ileum
(d) Ileum and rectum

69. Canines are absent in rabbit because the animal is:
(a) Carnivorous (b) Omnivorous
(c) Herbivorous ★ (d) Saprophyte

70. Crypts of Leiberkuhn secrete:
(a) Gastric juice
(b) Succus entericus★
(c) Bile juice
(d) None

71. Enarthroses with less developed ball and socket are called:
(a) Saddles ★ (b) Pivots
(c) Arthrodia (d) Shindylases

72. Joint of our thumb is an example of:
(a) Imperfect joint (b) Saddle ★
(c) Rotaria (d) Arthrodia

73. In imperfect diarthroses the structure absent is:
(a) Articular cartilage
(b) Synovial capsule★
(c) Both (a) & (b)
(d) None

74. Joints between phalanges of digits are examples of:
(a) Ginglymi ★ (b) Enarthroses
(c) Gomphses (d) None

75. Which of these represents syarthroses:
(a) Joint of ilia with 9th vertebra in frog★
(b) Joint of radius and ulna with carpals in rabbit
(c) Joints of bones of skull
(d) None

76. In which of these joints the ends of articulating bones are covered with articular cartilages and the entire joint is enclosed within a synovial capsule:
(a) Perfect diarthroses★
(b) Imperfect diarthroses
(c) Gomphoses
(d) Shindylases

77. The articulating bones are lipped with cartilages and synovial capsules are missing in:
(a) Perfect diarthroses★
(b) Imeprfect diarthroses
(c) Shindylases
(d) None

78. The joints in which one bone if fixed with peg-like process on which the other bone fits by its concavity and rotates freely around it are called:
(a) Rotana ★ (b) Shidylases
(c) Gimglymi (d) None

79. In a perfect diarthroses the violent pull, twist or excessive stretching of ligaments results in:
(a) Dilocation (b) Sprain★
(c) Both (a) & (b) (d) None

80. The joints in which protrubrance of one bone fits into a depression of other bone are called:
(a) Ginglymi ★ (b) Shidylases
(c) Enarthroses (d) None

81. Metemorphosis in frog's tadpole is under the control of:
(a) Thyroid ★ (b) Parathyroid
(c) Pituitary (d) Adrenals

82. ICSH is a hormone from:
(a) Pituitary ★ (b) Adrenals
(c) Ovary (d) Testes

83. Thyroxine is:
(a) An enzyme
(b) A hormone★
(c) A vitamin
(d) An excretory waste

84. Removal of thyroid in frog's tadpole would:
(a) Make it into a giant frog
(b) Keep it in tadpole stage throughout life★
(c) Turn it into a dwarf frog
(d) Lead to its instant death

85. Addition of a trace of thyroid extract in water containing tadpoles of frog will:
(a) Kill all the tadpoles
(b) Keep them in larval stage permanently
(c) Hasten their metamorphosis ★
(d) Slow down their metamorphosis

86. Which one of these regulates BMR in our body:
(a) Pituitary (b) Heart
(c) Thyroid ★ (d) Parathyroid

87. Thyroxine was isolated by:
(a) William Buemont
(b) Best and Benting
(c) F. Sanger
(d) None★

88. Which of these sets of names is applicable to one and same hormone:
(a) Vasopressin, ADH and pitressin★
(b) Secretin, gastrin and enterokrinin
(c) Thyroxine, oxytocin and triiodothyronine
(d) Testesterone, LTH and prolactin

89. Hormone secreted by pituitary gland are:
(a) All proteins ★
(b) All steroids
(c) Some proteins and some steroids
(d) All complex compounds of proteins and some carbohydrates

90. Which one of these is involved with the initiation of metamorphosis of frog's tadpole:
(a) Thyroid ★ (b) Parathyroid
(c) Thymus (d) None

91. Release of ova in mammals occurs under the influence of:
(a) FSH and LH★ (b) TSH and STH
(c) MTH and ACTH (d) TSH and ACTH

92. Greatest concentration of iodine is found in:
(a) Thyroid ★ (b) Parathyroid
(c) Pituitary (d) Adrenals

93. Metabolic rate in our body can be increased by giving an injection of:
(a) Thyroxine★ (b) Testesterone
(c) Acetylcholine (d) Insulin

94. General metabolic rate in our body is controlled by:
(a) Thyroxine ★
(b) Adrenaline
(c) Acetylcholine
(d) Growth hormone

95. Which of these are the disorders of hypothyroidism:
(a) Cretinism in children
(b) Myxodema in adults
(c) Hashimoto's disease
(d) All of these★

96. Hypothyroidism in adulthood would lead to:
(a) Cretinism
(b) Addison's disease
(c) Myxodema★
(d) None

97. Enlargement of tubules in diffuse manner and enlargement of one of more tubules of thyroid glands would cause:
(a) Grave's disease and Plumar's disease respectively★
(b) Addison's disease and Hashimoto's disease respectively
(c) Both (a) & (b)
(d) None

98. Hyperthyroidism is ordinarily a genetic disorder but often provoked by:
(a) Chronic infections like TB, influenza, tonsillitis, measles etc.
(b) Hyperphagia and excess iodine uptake
(c) Both (a) & (b) ★
(d) None

99. Increased BMR, increased oxygen consumption, palpitation, profuse sweating, insomnia, excitement, restlessness etc. are the symptoms of:
(a) Hypothyroidism
(b) Hyperthyroidism★

(c) Both (a) & (b)
(d) None

100. Parathyroids in man weigh:
(a) About 0.05-0.3.gms★
(b) About 0.5-1.0 gms
(c) About 1.0 - 1.5 gms
(d) None

SET – 10

1. Present of an envelope over the nucleus or nuclear membrane was first demonstrated by:
(a) O. Hertwig★
(b) Theodor Schwann
(c) Robert Brown
(d) None of them

2. Nuclear membrane has pores at regular intervals for communication which have a diameter of:
(a) 0 Angstrom (b) 200 Angstrom
(c) 50 Angstrom ★ (d) Angstrom

3. DNA is found as:
(a) Single strand structure
(b) K Double helix★
(c) Both (a) & (b)
(d) None

4. DNA molecule has thickness of:
(a) Angstrom (b) 20 Angstrom★
(c) 30 Angstrom (d) 40 Angstrom

5. Double helix of DNA completes a spiral after every length of:
(a) Angstrom (b) 14 Angstrom
(c) 34 Angstrom ★ (d) 42 Angstrom

6. RNA has phosphoric acid pentose sugar and nitrogen bases like DNA but still DNA has difference to having:
(a) Deoxyribose sugar
(b) Thymine base
(c) Both (a) & (b) ★
(d) None

7. Sugar in DNA is:
(a) Deoxyribose★ (b) Ribose
(c) Deoxyribulose (d) Ribulose

8. In pairing of organic nitrogenous bases the conect sequence is:
(a) Adenine with thymine and guanine with cytosine★
(b) Adenine with guanine and cytosine with thymine
(c) Adenine with cytosine and guanine with thymine
(d) None

9. A nucleotide has:
(a) Pentose sugar + phosphoric acid + a base★
(b) Pentose sugar + base
(c) Pentose sugar + phosphoric acid
(d) Phosphoric acid + base

10. Combination of pentose sugar and a base is called;
(a) Nucleoprotein (b) Nucleotide
(c) Nucleoside ★ (d) None

11. Dr. Khorana got Nobel Prize for his researches on:
(a) Hormones (b) Immunology
(c) Genetic Code★ (d) None

12. Biochemical nature of gene was established by:
(a) Avery and Macleod
(b) Avery, Macleod and McCarty★
(c) Jacob and Monad
(d) Holley and Nirenberg

13. Nucleosomes are beaded structure on chromosomes and formed of:
(a) DNA and histones★
(b) RNA and histones
(c) RNA and proteins
(d) None

14. Beads in chromosomes are formed by:
(a) DNA molecule taking one turn
(b) DNA molecule taking two turn★
(c) RNA molecule taking one turn
(d) RNA molecule taking two turn

15. The places in between beads or nucleosomes in chromosomes, where DNA is straight, are termed:
(a) Speacers (b) Linkers
(c) Both (a) & (b) ★ (d) None

16. An individual with two identical members of a pan or genetic factors is called:
(a) Heterozygote (b) Homozygotc★
(c) Hybrid (d) None

17. Genetic mutations occur in:
(a) Chromosomes (b) DNA★
(c) RNA (d) Nucleus

18. X-rays cause mutations by:
(a) Altering the chromosome structure
(b) Routing the nuclear membrane★
(c) Breaking the spindle
(d) Dissolving the nucleus

19. A functional units of gene which specifies the synthesis of polypeptide is called:
(a) Clone (b) Recon
(c) Cistron ★ (d) Codon

20. Nucleosomes are the unit of:
(a) DNA
(b) RNA
(c) Proteins
(d) Chromosomes★

21. "Tarsioids were found to live in pairs and the female had menstrual cycle" whether the statements is:
(a) True ★ (b) False
(c) Partially true (d) No idea

22. "Old World Monkeys led to evolution of apes and man" this statement can be supported by one of the following facts that they have:
(a) Better developed brain, smaller pinnae, rods and cones in retina
(b) Continuous spermatogenesis in male and menstruation in female
(c) Pronate-supinate pes
(d) All of these★

23. Earliest fossil Old World Monkey leading evolution of apes and man was:
(a) Oligopithecus
(b) Australopithecus
(c) Ramapithecus
(d) Dryopithecus★

24. Oligopithecus excavated from Oligocene rocks of Faiyam Depression in Sahara Desert near Cairo in Egypt (Africa) possessed:
(a) 32 teeth with dental formula i2/2,cl/l,p2/2,m3/3
(b) 4 - cusped molars
(c) Canines somewhat larger than other teeth
(d) All of these★

25. Which of the following characteristics of apes show close phylogenetic relationship with man:
(a) Larger head, longer neck and limbs, broaden chest, prominent browridges and absence of tail
(b) racial expressions tor rage, surprise, pleasure, laughter and capability to communicate
(c) Living in couples and females have menstruation
(d) All of these★

26. Evolution of man was possible perhaps because our ape-like ancestors:
(a) Had no food problem
(b) Adopted group hunting
(c) Used fire
(d) Adopted bipedalism upon open ground★

27. Which of the following is not in the ape-stock of human evolution;
(a) Propliopithecus and Aegyptopithecus
(b) Limnopithecus and Pliopithecus
(c) Dryopithecus and Shivalipithecus
(d) Oligopithecus and Australopithecus★

28. Name given to fossil man of Shivalic Hills in India is:
(a) Propliopithecus
(b) Ramapithecus★
(c) Sinanthropus
(d) Propliopithecus

29. Which one of the following fossils was quite like Dryopithecus but showed some divergence towards human evolutionary line and has been a promising one to represent the starting point at which human line of evolution branched off from ape line about 1.5 crore years ago:
(a) Dryopithecus
(b) Shivalipithecus★
(c) Propliopithecus
(d) Pliopithecus

30. First probable fossil man was:
(a) Australopithecus
(b) Pithecanthropus
(c) Ramapithecus ★
(d) Homo habilis

31. Gastrula is the stage of the embryonic development of frog in which:
(a) The embryo has three primary germ layers★
(b) Embryo is a hollow ball of cells with a single cell thick wall
(c) Embryo has ectoderm, endoderm and a blastopore
(d) Embryo has ectoderm, endoderm and a rudimentary nervous system

32. Three processes involved in the gastrulation of frog are in which of the following sequences:
(a) Epiboly, invagination, cleavage
(b) Involution, invagination, cleavage
(c) Involution, epiboly, evagination
(d) Involution, epiboly, invagination★

33. Beginning of the formation of archenteron in the development of frog represents:
(a) Early blatula stage
(b) Neurula stage
(c) Early gastrula stage★
(d) Late gastrula stage

34. Late gastrula in frog shows:
(a) Ectoderm, endoderm, blastopore and archenteron★
(b) Ectoderm, mesoderm, blastopore, and archenteron
(c) Ectoderm, endoderm, blastocoel and archenteron
(d) Ectoderm, mesoderm, blastocoel and archenteron

35. Blastopore is found in:
(a) Blastula and is the opening of blastocoel
(b) Blastula and is opening of archenteron
(c) Gastrula and is the opening of blastocoel
(d) Gastrula and is the opening of archenteron★

36. Holobistic ancf equal cleavages in frog end after:
(a) First cleavage division
(b) Second cleavage division★
(c) Fourth cleavage division
(d) Fifth cleavage division

37. Cleavage differs from mitosis in that:
(a) It occurs in all body cells
(b) It occurs only in zygote★
(c) It results into haploid cells only
(d) It results into unidentical cells

38. Which grouping correctly represents the germinal layer and the structure derived from it:
(a) Ectoderm - liver
(b) Mesoderm - skeleton★
(c) Endodern - brain
(d) Ectoderm - blood vessels

39. Which of the following structures are formed by the ectoderm in frog:
(a) Epidermis, stomodaeum and proctodaeum
(b) Retina, lens, cornea and conjunctiva of the eye
(c) Olfactory lobes, auditory vesicle, pituitary, pineal body and adrenal medulla
(d) All of these★

40. All the digestive glands are formed in the vertebrates by:
(a) Ectoderm only
(b) Endoderm only★
(c) Mesoderm only
(d) None

41. Refractory period in muscles of man is:
(a) 0.1 seconds (b) 0.2 seconds
(c) 0.3 seconds (d) None★

42. Function of boosters in the contraction of cardiac muscles is performed by:
(a) Myosin
(b) Intercalary discs★
(c) Cross-bridges
(d) Sarcomeres

43. Shivering of body and clattering of teeth in cold is a method for:
(a) Preventing radiations" of heat from body
(b) Production of heat by muscular contraction★
(c) Production of heat by muscular friction
(d) Increasing blood supply to skin

44. Shivering of body and clattering of teeth in winters is associated with:
(a) Thermoregulation★
(b) Vasodialation
(c) Vasoconstriction
(d) None

45. Which of these are examples of antgonistic muscles in our body:
(a) Biceps and triceps
(b) Adductors and abductors
(c) Pronators and suppinators
(d) All of these★

46. Which of these muscle respectively flex and straighten our arm:
(a) Biceps and triceps★
(b) Adductors and abductors
(c) Pronators and suppinators
(d) None

47. Upwards and downwards rotation of body parts is done by:
(a) Pronators and suppinators★
(b) Elevators and depressors
(c) Both (a) & (b)
(d) None

48. Straightening of our flexed arm is done by:
(a) Biceps which extends from shoulders to radius★

(b) Triceps which extends from ulna to shoulders
(c) Both (a) & (b)
(d) None muscles

49. Flexing or bending of our arm is done by:
(a) Biceps ★ (b) Triceps
(c) Both (a) & (b) (d) None

50. Under which of these disorders the muscle remains atrophied for a long time:
(a) Paralysis★ (b) Rigor Mortis
(c) Tetany (d) None

51. Ramapithecus was found in:
(a) Miocene★ (b) Oligocene
(c) Pliocene (d) Pleistocene

52. Neanderthal man was:
(a) More developed than modern man
(b) Less developed than modern man★
(c) Having more cranial capacity than modern man
(d) Having too small brain than modern man

53. Homo erectus differed from Homo sapiens fossilis in:
(a) Having protruded jaws
(b) Having receding jaws★
(c) Being able to draw pictures of animals
(d) Being capable of making well developed tools and weapons

54. Which of the following statements is true for Homo sapiens:
(a) The canines are large
(b) Cranial capacity is 1450cc
(c) Chin is receding★

55. Which among the following is the closest relation of modern man:
(a) Pongo (b) Pan
(c) Hylobates (d) Sinanthropus★

56. Homo erectus erectus is considered to have existed in:
(a) China only (b) Java only★
(c) Both (a) & (b) (d) None

57. The prehistoric ancestor of man existing during Pleistocene era was:
(a) Australopithecus★
(b) Zinjanthropus
(c) Neanderthal man
(d) Atlantic man

58. One of the following fossils possessing a cranial capacity almost equal to or even slightly larger than modern man is:
(a) Homo sapiens neanderthalensis★
(b) Homo erectus pekinensis
(c) Homo erectus erectus
(d) Australopithecus

59. In which of the following series has the evolution of man occurred:
(a) Fisri - amphibian - reptile -man★
(b) Fish - amphibian - bird - man
(c) Insect - fish - bird - man
(d) Fish - reptile - bird - man

60. Coloured rock-paintings were first done by:
(a) Neanderthal man
(b) Cro-Magnon man★
(c) Java man
(d) Peking man

61. Cuttle-fish is a:
(a) Helminth (b) Annelid
(c) Mollusc ★ (d) Arthropod

62. Cells which are found only in cnidarians:
(a) Calcoblasts (b) Cnidoblasts★
(c) Trophoblasts (d) None

63. Cells which are restricted to sponges are:
(a) Pinacocytes (b) Choanocytes
(c) Both (a) & (b)★ (d) None

64. A cell with long flagellum, collar and found in sponges is:
(a) Calcoblast cell (b) Amoebocyte
(c) Archaeocyte (d) Choanocyte★

65. Which one is diagnostic feature of mammals?
(a) Dome-shaped diaphragm★
(b) External ears
(c) Cervical vertebrae
(d) Coelom

66. Gangetic dolpiun is a:
(a) Fish (b) Reptile
(c) Bird (d) Mammal★

67. Placenta is universally present in:
(a) Prototherian mammals
(b) Metatherian mammals
(c) Eutherian mammals★
(d) None of tehse

68. Flying fox is a:
(a) Bat ★ (b) Reptile
(c) Owl (d) None

69. Which of the following vertebrates does not have jaws:
(a) Petromyzon★ (b) Scoliodon
(c) Rana (d) Hemidactylus

70. Which one is not a correct sequence from taxonomic point of view:
(a) Protozoa, Sarcodina, Amoebida★
(b) Porifera, Hydrozoa, Hydrida, Hydra
(c) Mollusca, Mandibulata, Insecta, Periplanata
(d) Annelida, Trematoda, Oligochaeta, Pheratima

71. One of these chambers of cochlea contains endolymph:
(a) Scala vestibule (b) Scala media★
(c) Scala tympani (d) All of these

72. At the apex of cochlea the scala vestibuli and scala tympani communicate with each other through:
(a) Fenestra ovalis
(b) Fenestra rotunda
(c) Helicotrema★
(d) None

73. Organ of Corti contain which of the following cells:
(a) Hensen's cells (b) Deiter's cell
(c) Sensory cells (d) All of these★

74. Tectorial membrane is present over
(a) Fenestra ovalis
(b) Fenestra rotunda
(c) Organ of Corti★
(d) None

75. Utriculus in mammals internal ear functions mainly to:
(a) Perceive sound vibrations
(b) Serve as shock absorber
(c) Maintain body equilibrium★
(d) Ferceives shock stimuli

76. Cochlea and organ of Corti in human ear are concerned with:
(a) Hearing★
(b) Balancing the body
(c) Both of these
(d) None

77. Stiff supporting structure in pinna of ear is:
(a) Hyaline cartilage
(b) Elastic cartilage★
(c) Calcified cartilage
(d) None

78. Eustachian canal in the ear helps to:
(a) Equalize the pressure of air in the middle and external ear★
(b) Equalize the pressure of air in middle and internal ear
(c) Facilitate the animal in hearing
(d) Vibrate the tympanum

79. Eustachian tube connects:
(a) Pharynx with middle ear★
(b) Middle ear with external ear
(c) Left ventricle with right ventricle
(d) Left auricle to right auricle

80. The membranous labyrinta in the ear is called stato - acaustic organ because it is concerned with:
(a) Hearing (b) Balancing
(c) Both (a) & (b)★ (d) None

81. Secretin hormone is produced by:
(a) Pancreas and influences conversion of glycogen into glucose
(b) Adrenals and stimulates increase of heart rate and breathing
(c) Testes and produces secondary sexual characters
(d) Duodenum and stimulates pancreas★

82. Glucagon is secreted by:
(a) Beta-cells of islets of Langerhans
(b) Alpha-cells of islets of Langerhans★
(c) Both (a) & (b)
(d) None

83. Which of these functions in body are regulated by glucagon:
(a) Glycogenesis
(b) Glycogenolysis★
(c) Gluconeogenesis
(d) Glycolysis

84. Hormone stimulating contraction of gall bladder is called:
(a) FSH (b) ACTH
(c) CCK-PZ ★ (d) LTH

85. What will happen if the ovaries are removed in fourth month of pregnancy:
(a) Embryo will develop normally till birth★
(b) Embry will be aborted after sometime
(c) Development of embryo will become abnormal
(d) Nothing of these sorts

86. Chemically the insulin is a:
(a) Steroid★ (b) Carbohydrate
(c) Protein (d) Lipid

87. Hormone cholecystokinin-pancreozymin stimulates the:
(a) Release of bile juice from gall bladder★
(b) Secretion of pancreatic juice
(c) Conversion of proteins into peptones
(d) Conversion of proteins into glycerol

88. A decrease in the level of estrogen and progesterone will cause:
(a) Loss of endometrium
(b) Growth and dialation of myometrium
(c) Release of ova from ovary
(d) Constriction of uterine vessels leading to sloughing off of its epithelium★

89. Male hormone testesterone is secreted by:
(a) Sperms
(b) Seminiferous tubules
(c) Prostate gland
(d) Interstitial cells of tests★

90. Structures whose secretion stimulates thyroid gland:
(a) Vagus nerve (b) Pancreas★
(c) Corpus luteum (d) Pituitary

91. Protein metabolism in our body is controlled by:
(a) Thyroxine (b) ACTH
(c) Both (a) & (b) ★ (d) None

92. Ammonia is formed more during the condition of acidosis in body because it:
(a) Neutralizes the acids★
(b) It increases CO_2 disposal
(c) Reduces deamination process in body
(d) Has no such role

93. Which of these are formed during catabolism of proteins within our body:
(a) Ammonia (b) Urea
(c) Creatinine (d) All of these★

94. When liver fat contents of our body increase then the condition leads to:
(a) Fatty liver (b) Necros liver
(c) Jaundice (d) None of them★

95. In fatty liver the fat contents are:
(a) 1-2% (b) 4-5%
(c) 30-40% ★ (d) 10-15%

96. Which of these regulate the fat metabolism in our body:
(a) Hypophysis
(b) Sexual glands
(c) Thyroid, pancreas and adrenals
(d) All of these★

97. Glycerol is metabolized in which of the following ways:
(a) It is phosphorylated to form 3-phosphoglyceraldehyde which enters glycolytic pathway★
(b) It is dissolved in water and reted out by kidney
(c) It is converted to glycogen and stored
(d) It is metabolized in None ways

98. Term intermediary metaboli sm means:
(a) Linking of carbohydrate, protein and fat metabolisms ★
(b) Utilization of intermediate products of any metabolism
(c) Both (a) & (b)
(d) None

99. Example of intermediary metabolism may be sited by:
(a) Formation of pyruvic acid from glucose, amino acid, deamination of amino acids and phosphorylation of glycerol yielding 3-phosphogly ceraldehyde
(b) Formation of alpha-ketogluteric acid from pyruvic acid through Kreb's cycle, deamination of glutamic acid and from acetyl CoA formed by oxidation of fatty acids
(c) Both (a) & (b) ★
(d) None

100. All the processes in metabolism are:
(a) Only exergonic
(b) Only endergonic
(c) Both (a) & (b) ★
(d) None

BOTANY
INTER LEVEL

SET – 1

1. Some bacteria are not easily killed because of:
   (a) Chitinous wall
   (b) Their tolerant power
   (c) Capsule
   (d) Endospore formation★
2. A microbial mutant requiring growth factor in addition to a minimal medium is:
   (a) Auxotroph★ (b) Heterotroph
   (c) Autotroph (d) Syntroph
3. Asexual reproductive structure in bacteria is called
   (a) Akinete (b) Heterocyst
   (c) Endospore ★ (d) Exospore
4. Point out the food poisoning and gas forming rod shaped bacterium
   (a) Clostridium ★ (b) Salmonella
   (c) Escherichia coli (d) Shigellia
5. Crown galls are produced due to infection of:
   (a) Insects (b) Bacterium ★
   (c) Virus (d) Fungus
6. Coliphage $\phi \times 174$ is a:
   (a) Plant virus
   (b) Bacteriophage★
   (c) Cyanophage
   (d) Phycophage
7. Virus is not regarded as a cell, because:
   (a) It is inactive unless it finds a host to multiply
   (b) Most of the cellular activity is absent
   (c) The genetic material does not replicate on its own
   (d) All of above★
8. What is termed as reconstitution in viruses?
   (a) The ability to recombine their constituents proteins and nucleic acids and become effective in infecting their host★
   (b) The lack of enzymes for energy conservation
   (c) The coating of protein which is protective in nature
   (d) The ability of viruses to replicate
9. Viral DNA attach to bacterial DNA is called:
   (a) Maycoplasma (b) Plaque
   (c) Zoophage (d) Provirus★
10. Adenoviruses are:
    (a) Naked DNA viruses★
    (b) RNA viruses
    (c) Naked RNA Viruses
    (d) Both (a) & (b)
11. The rusts are caused by:
    (a) Ustilaginales (b) Peronosporales
    (c) Uredinales★ (d) Erysiphales
12. The wall of hyphae of Rhizopus is made up of:
    (a) Cellulose (b) Callose
    (c) Pectin (d) Chitin★
13. Rhizopus resembles a moss in the both develop:
    (a) Mycelia (b) Hyphae
    (c) Archegonia (d) Spore★
14. Penicillin was extracted by:
    (a) Flemming★ (b) Huxley
    (c) Lamarck (d) Brown
15. Yeast is an important source of:
    (a) Vitamin C (b) Riboflavin
    (c) Sugar (d) Protein★
16. Fungi occurring on wood are:
    (a) Epibiotic (b) Eucarpic
    (c) Epixylic ★ (d) Epigean
17. Which is an ediable fungus:
    (a) Rhizopus (b) Mucor
    (c) Agaricus ★ (d) Polyporus
18. Gibberelin was first extracted from:
    (a) Bacteria (b) Fungi★
    (c) Virus (d) Algae
19. The mushroom is:
    (a) A plant consisting of fine green threads

(b) An edible fungus★
(c) A bryophyte devoid of root
(d) A flowering plant

20. The brown gills of the mushroom:
(a) Have no function to perform
(b) Are meant for its respiration
(c) Help the plant to float in water after heavy rains
(d) Bears spores which help in reproduction★

21. Leafless stem of onion which is produced to bear flowers is called:
(a) Scape ★ (b) Rachis
(c) Floral axis (d) Peduncle

22. Epidermal outgrowths are known as:
(a) Stomata (b) Leaves
(c) Trichomes★ (d) Flower buds

23. Respiratory roots are found in:
(a) Vanda (b) Tinospora
(c) Viscum (d) Jussiaeu★

24. Which one of the following is classified on the basis of cotyledons?
(a) Bryophytes (b) Angiospenns★
(c) Gymnospenns (d) Thallophytes

25. Who proved that the cells are totipotent?
(a) Skoog (b) Steward ★
(c) ;White (d) Miller

26. Who succeeded in raising callus cultures from isolated cells?
(a) White
(b) Skoog
(c) Steward
(d) Muir and Lang★

27. Germ-pores are found on the:
(a) Seeds (b) Ovules
(c) Embryo sac (d) Pollen grain★

28. Epiphyllous buds are those that arise from the:
(a) Entire plant
(b) Axil of the leaf★
(c) Petals
(d) Surface of the leaf

29. In a twiner the climbing organ will be normally a:
(a) Spring-like tendril
(b) Woody curved hook
(c) Strong pointed spine
(d) Wire-like-stem★

30. Thick and woody twiners are known as:
(a) Creepers (b) Lianas ★
(c) Suckers (d) Climbers

31. R.Q. of fatty substances is generally:
(a) Zero
(b) Unity
(c) More than one
(d) Less than one★

32. R.Q. is maximum, when respiratory substrate is:
(a) Fat (b) Glucose
(c) Malice acid★ (d) Protein

33. In succulent plants respiratory quotient is always less than one because of:
(a) Complete oxidation
(b) Complete reduction
(c) Incomplete oxidation★
(d) Incomplete reduction

34. If the volume of CO_2 liberated during respiration is more than the volume of O_2 used, the respiratory substrate will be:
(a) Fats (b) Organic acids★
(c) Proteins (d) Carbohydrates

35. Hexose monophosphate shunt is:
(a) Pentose phosphate pathway★
(b) Conversion of glucose into pyruvic acid
(c) A process by which new products are synthesized
(d) Glycolytic pathway

36. Photorespiration takes place in:
(a) Mitochondria (b) Glyoxysomes
(c) Peroxisomes★ (d) Golgi bodies

37. In hospitals plants are removed from patient's room at night because:
(a) They compete with patient for available oxygen in the room
(b) They produce CO_2 at night
(c) They produce CO_2 all the 24 hours, but give out oxygen during day★
(d) This practice has no practical significance

38. When the bread is baked, it becomes light and spongy, because:
(a) The evaporation of alcohol from fermented flour
(b) The evolution of CO_2 from the kneaded flour★
(c) The presence of yeast
(d) None of above

39. Food products are kept under refrigeration or in cold storage because:
(a) They remain very cool
(b) Respiration is negligible under very low temperature and the food products maintain their flavour and freshness better and longer★
(c) Foodstuff becomes tasty
(d) They can be used in off-season

40. Respiration and photosynthesis, both require:
(a) Organic fuel
(b) Cytochrome ★
(c) Sunlight
(d) Energy from carbon bonds

41. Which of the following statements about NAD+ is false?
(a) NAD+ is reduced to NADH during both glycolysis and the Krebs cycle
(b) NAD+ is reduced by the action of dehydrogenases
(c) NAD+ can receive electrons for use in oxidative phosphorylation
(d) NAD+ has more chemical energy than NADH★

42. The colour of cytochrome is:
(a) Blue (b) Black
(c) Pink ★ (d) Colourless

43. One stearic acid molecule releases:
(a) 140 ATP (b) 147 ATP ★
(c) 145 ATP (d) 180 ATP

44. Krebs cycle is a:
(a) Catabolic cycle
(b) Anabolic cycle
(c) Amphoteric cycle
(d) Amphibolic cycle★

45. Electron acceptor in cyt a3
(a) Fe ★ (b) Cu
(c) As (d) Both (a) & (b)

46. Orobanche plant is:
(a) Calcium (b) Magnesium ★
(c) Nitrogen (d) Water

47. Insectivorous plants kill insects because:
(a) Insects eat their leaves
(b) Insects eat their fruits
(c) They are heterotrophs
(d) They oVitain nitrogen from to1 led insects★

48. Insectivorous plants grow in soil which is deficient in:
(a) Calcium (b) Magnesium
(c) Nitrogen ★ (d) Water

49. A pair of insectivorous plants is:
(a) Drosera and Rafflesia★
(b) Nepenthes and bladderwort
(c) Dionaca and Viscum
(d) Venus fly trap and Refflesia

50. Insectivorous plant is:
(a) Opuntia (b) Crotolaria
(c) Eichhornia (d) Utricularia★

51. The mass flow hypothesis was first described by:
(a) Swanson (b) Buchanan
(c) Kurosawa (d) Munch★

52. Which would do maximum harm to a tree?
(a) The loss of half of its leaves
(b) The loss of all its leaves
(c) The loss of half its branches
(d) The loss of its bark★

53. Organic substances such as sugars are translocated in the phloem can be demonstrated by:
(a) Grafting
(b) Root pressure
(c) Defoliation
(d) Ringing the stem★

54. Photosyntha'.s are transported to other part of higher plants through:
(a) Cambiul cells (b) Pith cells
(c) Xylem cells (d) Phloem cells★

55. Translocation of sugar in flowering plants occurs in the form of:
(a) Glucose (b) Sucrose★
(c) Starch (d) Maltose

56. Rubisco (RuBP-carboxylase oxygenase), a protein which comprises:
(a) 5% of total chloroplast portion
(b) 11 % of total chloroplast portion
(c) 16% of total chloroplast portion★
(d) 20% of total chloroplast portion

57. Photo-oxidation refers to:
(a) Photolysis of water
(b) Photorespiration
(c) Light induced breakdown of substance in the nresence of oxygen
(d) All of above★

58. Action spectrum of photosynthesis in 1883 was described by:
(a) Calvin (b) Hill
(c) Amon (d) Englemann★

59. The electron energy transfer between accessory pigments and chlorophyll molecules takes place by:
(a) Transduction★ (b) Radiation
(c) Resonance (d) Flourescence

60. The two enzymes responsible for primary carboxylation in C_3 and C_4 plants, respectively are:
(a) RuBP carboxylase and pyruvate carboxylase
(b) PEP carboxylase and RuBP carboxylase
(c) RuBP carboxylase and PEP carboxylase★
(d) PEP carboxylase and pyruvate carboxylase

61. The most common phycobiont in lichens is:
(a) Red alga (b) Brown alga
(c) Blue-green alga (d) Green alga★

62. The commercial source of natural litmus is:
(a) Reindeer moss
(b) Cladonia rangifera
(c) Usnea barbata
(d) Rocella tinctoria★

63. Lichens are not found in Delhi because of:
(a) Air pollution★ (b) Water pollution
(c) Noise pollution (d) Soil pollution

64. Which one of the following is called Reindeer moss?
(a) Sphagnum sp (b) Funaria
(c) Cladonia★ (d) Rocella

65. If the two partners of a lichen are separated, they:
(a) They fail to grow on the basal medium★
(b) They can be easily cultured
(c) The alga grows on the basal medium but the fungus fails to grow
(d) The fungus grows on minimal medium but alga does not grow

66. Lichens multiply through formation of:
(a) Bulbils (b) Soredia ★
(c) Gemmae (d) Spores

67. Lichens having leaf like dorsiventral organisation are called:
(a) Fructicose
(b) Crustose
(c) Foliose★
(d) Crustose and fructicose

68. The plants which produce embryo but lack vascular tissues and seeds are placed in:
(a) Phanerogams (b) Bryophytes★
(c) Pteridophytes (d) Thallophytes

69. Funaria is a bryophyte because it:
(a) Lacks vascular tissue
(b) Has multicellular and jacketed sex organs
(c) Lacks seed
(d) All the above★

70. Moss capsule represents:
(a) Sporophyte
(b) A part of sorus
(c) Gametophyte★
(d) A part of sporophyte

71. If the xylem and phloem are arranged on the same radius the vascular bundles are termed as:
(a) Radial★ (b) Collateral
(c) Closed (d) Dorsiventral

72. Protoplasm is absent in the:
(a) Companion cells★ (b) Collenchyma.
(c) Sieve-tubes (d) Sclerenchyma

73. An example of monocots showing secondary growth is:
(a) Dracaena ★ (b) Phoenix
(c) Bambusa (d) Pothos

74. Which scientist first discovered role of light in photosynthesis?
(a) Sachs (b) Ingenhousz ★
(c) Priestley (d) Senebier

75. What would cause the death of trees?
(a) The loss of half its branches
(b) The loss of all its leaves
(c) The loss of its bark ★
(d) The loss of half its leaves

76. The correct molecular formula of chlorophyll-a is:
(a) $C_{55} H_{74} O_5 N_4 Mg$
(b) $C_{55} H_{70} N_4 Mg$
(c) $C_{55} H_{70} O_6 N_4 Mg$
(d) $C_{55} H_{72} O_5 N_4 Mg$ ★

77. Grana refers to:
(a) Glyclysis of glucose

(b) A constant in quantum equation
(c) A product of photosynthesis
(d) Stacks of thylakoids in plastids of higher plants ★

78. After having absorbed the radiant energy by pigment system I electron is released by:
(a) Chl.695 (b) Chl.68.3
(c) Chl. 673 (d) P.700★

79. The assimilatory power refers to:
(a) Splitting of water
(b) Reduction of CO_2
(c) Production of ATP and NADPH ★
(d) Disintegration of plastids

80. The oxygen evolved in photosynthesis comes from water. This fact was confirmed by the use of:
(a) P^{22} (b) O^{18}★
(c) C^{14} (d) Chloride ions

81. In watermelons, the allele for green colour (G) is dominant over the allele for striped colour (g) and the allele for short shape (5) is dominant over the allele, for long shape (s). When long, striped watermelons are crossed with watermelons heterozygous for both traits, what proportion of the offspring are striped and short?
(a) 1.0 (b) 1/4★
(c) 1/2 (d) 9/16

82. The human skin colour is controlled by several gene pairs. Let us assume here that there are just three gene pairs on different chromosomes and that for each pair there are two alleles an incompletely dominant one that codes for melanin deposition and an incompletely recessive one that codes-for no melanin deposition. If a very dark skinned person mates with a very light-skinned person, what is the chance that their offspring will have very dark skin?
(a) 0 ★ (b) 1/4
(c) 5/8 (d) 9/64

83. The ratio of bases which conforms the Chargaff s rule is:
(a) A + G = T + C (b) G + T = A+ C
(c) A + T = G + C (d) Both (a)&(b) ★

84. TMV infects a variety of plants, including zinnia and tobacco. When TMV-RNA is used for infection, the amino acid sequence of the coat protein of the progeny is the same whether the host is zinnia or tobacco. This proves that the genetic code is:
(a) Degenerate
(b) Universal★
(c) Un-directional
(d) Non-overlapping.

85. Which one of the following is not correct?
(a) There is a difference in the histone and UNA amounts at interphase before meiosis, but the ratio remains 1:1 at interphase of mitosis
(b) DNA synthesis spreads over a longer period, after the S-phase in meiosis, whereas it is completed during the S-phase in the case of mitosis
(c) The synaptonemal complex is formed in the mitotic prophase but absent in the meiotic prophase★
(d) The chromatids of a chromosome go to the same pole in meiosis anaphase-I, whereas they go to different poles in the metotic anaphase-II

86. Genes A and B are necessary for normal hearing. A deaf man marries a deaf woman and all their children have normal hearing. The genotypes of the parents are:
(a) AAbb and AAbb (b) Aabb and aaBb
(c) AAbb and aaBB★ (d) aaBB and aaBB

87. Which of the following is the correct pair?
(a) DNA synthesis - Ribosomes
(b) Protein synthesis - Smooth endoplasmic reticulum
(c) Anaerobic respiration - Cristae
(d) Suicidal bags - Dictyosomes★

88. Which of the pairs is correct?
(a) Svedberg unit - Biomembranes
(b) Polyribosomes - mRNA★
(c) Dictyosomes - enzymes
(d) Cisternae - Mitochondria

89. Skin colour is determined by cumulative genes. This hypothesis was given by:
(a) Bateson (b) Benzeor
(c) Davenport★ (d) Nilssen Ehle

90. The sex-linked genes are present in a significant way on:
(a) X chromosomes★ (b) Ychromosomes
(c) Autosomes (d) None

91. The following disease is not controlled by vaccination:
(a) Rabies (b) Polio
(c) Diptheria (d) Malaria★

92. When milk is heated at 62°C for 30 minutes and then cooled:
(a) All bacteria are killed
(b) Harmful bacteria are killed★
(c) Harmful bacteria are inactivated
(d) All bacteria are inactivated

93. Vinegar is obtained from sugar by:
(a) Lactobacillus (b) Acetobactor★
(c) Nitrosomonas (d) Salmonella

94. Diaminopimelic acid and muramic acid is a constituent of cell walls of:
(a) Higher plants (b) Fungi
(c) Bacteria★ (d) Bacteriophages

95. Wine turns sour because of:
(a) Anaerobic bacteria★
(b) Aerobic bacteria
(c) Heat
(d) Exposure to light

96. The antiviral substance produced by many vertebrates in response to viral infection for resisting further infection is:
(a) Antivirin (b) Virin
(c) Interferon ★ (d) Antitoxin

97. Wound tumour virus contains:
(a) Double stranded DNA
(b) Single stranded DNA
(c) Double stranded RNA ★
(d) Single stranded RNA

98. The viruses are known as:
(a) Free genes ★
(b) Acellular organisms
(c) Prokaryotic organisms
(d) Eukaryotic organisms

99. Viruses are:
(a) Partial saprophytes
(b) Strictly parasitic ★
(c) Partial parasites
(d) Strictly saprophytic

100. Howard M. Temin was awarded the Nobel Prize for the discovery of:
(a) Transduction in E. coli by virus
(b) Reverse transcription in Rous sarcoma virus★
(c) Isolation of virus in crystalline state
(d) DNA as genetic material

SET – 2

1. When linked characters or genes are inherited together through two or more generations, it is called:
(a) Continuous linkage
(b) Complete linkage★
(c) Consistent linkage
(d) Perfect linkage

2. What is the genetical explanation of 1:2:1 ratio?
(a) It is genotype ratio of monohybrid
(b) It is both phenotype and genotype ratio of "incomplete dominance
(c) Both (a) & (b) ★
(d) Neither (a) nor (b)

3. Mendelian recombinations are due to:
(a) Mutation
(b) Independent assortment of characters★
(c) Linkage
(d) Modifications

4. Test cross is:
(a) To find out whether hybridisation is successful
(b) To find the genotype of a suspected individual★
(c) The first cross between two generations
(d) That which is done by a student

5. The transformation experiments using 'Pneumococcus' gave evidence for the hypothesis that:
(a) RNA is the transfer link between DNA and protein synthesis
(b) DNA is the genetic material★
(c) Chromosomes are made up of DNA
(d) Bacteria have sexual reproduction

6. A plant has 8 chromosomes in each somatic cell. How many linkage groups will there be?
(a) 8 (b) 4★
(c) 2 (d) 1

7. One of the x chromosomes of a woman bears two linked genes for haemophiliac and

colour blindness. She marries a normal man. How will the progeny be?
(a) Haemophillic colour-blind daughters
(b) 50% haemophillic colour-blind sons and 50% normal sons★
(c) 50% haemophillic daughters and 50% colour blind daughters
(d) All sons and daughters are haemophillic and colour-blind

8. How many minimum megaspore and microspore mother cells would be involved in producing the female and male gametes required for setting 100 seeds if 25% of the pollen are viable?
(a) 100 pollen mother cells and 100 megaspore mother cells★
(b) 100 megaspore mother cells and 25 microspore mother cells
(c) 50 microspore mother cells and 100 megaspore mother cells
(d) 25 microspore mother cells and 100 megaspore mother cells

9. If a pure white hen is crossed with a hybrid blue male, the result will be:
(a) All blue
(b) All white
(c) All black
(d) Half blue and half white★

10. UAA, UAG and UGA codons are known as:
(a) Terminating codons★
(b) Initiation codons
(c) Noncoding codon-1
(d) Noncoding codon-2

11. Who discovered conjugation in bacteria?
(a) Khorana
(b) Zinder and Lederberg
(c) Beadle and Tatum
(d) Lederberg and Tatum★

12. Who classified bacteria under Schizomycetes?
(a) Nageli★ (b) Linnaeus
(c) Leeuwenhoek (d) Sadashivan

13. Which one of the following correctly matches a sexually transmitted disease with its pathogen?
(a) Urethritis - Entamoeba gingivalis
(b) Gonorrhoea - Leishamania donovani
(c) Syphillis - Treponema pallidium★
(d) AIDS - Bacillus anthracis

14. "Little Leaf of brinjal is caused by:
(a) Bacteria (b) Virus
(c) Fungi (d) Mycoplasma★

15. The disease 'pneumonia' is caused by:
(a) Virus (b) Cyanobacteria
(c) Bacteria★ (d) Cold

16. Mycoplasmas are not sensitive to:
(a) Streptomycin (b) Penicillin ★
(c) Erythromycin (d) Neomycin

17. Bacteria reproduce sexually by:
(a) Endospores
(b) Transformation★
(c) Conidia
(d) Exospores

18. Bacteria do not possess:
(a) Plasma membrane (b) Capsule
(c) Flagella (d) Nucleus★

19. Difference in gram positive and gram negative bacteria is due to:
(a) Cell wall (b) Cell membrane
(c) Ribosome★ (d) Cytoplasm

20. Polyembryony is shown by:
(a) Selaginella (b) Cycus
(c) Mangifera★ (d) None of these

21. Mycoplasmas differ from viruses in being sensitive to:
(a) Proteins (b) Amino adds
(c) Tetracyclin★ (d) Sugars

22. Some viruses multiply as soon as they enter the host cell, resulting in the breakdown of the host cell. Such viruses are called:
(a) Lytic viruses★
(b) Virulent viruses
(c) Prophage
(d) Lysogenic viruses

23. The viral chromosome becomes integrated with the host chromoscme and is called prophage. Such viruses are called:
(a) Temperate viruses
(b) Lysogenic viruses★
(c) Lytic viruses
(d) Transducing viruses

24. The gene of viruses, responsible for abnormal growth and production of enormous amount of protein after integrating with the host cell, is called:
(a) Oncogene (gene producing cancer) ★

(b) T4 lymphocyte
(c) Tumour gene.
(d) Mutant gene

25. The part of a virus which gives the hereditary integrity to it is known as:
(a) Capsomere (b) Capsid
(c) Nucleic acid★ (d) Nucleotides

26. The site where proteins for the protein coat of the viruses are synthesised is the:
(a) RNA of viruses
(b) Ribosome of host★
(c) Ribosome of the mitochondria
(d) Plasma membrane of the host

27. The protein coat of viruses, which protects them from nucleases, is called:
(a) Capsid ★ (b) Capsomere
(c) Pellicle (d) Matrix

28. Bacteriophage is similar to the funeus in:
(a) Having a definite cell wall
(b) Having DNA as genetic material★
(c) Having RNA as genetic material
(d) The mode of reproduction

29. In viruses, a perfect symmetry is found, due to the presence of protein subunits which are called:
(a) Capsid (b) Capsomere ★
(c) Tail (d) Core

30. Animal viruses enter the host cell through the process of:
(a) Lysis (b) Viropexis★
(c) Pinocytosis (d) Elimination

31. At carbon-3, Chlorophyll a has:
(a) -CHO group
(b) $-CH_3$ group★
(c) -COOH group
(d) No functional group

32. Photorespiration is favoured by
(a) High temperature and low oxygen
(b) High humidity and temperature
(c) High carbon dioxide and low oxygen
(d) High oxygen and low carbon dioxide★

33. C_4 plants differ form C_3 plants with respect to:
(a) Number of ATP molecules consumed
(b) First product
(c) Substrate which accepts carbon dioxide
(d) All the above★

34. Which one of the following statements about Cytochrome P_{450} is wrong?
(a) It has an important role in metabolism
(b) It contains iron
(c) It is an enzyme involved in oxidation
(d) It is coloured cell★

35. Pigments of PS I occur in:
(a) Appressed part of granal thylakoids
(b) Stromal thylakoids and non-appressed parts of granal thylakoids★
(c) Both appressed and non- appressed parts of granal thylakoids
(d) Stroma

36. Enzyme required in early CO_2 fixation in C_4 cycle is:
(a) RuBP carboxylase
(b) RuBP oxygenase
(c) PEP carboxylase★
(d) PGA dehydrogenase

37. For fixing one molecule of CO_2 in Calvin cycle, are required:
(a) 3 ATP + $INADPH_2$
(b) 3 ATP + 2 $NADPH_2$★
(c) 2ATP + 3 $NADPH_2$
(d) 3 ATP + $NADPH_2$

38. Carbon dioxide is fixed in:
(a) Light reaction
(b) Dark reaction★
(c) Aerobic respiration
(d) Anaerobic respiration

39. The pigment present universally in all green oxygenic plants is:
(a) Chlorophyll a★ (b) Chlorophyll b
(c) Chlorophyll c (d) Chlorophyll m

40. In photosynthesis, photolysis of water is used in:
(a) Reduction of NADP★
(b) Oxidation of NADP
(c) Oxidation of FAD
(d) None

41. The sporangial stalk in ferns is:
(a) Uniseriate (b) Biseriate★
(c) Triseriate (d) Multiseriate

42. The leaves of Pteridium are:
(a) Unipinnate (b) Tripinnate★
(c) Bipinnate (d) Palmate

43. The number of ring like cells in the fern antheridium is:
(a) One (b) Two★
(c) Three (d) Four

44. The hypobasal quadrant in the fern embryo forms:
(a) Foot and root★ (b) Leaf and foot
(c) Stem and leaf (d) Leaf and root

45. The cells of the stomium of fern sporangium are stretched:
(a) Tangentially★
(b) Radially
(c) Longitudinally
(d) Antero-posteriorly

46. Circinate vernation is present in:
(a) Mosses (b) Ferns★
(c) Algae (d) Gymnosperms

47. At which stage meiosis takes place in Pteridium ferns?
(a) During the spore germination
(b) During the spore formation★
(c) During the gamete formation
(d) During the organ formation in prothallus

48. In ferns, gametophyte is:
(a) Main plant body
(b) Prothallus attached to the sporophyte
(c) Prothallus free from sporophyte★
(d) A structure attached to the rhizome

49. Fern prothallus develops from the
(a) Spore mother cell (b) Zygote
(c) Spores ★ (d) Elaters

50. Which of the following pair of plants is not seed producer?
(a) Funaria and Ficus
(b) Funaria and fern★
(c) Punica and Pinus
(d) Ficus and Chlamydomonas

51. The edible portion of wood apple comprises:
(a) Endocarp only
(b) Meso- and epdodarp
(c) Inner pericarp and placenta★
(d) Placenta only

52. The edible portion, of jack fruit comprises:
(a) Rachis, bract, perianth and pericarp fused
(b) Outer axis, bract, perianth, and seed★
(c) Bract, perianth, pericarp and seed
(d) Bract, perianth, placenta and seed

53. The edible part in grape is:
(a) Pericarp only
(b) Pericarp and placenta★
(c) Endocarp and placenta
(d) Mesocarp, endocarp and placenta

54. It is useless to produce a seedless:
(a) Pineapple (b) Watermelon
(c) Litchi ★ (d) Citrus

55. The fruit in Artabotrys is an etaerio of:
(a) Berries ★ (b) Achenes
(c) Drupes (d) Follicles

56. Which of the following plants produces a false fruit?
(a) Quercus (b) Nelumbo
(c) Ananas (d) Dillenia★

57. In many schizocarpic fruits the mericarps remain attached to:
(a) Anthophora (b) Androphore
(c) Gynophore (d) Carpophore★

58. A utricle except for its inflated ovary wall resemble closely to a:
(a) Nut (b) Drupe
(c) Achene★ (d) Cypsela

59. The fruit of Mirabilis due to its enclosure in the calyx tube is sometimes described as:
(a) Schleranthium★ (b) Bacca
(c) Diplotegia (d) Pseudoutricle

60. The dehiscent fruits are sometimes called:
(a) Follicular (b) Siliquose
(c) Capsular★ (d) Leguminous

61. Structurally the flagella of bacteria are unique in the sense that they:
(a) Show 9 + 2 fibrillar structure
(b) Are multifibrillar
(c) Are monofibrillar★
(d) None of these

62. Crown-gall disease in plants is caused by:
(a) Pseudomonas phaseoli
(b) Aplanobacter sepedanium
(c) Agrobacterium tumefaciens★
(d) Agrobacterium rhizogenes

63. Which are the most primitive algae?
(a) Green algae
(b) Brown algae
(c) Blue-green algae★
(d) Red algae

64. The 'eye' spot of Chlamydomonas is:
(a) Attracted by strong light
(b) Attracted by diffuse light★
(c) Repelled by diffuse light
(d) None of these

65. Embryo is absent in:
(a) Algae★ (b) Bryophytes
(c) Pteridophytes (d) Gymnosperms

66. Agar-Agar is obtained from:
(a) Gelidium★ (b) Polysiphonia
(c) Fucus (d) Laminaria

67. Iodine is obtained from:
(a) Laminaria ★ (b) Ulothrix
(c) Ectocarpus (d) Oedogonium

68. Spirogyra is more advanced than Ulothrix because:
(a) Hold-fast is absent in Spirogyra
(b) Spirogyra has internal fertilisation★
(c) Spirogyra is always heterothallic
(d) Ulothrix is unicellular while Spirogyra is multicellular

69. Nitrogen fixation is done by:
(a) Red algae
(b) Blue - green algae★
(c) Brown algae
(d) None of these

70. Oscillatoria is a member of:
(a) Chlorphyta (b) Phaeophyta
(c) Rhodphyta (d) Cyanophyta★

71. Bryophytes are of:
(a) No value at all
(b) A lot of aesthetic value
(c) Great economic importance
(d) Great ecological importance★

72. Stomata are present in Funaria plant on:
(a) Seta (b) Foot
(c) Capsule ★ (d) None of these

73. In Funaria the rhizoids are:
(a) Unicellular
(b) Multicellular
(c) Multicellular, branched with oblique walls★
(d) None of these

74. In Funaria:
(a) Male and female reproductive organs are on the same plant but on different branches★
(b) Male and female reproductive organs are on the same plant and on the same branch
(c) Male and female reproductive organs are on different plants
(d) None of these

75. The simplest sporophyte among bryophytes is:
(a) Riccia★ (b) Moss
(c) Marchantia (d) Anthoceros

76. Which of the following is helpful in the dispersal of spares in moss?
(a) Columella (b) Apophysis
(c) Peristome★ (d) Operculum

77. The spores in moss capsule are formed in:
(a) Annulus (b) Air cavities
(c) Spore sac★ (d) Apophysis

78. The unique feature of bryophytes compared to other green plant groups is that:
(a) They lack root
(b) They lack vasculaf Jissue★
(c) They produce spores v t-
(d) Their sporophyte is attached to gametophyte

79. Positive evidence of the aquatic ancestry of bryophytes is:
(a) Protonema
(b) Green colour
(c) Ciliated sperm★
(d) Some forms are purely aquatic

80. Venter is the part of:
(a) Archegonium★ (b) Sporogonium
(c) Sporangium (d) Antheridium

81. Phytohormones are:
(a) Growth regulators synthesised by plants and influencing physiological processes★
(b) Hormones regulating growth from seed to adulthood
(c) Hormones regulating secondary growth
(d) Hormones regulating flowering

82. The natural plant growth hormones were first isolated from:
(a) Cotton fruits, spinach leaves and rice plants
(b) Corn germ-oil and human urine★
(c) Human urine and rice seedlings
(d) Avena coleoptile, spinach leaves and the fungus Gibberella

83. Mowing of a grass lawn facilitates better maintenance primarily owing to:
(a) Wounding which stimulates rapid regeneration
(b) Removal of apical dominance
(c) Removal of apical dominance and promotion of intercalary meristems★
(d) Removal of apical dominance and promotion of lateral meristems

84. Which of the following statement is false with respect to application of auxins?
(a) Produce hyper elongation effects
(b) Control direction of growth of plants
(c) Inhibit lateral bud growth
(d) Initiate and promote cell division actively particularly in tissue culture★

85. Apical dominance means:
(a) Suppression of growth of axillary buds by the presence of apical bud★
(b) Suppression of growth of apical bud by axillary buds
(c) Inhibition of growth of axillary buds by removal of apical bud
(d) Stimulation of growth of apical bud by removal of axillary buds

86. Opening of a flower is an example of:
(a) Movements of curvature
(b) Epinastic movements★
(c) Hyponastic movements
(d) Spontaneous movements

87 Auxanometer is meant for measurement of:
(a) Respiratory activity
(b) The amount of auxins
(c) Growth activity★
(d) Photosynthetic activity

88. Ethylene gas:
(a) Is a saturated hydrocarbon
(b) Retards ripening of tomatoes
(c) Slows down ripening of apples
(d) Speeds up maturation of fruits and early ripening of some fruits★

89. Cell elongation in plants is caused by:
(a) Auxin★ (b) Traumatin
(c) Gibberellin (d) Florigen

90. The primary precursor of IAA is:
(a) Leucine (b) Tryptophan ★
(c) Tyrosine (d) Phenylalanine

91. Which of the following disease is not a water borne disease?
(a) Cholera
(b) Asthma★
(c) Amoebic dysentery
(d) Typhoid

92. Which of the following pair is not correctly matched?
(a) Sleeping sickness-Trypanosoma gambiense
(b) Syphilis - Trichuris trichlura
(c) Plague - Yersina pestis★
(d) Dengue Fever - Arbovirus

93. Tuberculosis is caused by:
(a) Salmonella (b) Diplococcus
(c) Mycobacterium★ (d) Streptomyces

94. Smallest free-living organism is:
(a) Virus (b) Mycoplasms★
(c) Cyanobacterium (d) Bacterium

95. Mucopeptide in cell wall is more in:
(a) Gram +ve bacteria★
(b) Gram-ve bacteria
(c) Cyanobacteria
(d) Bacteriphage

96. The main function of elementary bodies in Mycoplasma is:
(a) Reproduction★ (b) Nutrition
(c) Secretion (d) Respiration

97. The heredity material present in the bacterium E. coli is:
(a) Single stranded DNA
(b) DNA
(c) Double stranded DNA★
(d) RNA

98. An example of iron bacteria is:
(a) Beggiatoa (b) Geobacillus
(c) Thiobacillus★ (d) None of these

99. Yersinia pestis is responsible for:
(a) Whooping cough (b) Syphilis
(c) Plague ★ (d) Leprosy

100. In many bacteria, the cell membrane becomes invaginated and folded to form:
(a) Cristae (b) Mesosomes ★
(c) Fimbrae (d) Pili

SET – 3

1. Syngenesious condition is seen in:
   (a) Asteracease ★ (b) Solanaceae
   (c) Lamiaceae (d) Fabaceae
2. Pappus represents modification of:
   (a) Bracts (b) Bracteoles
   (c) Calyx ★ (d) Corolla
3. Which of the following represents perianth?
   (a) Superior glume (b) Inferior glume
   (c) Palea (d) Lodicule★
4. Diadelphous stamens occur in:
   (a) Gramineae (b) Malvaceae
   (c) Cucurbitaceae (d) Papilionaceae★
5. Which of the following produces smallest flower?
   (a) Rosa indica
   (b) Wolffia microscopica★
   (c) Ranunculus scleratus
   (d) Colocasia antiquorum. (Ricinus communis, Morus alba, Tridex procumbens)
6. Nonessential parts of the flower are:
   (a) Sepals and petals★
   (b) Sepals and carpels
   (c) Petals and carpels
   (d) Stamens and carpels
7. Tetradynamous " condition is characteristic of the family:
   (a) Papilionaceae (b) Solanaceae
   (c) Cruciferae★ (d) Malvaceae
8. Monodelphous androecium is found in:
   (a) Pisum (b) Brassica
   (c) Helianthus (d) Hibiscus★
9. Mussaenda looks beautiful due to their:
   (a) Stamens (b) Sepals★
   (c) Bracts (d) Androecium
10. Synandrous condition represents fusion of:
   (a) Filaments only
   (b) Filaments and anthers both★
   (c) Anthers only
   (d) Petals and stamens
11. One important characteristic of viruses is that they: were
   (a) Can multiply outside a living cell
   (b) Can be cultured in a cell-free medium
   (c) Have an independent metabolism
   (d) Do not have an independent metabolism★
12. Virus belonging to the class Deoxybinala are characterised by:
   (a) RNA and helical symmetry-
   (b) RNA and cubic symmetry
   (c) DNA and cubic symmetry
   (d) DNA and duel symmetry★
13. The molecular weight of a capsomere of TMV is around:
   (a) 17,300★ (b) 1,730
   (c) 37,100 (d) 3,710
14. The tail of T-even phages is:
   (a) Annular, cylindrical
   (b) Helical, cylindrical★
   (c) Helical, annular
   (d) Corrugated
15. The genetic material in virus is:
   (a) DNA only (b) RNA only
   (c) DNA and RNA (d) DNA or RNA★
16. In bacteriophage, the genetic material is:
   (a) RNA (b) DNA★
   (c) Both of these (c) RNA or DNA
17. The genetic material is Poliovirus is:
   (a) SS-DNA (b) DS-DNA
   (c) SS-RNA★ (d) DS-RNA
18. The filterable property of tobacco mosaic virus (TMV) was shown by:
   (a) Ivanowsky★ (b) Beijerinck
   (c) Stanley (d) Winogradsky
19. The basal plate of T-even phages is:
   (a) Elliptical (b) Spherical
   (c) Hexagonal ★ (d) Pentagonal
20. The genetic material in Hepatitis B-virus which is DNA which is:
   (a) SS-Linear (b) SS-Circular
   (c) DS-Linear (d) DS-Circular★
21. The yeasts have been generally placed in the order:
   (a) Saccaromycetales
   (b) Endomycetales★
   (c) Hemiascomycetales
   (d) Ascomycetae
22. During budding the primary septum separating the parent cell and the bud is made-up of:
   (a) Glycogen (b) Mannan
   (c) Chitin ★ (d) Cellulose
23. The sporangiospores of Rhizopus are:
   (a) Thin walled, uninucleate

(b) Thick walled, uninucleate
(c) Thick walled, multinucleate
(d) Thin walled, multinucleate★

24. An antibiotic obtained from the yeasts is:
(a) Ephedrin ★ (b) Saccharin
(c) Campestrin (d) Polymixin

25. The yeast occurring as parasite on cotton:
(a) Monosporella
(b) Nematospora★
(c) Zygosaccharomyces
(d) None of these

26. The region in a developing sporangium of Rhizopus giving rise to columella is:
(a) Densely cytoplasmic, uninucleate
(b) Densely cytoplasmic, multinucleate
(c) Vacuolated, multinucleate★
(d) Vacuolated, uninucleate

27. That the process of fermentation is related to the life history of yeast was confirmed by:
(a) Palladin (b) Pfeffer
(c) Blackman (d) Pasteur★

28. The hyphae of Rhizopus forming progametangia are called:
(a) Suspensor
(b) Promycelium
(c) Zygophores★
(d) Gametangiophores

29. The cell wall of Saccharomyces cerevisiae is distinguishable into the following number of layers:
(a) One (b) Three★
(c) Two (d) Four

30. During gametangial copulation in Rhizopus, the unpaired nuclei of the two fusing gametangia:
(a) Divide (b) Degenerate★
(c) Remain unpaired (d) Show polyteny

31. Bacteria were first discovered by:
(a) Robert Koch
(b) Robert Hooke
(c) Louis Pasteur
(d) A.V. Leeuwenhoek★

32. Bacteria bearing flagella all over the body are called
(a) Atrichous (b) Monotrichous
(c) Cephalotrichous (d) Peritrichous★

33. True nucleus is absent in:
(a) Lichens (b) Bacteria ★
(c) Fungi (d) Green algae

34. We can keep food for a longer duration in cold storage than in an ordinary cupboard because
(a) Insects cannot cause infection
(b) Low temperature causes plasmolysis★
(c) Bacterial multiplication is increased
(d) Bacterial multiplication is reduced

35. Streptomycin is produced by:
(a) Streptomyces griseus★
(b) S. fradiae
(c) S. venezuelae
(d) S. rimosus

36. Streptomycin was first isolated by:
(a) A. Fleming (b) L. Pasteur
(c) R.Koch (d) S. Waksman★

37. The microbiologist who disproved the theory of spontaneous generation was
(a) AV. Leeuwenhoek (b) M.W. Beijerinck
(c) Louis Pasteur★ (d) D. Iwanowski

38. A free living bacterium capable of fixing atmospheric nitrogen is:
(a) Staphylococcus (b) Azotobacter★
(c) Rhizobium (d) None

39. By which one of the following is CO_2 converted into carbohydrates?
(a) Rhizobium
(b) Azotobacter
(c) Clostridium
(d) Rhodospirillum★

40. The uniqueness of bacterial photosynthesis is that it can take place without
(a) Water
(b) CO_2
(c) Visible light★
(d) Photosynthetic pigments

41. The development of fruit without fertilization is:
(a) Parthenogenesis
(b) Parthenocarpy★
(c) Apomixis
(d) Apogamy

42. Translator apparatus is found in:
(a) Mustard (b) Mango
(c) Pea (d) Calotropis★

43. Germ pore is the region where the exine is:
(a) Thin ★
(b) Uniform

(c) Thick and uniform
(d) Absent

44. Double fertilization in angiosperms was dicovered by:
(a) Strasburger (b) J.C. Bose
(c) Maheshwari (d) Nawaschin★

45. In a young anther the four rows of cells, which later produce pollen, are called:
(a) Antheridium (b) Archesporium★
(c) Tapetum (d) Zoosporangium

46. Double fertilization was first discovered by Nawaschin (1898) in:
(a) Lilium and Fritillaria★
(b) Mango and sugarcane
(c) Papaya and pea
(d) Brassica and candytuft

47. The point where funicle joins with ovule is known as:
(a) Chalaza (b) Micropyle
(c) Hilum★ (d) Integument

48. Axillary buds are used to raise crop of:
(a) Wheat (b) Rice
(c) Groundnut (d) Sugarcane★

49. The female gametophyte of a typical dicot at the time of fertilization is:
(a) 8-celled (b) 7-celled ★
(c) 6-celled (d) 4-celled

50. Embryo sac is also known as:
(a) Microgametophyte
(b) Megagametophyte★
(c) Microsporangium
(d) Megasporangium

51. The structure first to enter a bud in yeast:
(a) Mitochondrion★
(b) Nucleus
(c) Endoplasmic reticulum
(d) Vacuole

52. Yeast is a good source of:
(a) Vitamin C (b) Riboflavin ★
(c) Sugars (d) Proteins

53. Columella is a specialized structure found in the sporangium of:
(a) Ulothrix (b) Rhizopus★
(c) Spirogyra (d) None of these

54. Which one of the following is not the mode of reproduction in yeast:
(a) Budding (b) Fission
(c) Plasmogamy (d) Oogamy★

55. In yeast, meiosis occurs in:
(a) Ascospore
(b) Ascus
(c) Zygote★
(d) Pseudomycelium

56. Yeast is an important sources of:
(a) Vitamin A (b) Vitamin B ★
(c) Vitamin C (d) Vitamin D

57. Saccharomyces cerevisiae is a:
(a) Akaryote (b) Prokaryote
(c) Mesokaryote (d) Eukaryote★

58. In the production of leavened bread the following is used:
(a) Bacterium (b) Yeast★
(c) Rhizopus (d) None

59. Vegetative reproduction in yeast takes place by:
(a) Akinetes (b) Ascospores
(c) Aplanospores (d) Budding★

60. The enzyme used for alcohol formation by fermentation is:
(a) Invertase (b) Lipase
(c) Amylase (d) Zymase★

61. Toadstools cannot manufacture their own food because:
(a) They do not have roots
(b) They do not have leaves
(c) They do not have chlorophyll★
(d) They do not need food for their growth

62. Reproduction in 'fairy rings' occurs by means of:
(a) Seeds (b) Spores ★
(c) Flowers (d) Gills

63. Fungi are always:
(a) Parasitic (b) Saprophytic
(c) Autotrophic★ (d) Heterotrophic

64. An organism which is normally a saprophyte, but can also become a parasite is called:
(a) Facultative saprophyte
(b) Partial saprophyte
(c) Facultive parasite
(d) Partial parasite★

65. Which ol the following is a good example of heterothallism:
(a) I'lcns (b) Rhizopus ★
(c) Cycas (d) Castor bean

66. Why zygospores are not generally formed in a culture of Rhizopus developed from a single spore:
(a) Due to lack of light
(b) Due to shortage of oxygen
(c) Strains of mycelium ★
(d) None of these

67. Columella is present in the sporangium of:
(a) Spirogyra (b) Yeast ★
(c) Ulothrix (d) Rhizopus

68. A mushroom is:
(a) Saprophyte★
(b) Photosynthetic organism
(c) Facultative parasite
(d) Obligate parasite

69. What is the mode of nutrition in Rhizopus:
(a) Autotrophic (b) Parasitic
(c) Symbiotic (d) Saprophytic★

70. Which of the following disease is caused by a fungus:
(a) Cholera
(b) Rust of wheat★
(c) T.B
(d) Tetanus

71. Non-flagellate thin walled spores are known as:
(a) Zoospores (b) Hypospores
(c) Aplanospores★ (d) Zygospores

72. Biflagellated microzoospores occur in:
(a) Chlamydomonas braunii
(b) Chlamydomonas coccifera★
(c) Ulothrix zonate
(d) None of these

73. Which of the following pigments occurs in blue-green algae?
(a) Fucoxanthin (b) Betacyanin
(c) Phycocyanin★ (d) Anthocyanin

74. Which of the following algae is responsible for the red tide?
(a) Gonyaulax★
(b) Polysiphonia nigriscene
(c) Cephaleuros
(d) Fucus furcatus

75. A thick walled spore meant for perennation is known as
(a) Zoospore (b) Aplanospore
(c) Hypnospore★ (d) Akinete

76. A hormogonium enclosed in a sheath is called:
(a) Hormocyst★ (b) Hormogonium
(c) Trichome (d) Trichogyne

77. If one of the gametes fails to fuse with another gamete but develops into a diploid zygote-like structure, the phenomenon is termed?
(a) Apogamy (b) Apomixis
(c) Parthenogenesis★ (d) Parthenocarpy

78. Sexual reproduction in Chlamydomonas is:
(a) Isogamous (b) Anisogamous
(c) Ogamous (d) All of these★

79. Pond-silk is the common name of:
(a) Ulothrix (b) Spirogyra ★
(c) Vaucheria (d) Volvox

80. Auxospores are formed in one of the following:
(a) Ulothrix
(b) Chlamydomonas
(c) Oedogomum
(d) Diatoms★

81. Transition zone between vegetational types is:
(a) Ecotone★ (b) Ecotype
(c) Ecoline (d) Ecosystem

82. Bacterial role in carbon cycle is:
(a) Chemosynthesis
(b) Photosynthesis
(c) Breakdown of organic matter★
(d) Assimilation

83. The rate at which light energy is changed into chemical energy of organic molecules is:
(a) Net primary productivity
(b) Gross productivity★
(c) Net secondary productivity
(d) Gross secondary productivity

84. If there was no CO_2 in the earth's atmosphere the temperature of earth's surface would be:
(a) Same as present
(b) Less than present★
(c) Higher than present
(d) Depends upon amount of O_2

85. If we completely remove the decomposers from an ecosystem, its functioning will be adversely affected because:

(a) Energy flow will be blocked
(b) Herbivores will not receive solar energy
(c) Mineral movement will be blocked★
(d) The rate of decomposition will be high

6. In a biotic community (ecosystem), the primary consumers are:
(a) Carnivores (b) Omnivores
(c) Detritivores★ (d) Herbivores

7. What is true about photolithotrops?
(a) Obtain energy from radiations and hydrogen from organic compounds
(b) Obtain energy from radiations and hydrogen from inorganic compounds★
(c) Obtain energy from organic compounds
(d) Obtain energy from inorganic compounds

88. The frog that feeds on an insect is a:
(a) Tertiary consumer
(b) Decomposer
(c) Primary consumer
(d) Secondary consumer★

89. Relative Biological Effectiveness (RBE) is caused due to:
(a) Soil★ (b) Water
(c) Radiation (d) Pollution

90. Pneumatophores are characteristics of:
(a) Halophytes★
(b) Oxylophytes
(c) Fresh water plants
(d) Psammophytes

91. Life originated on the earth approximately:
(a) 2600 - 3600 million years ago
(b) 3600 - 4600 million years ago★
(c) 4600 - 5600 million years ago
(d) 3200 - 3600 million years ago

92. The first organisms to appear on the earth were
(a) Autotrophic and anaerobic
(b) Autotrophic and aerobic
(c) Heterotrophic and anaerobic★
(d) Heterotrophic but aerobic

93. The atmosphere of primitive earth was converted from reducing to oxidising atmosphere by the:
(a) Photoautotrophs★
(b) Chemoautotrophs
(c) Chemoheterotrophs
(d) Autotrophs

94. The complex organic compounds formed in the simulated conditions in Miller and Urey's experiment were:
(a) Urea and nucleic adds
(b) Amino acids and proteins★
(c) Proteins and nucleic acids
(d) Carbohydrates and proteins

95. The experiment performed by Miller indirectly supports:
(a) The theory that life originated through special creation
(b) The creation of artificial life
(c) The theory that water vapour, ammonia and ethane with the help of energy from the sun may have produced amino acids in the remote past. ★
(d) The theory of spontaneous generation

96. Mixing of amino acids, purines, pyrimdines and other compounds with a view to duplicate the synthesis of living cells in a test-tube has resulted the of.
(a) Cells with nuclei
(b) Superficial cell-like structure★
(c) Cells with capacity to reproduce
(d) Cells possessing capacity for metabolism

97. Which One of the following amino acids was no produced in Stanley Miller's experiment?
(a) Alanine (b) Aspartic acid
(c) Glycine (d) Glutamic acid★

98. The most acceptable theory of origin of life was proposed by:
(a) A.I. Oparin and J.B.S Haldane★
(b) Stanley Miller and Harold Urey.
(c) Charles Darwin and Julian Huxley
(d) M.J. Schleiden and Theodore Schwann

99. Which one of the following was absent in a free form at the time of origin of life?
(a) Hydrogen (b) Methane
(c) Nitrogen (d) Oxygen★

100. According to the theory of spontaneous generation:
(a) Life arose spontaneously★
(b) Life arose from pre-existing life only
(c) Life arose only in the dirty places
(d) Life arose from pre-existing life spontaneously

SET – 4

1. Masses of floating Spirogyra in a pond are supported by bubbles of a gas. The gas is:
   (a) Air (b) Oxygen★
   (c) Methane (d) CO_2
2. A parasitic alga is:
   (a) Cephaleuros★ (b) Illnthrix
   (c) Oedogonium (d) Sargassum
3. Four spores are produced after syngamy in:
   (a) Algae ★ (b) Bryophytes
   (c) Pteridophytes (d) Gymnosperms
4. The cell wall in algal cells consists of:
   (a) Cellulose★ (b) Chitin
   (c) Cutin (d) Suberin
5. Spirogyra differs from Rhizopus in having:
   (a) Uninucleate gametangia★
   (b) Multlcellulargametes
   (c) Anisogametes
   (d) Sexual reproduction
6. What among the following do you consider as the best evidence to show that two specie of algae are closely related? Both of them:
   (a) Reproduce a asexually
   (b) Respire and release CO_2
   (c) Have the same type of pigments★
   (d) Are found in the same habitat
7. Ulothrix filaments produce:
   (a) Isogametes★ (b) Anisogainetes.
   (c) Heterogametes (d) None of these
8. Which of the following is a prokaryote?
   (a) Spirogyra
   (b) Oscilatoria★
   (c) Cladophora
   (d) Chlamydomonas
9. Which of the following produce non-motile gametes?
   (a) Cladophora (b) Ulothrix
   (c) Spiroygra★ (d) Anabaena
10. In the sexual reproduction of spirogyra the cell contents contract from the cell wall to form:
    (a) Zoospores (b) Zygospores
    (c) Gametophytes (d) Gametes★
11. When gametes of Chlamydomonas fail to fuse together the process is termed:
    (a) Sygamy
    (b) Hologamy
    (c) Anisogamy
    (d) None of these★
12. One of the following show morphological isogamy but physiological anisogamy:
    (a) Chlamydomonas (b) Spirogyra★
    (c) Dryopteris (d) Funaria
13. Red bread mould is the common name of:
    (a) Mucor (b) Aspergillus
    (c) Rhizopus (d) Neurospora★
14. Green mould is the common name of:
    (a) Neurospora (b) Erysiphe
    (c) Penicillium★ (d) Sperigillus
15. Yeast secretes an enzyme which is responsible for fermentation. This enzyme is known as:
    (a) Fermentin (b) Invertase★
    (c) Enolase (d) Dehydrogenase
16. Black mould is the common name of:
    (a) Penicillium (b) Rhizopus
    (c) Aspergillus★ (d) Neurospora
17. Fungi can be stained by:
    (a) Lactophenol (b) Cotton blue★
    (c) Safranin (d) Glycerine
18. Fungi are different from algae in that:
    (a) Mitochondria arc absent
    (b) Nucleus is present★
    (c) Cell wall is chitinous and chlorophyll is absent
    (d) Cell wall is cellulosic and chlorophyll is absent
19. Fungi which grow on barks of tree are termed:
    (a) Saxicolous (b) Coprophilous
    (c) Zoophilous (d) Corticolous★
20. Which of the following is used for sterilising culture media?
    (a) Thermostat (b) Autoclave ★
    (c) Incubator (d) Refrigerator
21. Different enzymes show optimum activity in:
    (a) Acidic medium
    (b) Alkaline medium
    (c) Neutral medium
    (d) Either of the above★
22. Coenzyme is:
    (a) Always a protein

(b) Often a metal★
(c) Always an inorganic compound
(d) Often a vitamin

23. Enzymes generally have:
(a) Same pH and temperature optima
(b) Same pH but different temperature optima
(c) Different pH but same temperature optima
(d) Different pH and different temperature optima★

24. The term feedback refers to:
(a) The effect of substrate on the rate of enzymatic reaction
(b) The effect of end product on the rate of enzymatic reaction★
(c) The effect of enzyme concentration on its rate of reaction
(d) The effect of an external compound on the rate of enzymatic reaction

25. Which of the following is the best evidence for the lock and key theory of enzyme action?
(a) All isolated enzymes have been identified as proteins
(b) Compounds similar in structure to the substrate inhibit the reaction
(c) Enzymes are found in living organisms and speed up certain reactions★
(d) Enzymes determine the direction of a reaction

26. Bulliform cells are found in the leaves of:
(a) Sunflower (b) Wheat ★
(c) Tinospora (d) Potato

27. Casparian bands are present on:
(a) The radial walls of endodermal cells
(b) The tangential walls of endodermal cells
(c) Both (a) & (b) ★
(d) None

28. Cells isodeametric or slightly elongated in shape, thick walled and strongly signified, occurring in hard seeds, nuts or stony fruits are called:
(a) Collenchymatous cells
(b) Meristematic cells
(c) Stone cells ★
(d) Pitted cells

29. Thin walled, greatly elongated and much branched ducts containing a .milky juice are termed:
(a) Glandular ducts
(b) Laticiferous ducts★
(c) Sieve tubes.
(d) Latiferous ducts

30. A median longitudinal section through the apex of the root shows three "meristematic regions known as:
(a) Dermatogen, plerome, periblem★
(b) .Dermatogen, calyptrogen, periblem
(c) Calyptrogen, pcriblem, plerome
(d) Procambium, dermatogen, periblem

31. Endosperm in gymnosperm is formed:
(a) At the time of fertilization
(b) Before fertilization★
(c) After fertilization
(d) Along with development of embryo

32. Red wood tree is:
(a) Cedrus (b) Pinus
(c) Sequoia★ (d) Metasequoia

33. The resin duct of a gymnospermous stem is an example of:
(a) Intercellular space
(b) Schizogenous cavity★
(c) Iysigenous cavity
(d) Big vacuole

34. The pollination in Cycas takes place through:
(a) Ant (b) Water
(c) Bat (d) Wind★

35. Cycas ovule is:
(a) Anatropous (b) Orthrotropous★
(c) Hemianatropous (d) Campylotropous

36. The mature male gametophyte of Selaginella is:
(a) Eleven celled
(b) Nine celled
(c) Seven celled
(d) Thirteen celled★

37. The number of jacket cells present in the male gametophyte of Selaginella:
(a) Four (b) Six
(c) Eight★ (d) None of these

38. Each leaf cell of Selaginella contains:
(a) Several pyrenoids★
(b) Two pyrenoids
(c) One pyrenoid
(d) 1-2 pyrenoids

39. The trabaculae in the stem of Selaginella are generally:
(a) Bicelled (b) Unicellel ★
(c) Multicelled (d) Cutinised

40. The xylem in the root of Selaginella is:
(a) Monarch and exarch★
(b) Diarch and endarch
(c) Diarch and exarch
(d) Polyarch and exarch

41. The 13-celled gametophyte in Selaginella comprises:
(a) 12 cells of antheridium + 1 prothallial cell★
(b) 10 cells of antheridium + 3 prothallial cells
(c) 9 cells of antheridium + 4 prothallial cells
(d) 7 cells of antheridium + 6 Drothallial cells

42. Ligule a Selaginella possesses a bulbous basal region called:
(a) Microphyll (b) Heterophyllum
(c) Sporophyll (d) Glossopodium★

43. Which one of the following is not found in Selaginellal
(a) Heterophylly (b) Heterospory
(c) Homospory★ (d) Glossopodium

44. Trabaculae represent the modification of:
(a) Xylem (b) Endodermis★
(c) Phloem (d) Pericycle

45. Which of the following is less resistant to antibiotics?
(a) Escherechia coli
(b) Gram negative bacteria
(c) Gram positive bacteria★
(d) None of these

46. Bacteria reproduce asexually by means of:
(a) Fission★
(b) Cyst formation
(c) Endospore formation
(d) All of these

47. The main role of bacteria in retting of fibre is hydrolysis of:
(a) Cellulose of cell walls of the fibres
(b) Pectic substances that bind the cells together★
(c) Lignin that forms secondary walls
(d) Lignin that is present between the cells

48. Food poisoning is caused by:
(a) Salmonella typhosa
(b) Clostridium tetani
(c) Clostridium botulinum★
(d) None of these

49. The bacterium which reduces the fertility of soil is:
(a) Nitrosomonas sp
(b) Azotobacter sp
(c) Nitrobacter sp
(d) Bacillus denitrificans★

50. Chloromectin is obtained from:
(a) Streptomyces lavendulae
(b) Bacillus subtilis
(c) Streptomyces aureofaciens
(d) Streptomyces venezualae★

51. Wooden doors swell up and get stuck up during rainy season due to:
(a) Endosmosis (b) Imbibition★
(c) Capillarity (d) Exosmosis

52. Rate of transpiration is measured by:
(a) Ganong's potometer★
(b) Porometer
(c) Auxanometer
(d) Respirometer

53. When water enters the plant cell one of the pressures is exerted on the cell wall:
(a) Turgor pressure★
(b) Suction pressure
(c) kooi pressmc
(d) Osmotic pressure

54. Presence of glycolate in the cells will help to open stomata when there is:
(a) High concentration of CO_2
(b) Low concentration of O_2
(c) High concentration of CO_2 and low O_2
(d) High concentration of O_2 and low CO_2★

55. In soil water available for plants is:
(a) Gravitational water
(b) Hygroscopic water
(c) Capillary water★
(d) Chemically bound water

56. The water potential and osmotic potential of pure water are:
(a) Zero and 100 (b) Zero and zero★
(c) 100 and zero (d) 100 and 100

57. If a cell A with. DPD, 4 bars is connected to cells B, C, D whose OP and TP are respectively 4 and 4, 10 and 5 and 7 and 3 bar, the flow of water will be:
(a) C to A, B and D
(b) A and D to B and C
(c) A to B, C and D
(d) B to A, C and D★

58. Water potential in the leaf tissue is positive (+ ve) during:
(a) Excessive transpiration★
(b) Low absorption
(c) Low transpiration
(d) Guttation

59. With increase in turgity of a cell surrounded by water the wall pressure will:
(a) Increase ★
(b) Decrease
(c) Fluctuate
(d) Remain unchanged

60. Endosmosis of water occurs when in comparison with the outer solution, the water potential of cell sap is:
(a) Higher (b) Lower★
(c) Equal (d) None of these

61. The tendrils in Pisum represent:
(a) Upper leaflet (b) Upper leaflets★
(c) Lower leaflet (d) Lower leaflets

62. The ancient leaf melanoxylon was:
(a) Unipinnate (b) Bipinnate★
(c) Unifoliate (d) Bifoliate

63. When the leaf apex appears to be transversely cut, it is called:
(a) Obtuse (b) Truncate ★
(c) Retuse (d) Cirrhose

64. Heterophylly is found in species of:
(a) Potamogeton
(b) Najas
(c) Myriophyllum ★
(d) Vallisneria

65. Heterophylly is not seen in:
(a) Coriandrum sativum
(b) Artocarpus chaplasa
(c) Ficus glomerate★
(d) Ranunculus scleratus

66. The leaf margin w ith rounded teeth is described as:
(a) Serrate (b) Dentate
(c) Crenate★ (d) Runcinate

67. The stipules are outgrowth arising:
(a) From the petiole
(b) On the petiole
(c) From the leaf base★
(d) Between petiole and lamina

68. The petiole in Citrus is:
(a) Winged ★ (b) Swollen
(c) Tendriller (d) Simple

69. In Aesculus the leaves are:
(a) Bipinnate (b) Bifoliate
(c) Decompound (d) Multifoliate★

70. The main axis of the inflorescence is elongated in a:
(a) Corymb (b) Capitulum
(c) Cyathium (d) Catkin★

71. Moll's Half leaf experiment shows:
(a) Unequal transpiration from surfaces of a leaf
(b) The relation transpiration and absorption
(c) That chlorophyll is necessar for photosynthesis
(d) That CO_2 is necessary fq photosynthesis★

72. Starch is insoluble in water yet it jj accumulated in large quantities it potato because:
(a) Soil micro-organisms starch in tubers
(b) It is synthesised in potato tube itself
(c) It is translocated from the leave to the tuber in the form of sugai ★
(d) It is useful for consumption

73. Kranz type anatomy is found in:
(a) C_4 plants★ (b) C_2 plants
(c) C_6 plants (d) C_3 plants

74. Which of the following condition represents a case; of co-dominant genes?"
(a) A gene expresses itself, suppressing the phenotypic effect of its alleles, when present in heterozygous condition.
(b) Alleles, each of which produces an independent effect in a heterozygous condition
(c) Alleles both; of which interact to produce a trait j which mayor may not resemble either of the parental types★

(d) Genes that are similar in phenotypic effect, when present separately, but when together interact to produced different unit

75. A cross between red flowered and white flowered plants results in pink flowered plants in F_1 when the F_1, hybrids were self-fertilised, the resulting F_2 generation revealed 1 red, 2 pink, 1 white progeny. The type of inheritance is the result of:
(a) Pleiotropic gene
(b) Incomplete dominance★
(c) Complementary genes
(d) Co-dominance

76. The experiment in which it was shown that DNA and not the protein is the genetic material in bacteriophases is:
(a) Meselson-Stahl's experiment
(b) Franklin-Wilkins's experiment
(c) Hershey-Chase's experiment★
(d) Griffith's experiment

77. The wobble effect is the:
(a) Lack of precision with regard to the third base in the codon and anticodon★
(b) Instability of the DNA molecule when unwound
(c) Instability of pairing when a purine pair with another purine
(d) Undulating movements of mRNA

78. The term gene was cosned by:
(a) Gregor Johann Mendel
(b) Waldeyer
(c) Johanssen★
(d) Jacob and Monod

79. In the 1940s, Barbara McClintock described jumping genes in maize. Such mobile segments of DNA, now called transposons (transferable elements), can insert themselves into:
(a) Virtually any part of any DNA molecule
(b) Start and stop signais, only.
(c) Only DNA molecules where there are complementary base pairs with unfilled active sites★
(d) Plasmid molecules only

80. A restriction enzyme breaks bonds between the:
(a) Base pairs of a DNA molecule
(b) Base pairs of a DNA-RNA hybrid molecule
(c) Sugar and phosphate components of a nucleic and molecule★
(d) Exons and introns of a DNA molecule
(e) Homologous chromosomes

81. It will not make any sense to produce seedless fruits in:
(a) Grapes (b) Papaya
(c) Guava (d) Pomegranate★

82. The study of fruits is called:
(a) Ornithology (b) Anthology
(c) Pomology★ (d) Mycology

83. Cleistogamy is found in:
(a) Calotropis
(b) Vanda
(c) Commelina bengalensis★
(d) Ficus bengalensis

84. In coconut the dispersal is due to fibrous:
(a) Epicarp (b) Mesocarp★
(c) Endocarp (d) None

85. In poppy dispersal of seeds takes place through:
(a) Pores★
(b) Longitudinal slits
(c) Valves
(d) Septa

86. When the pollens from one flower are deposited on the stigma of another flower borne on the same plant the pollination is known as:
(a) Self pollination (autogamy)
(b) Self pollination (geitonogamy) ★
(c) Cross pollination (allogamy)
(d) Anemophily

87. The dispersal of seeds of Cinchona and orchids take place by:
(a) Wind ★ (b) Water
(c) Bats (d) Birds

88. Marginal placentation is found in:
(a) Poppy (b) Mustard
(c) Sunflower (d) Pea★

89. Cypsela fruit develops from:
(a) Superior monocarpellary ovary
(b) Superior tricarpellary ovary
(c) Inferior bicarpellary ovary★
(d) Inferior pentacarpellary ovary

90. The juicy edible aril is found in:
(a) Plum (b) Litchi ★
(c) Peach (d) Jujube

91. Feathery stigma are present in:
(a) Wheat ★ (b) Pea
(c) Caeasalpinia (d) Datura

92. Monothecous anther is found in:
(a) Compositae (b) Cruciferae
(c) Malvaceae★ (d) Solanceae

93. When the filament runs along the back of anther, it is called:
(a) Adnate★ (b) Versatile
(c) Longitudinal (d) Syngenesious

94. In the young cob of maize, numerous filamentous hair-like structures protruding from its tip are:
(a) Long style of carpels★
(b) Hair of seeds
(c) Hairy projections
(d) Anthers

95. The flower shown in the adjacent diagram is:
(a) Dichlamydeous, bisexual and hypogynous★
(b) Heterochlamydeous, bisexual and epigynous
(c) Homochlamydeous, unisexual and hypogynous
(d) Homochlamydeous, bisexual & epigynous

96. Study of the flowers is called:
(a) Agrostology (b) Anthology★
(c) Spermology (d) Malacology

97. The part of the flower formed by the fusion of calyx, corolla and androecium is called:
(a) Hypanthium ★ (b) Gibbous
(c) Perianth tube (d) Spur

98. When a flower can be cut in two equal portions from only one plane, it is precisely called:
(a) Actinomorphic (b) Zygomorphic★
(c) Symmetrical (d) Bilateral

99. Aestivation of sepal/petal in which one edge overlaps the next sepal/petal and itself over-lapped by previous:
(a) Valvate (b) Twisted★
(c) Imbricate (d) Quincuntial

100. Flowers in which only one set of essential organ is present said to be:
(a) Bisexual (b) Monoecious
(c) Dioecious★ (d) Polygamous
(e) Unisexual

SETNIT – 5

1. In bacteria respiratory enzymes are situated in the
(a) Cell membrane★ (b) Cytoplasm
(c) Ribosomes (d) Mitochondria

2. A cell wall material present only in blue green algae and bacteria is
(a) Cellulose (b) Glycogen
(c) Muramic acid★ (d) Pectin

3. The cell wall of gram positive bacteria is composed of:
(a) Peptidoglycans only
(b) Peptidoglycans and lipids★
(c) Lipids and cellulose
(d) Mainly lipids and small amounts of peptidoglycans

4. The archaebacteria can tolerate extremes ot heat and pH due to:
(a) The presence of branched chain lipids in the cell-membrane★
(b) The absence of peptidoglycans in the cell walls
(c) The presence of an extra layer of capsule around their cell walls.
(d) Being most ancient

5. Vivipary is exhibited by:
(a) Mangrove plants★
(b) Sea weeds
(c) Hydrophytes
(d) Xerophytes

6. The caruncle is derived from:
(a) Tegmen (b) Testa ★
(c) Both of these (d) Nucellus

7. Which of the following is not essential for germination?
(a) Oxygen (b) Water
(c) Light★ (d) Temperature

8. A non-endospermic monocot seed:
(a) Zingiber (b) Curcuma
(c) Elyttaria (d) Alisma★

9. The plant whose seeds are known to have the longest viability period is:
   (a) Carica papaya
   (b) Nelumbo speciosa★
   (c) Ziziphus marutiana
   (d) Triticum vulgare
10. The cotyledons in castor are:
   (a) Unequal (b) Fleshy
   (c) Fused (d) Leafy★
11. In Equiseturr sporangia are born in:
   (a) Microsporophylls
   (b) Megasporophylls
   (c) Sporangiophore★
   (d) Fertile leaves
12. Presence of air cavities in the stem of Equisetum indicate:
   (a) Xerophytic feature
   (b) Hydrophytic feature★
   (c) Mesophytic feature
   (d) Halophytic feature
13. Equisetum is commonly called:
   (a) Club moss (b) Horse tail ★
   (c) Quill wort (d) Stone wort
14. Intercalary meristem is seen in:
   (a) Ophioglossum (b) Lycopodium
   (c) Psilotum (d) Equisetum★
15. Equisetum is:
   (a) Incipiently heterosporous
   (b) Homosporous★
   (c) Heterosporous
   (d) Aposporous
16. The stale of Ophioglossum is:
   (a) Dictyostele★ (b) Polystele
   (c) Protostele (d) Solenostele
17. The sorus of Ptens is:
   (a) Simple type★ (b) Mixed type
   (c) Gradate type (d) None of above
18. The sporangia of Ophioglossum are seen in the form of a:
   (a) Strobilus (b) Sporophyll
   (c) Spike ★ (d) fassel
19. Leaf gaps and leaf traces arc seen in the rhizome of:
   (a) Psilotum (b) Ophioglossum
   (c) Ptcris ★ (d) Marsilea
20. Amphiphloic siphonostele is found in:
   (a) Psilotum (b) Ophioglossum
   (c) Pteris (d) Marsilea ★
21. The champak flower is considered a primitive flower because:
   (a) It is a large showy scented flower
   (b) It has many sepals and petals
   (c) Many free members in each whorl★
   (d) It is borne on tree tops
22. The largest flower in the world is:
   (a) Giant lily (b) Rafflesia ★
   (c) Lotus (d) Sun flower
23. Angiospermic group to which the largest flower belongs is:
   (a) Total stem parasite
   (b) Partial stem parasite
   (c) Total root parasite★
   (d) Partial root parasite
24. The placentation in a multilocular ovary, where the ovules are borne over the entire inner surface is called:
   (a) Pendulous (b) Marginal
   (c) Superficial ★ (d) Parietal
25. The type of placentation in which ovary is syncarpous, unilocular and ovules borne on suture is called:
   (a) Apical (b) Parietal★
   (c) Marginal (d) Superficial
26. In maize cobs, the silky hair represent:
   (a) Outgrowths of spadix inflorescence
   (b) Outgrowth from spathes of the infloresence
   (c) Outgrowths of seed coat
   (d) Long styles which help in capturing the pollen grains★
27. Ligulate or strap-shaped corolla is a characteristic feature of:
   (a) Disc floret
   (b) Ray floret★
   (c) Both disc and ray florets
   (d) None
28. When a flower lacks the non-essential whorl/s they are termed as:
   (a) Neutral (b) Imperfect
   (c) Achlamydeous★ (d) Irregular
29. Cauliflory is:
   (a) Production of flowers on young branch
   (b) Formation of plant from epiphyllous buds
   (c) Production of flowers on old stem from dormant buds★
   (d) Formation of flowers in clusters

30. Which of the following term indicates adhesion?
(a) Adelphous (b) Gynandrous★
(c) Synandrous (d) Syngenesious

31. There is a threat to the beauty of the Taj Mahal from:
(a) Leakage
(b) The Yamuna
(c) The temperature and rain effect on marble
(d) The Mathura refinery★

32. The species, which are likely to become extinct in the near future if the factors threatening their existence continue are known as:
(a) Threatened species
(b) Rare species
(c) Vulnerable species★
(d) Endangered species

33. The zone of biosphere reserve where no human activity is permitted is known is the:
(a) Buffer zone (b) Core zone★
(c) Manipulation one (d) None of these

34. The wavelength of cosmic rays is:
(a) LessVthah 1.0 A°
(b) Lessthan 0.001 A°★
(c) 0.1 – 100 A°
(d) 200-390 A°

35. Find the odd man out:
(a) X-rays, cosmic rays, alpha particles.
(b) B-particles, gamma particles, alpha particles
(c) Cosmic rays, alpha particles, gamma particles
(d) UV rays, X rays, cosmic rays★

36. Treatment of wastewater by chemicals is called:
(a) Primary treatment
(b) Secondary treatment
(c) Tertiary treatment★
(d) Recycling of wastes

37. Cotton dust causes:
(a) Silicosis (b) Siderosis
(c) Pneumoconiosis (d) Lung fibrosis★

38. Which of the following is a secondary pollutant?
(a) DDT (b) PAN ★
(c) Fungicide (d) Herbicide

39. Which one of the following has an effect similar to that of chlorofluorocarbons released by jet aeroplane?
(a) Methane
(b) Carbon tetrachloride★
(c) Fungicide
(d) PAN

40. In Pakistan 4.5% of the total area is covered by our forest in India forests cover about:
(a) 22.7% of the land area★
(b) 38.7% of the land area
(c) 30.9% of the land area
(d) 6.9% of the land area

41. The stem cuttings for vegetative propagation are used in:
(a) Coleus (b) Pothos
(c) Rose (d) All of above★

42. The sugarcane plants are propagated by:
(a) Roots (b) Leaves
(c) Stems★ (d) All the above

43. The methods of vegetative propagation are commonly used in the production of the plants of:
(a) Wheat (b) Rose★
(c) Marigold (d) Suntlower

44. The layering is practiced in:
(a) Jasminum★ (b) Groundnut
(c) Soyabean (d) All of above

45. Grafting is done in:
(a) Monocots (b) Dicots★
(c) Pedicel (d) Pteridophytes

46. The axis of inflorescence is known as:
(a) Petiole (b) Peduncle★
(c) Bryophytes (d) None

47. The main axis is elongated in:
(a) Raceme (b) Spike
(c) Catkin (d) All of above★

48. The main axis is flattened in:
(a) Raceme (b) Spike
(c) Calkin (d) Capitulum★

49. The shortened main axis is found in:
(a) Raceme (b) Corymb
(c) Umbel (d) Both (b)&(c) ★

50. Spadix inflorcesence is found in:
(a) Alocasia★ (b) Morus
(c) Mangifera (d) Magnolia

51. Which of the following is not involved in the fertilisation of fern?
(a) Ciliated sperm (b) Oogamy
(c) Archegonium (d) Pollen tube★

52. In Dryopteris, the spore is:
(a) Circular (b) Vermiform
(c) Reniform★ (d) Linear

53. Ferns resemble seed plants in having:
(a) Egg production in ovaries
(b) Production of pollen grain
(c) Phloem in their vascular bundles★
(d) Nourishment of embryo from endosperm.

54. Anthrozoids of Dryopteris enter the archegonia due to:
(a) Repulsion
(b) Movement through water
(c) Attraction by a chemical substance produced by the archegonia★
(d) None

55. A stele without pith is known as:
(a) Eustele (b) Siphonostele
(c) Dictyostele (d) Protostele★

56. Moss differs from pteridophytes in not having:
(a) Well developed vascular system★
(b) Archegonia
(c) Swimming antherozoids
(d) An independent gametophyte

57. The number of spore mother cells in the sporangium of fern is generally:
(a) 4-8 (b) 8-16★
(c) 32-64 (d) 16-32

58. A special organ of the sporophyte for attachement to the gametophyte is called:
(a) Root (b) Apophysis
(c) Stalk (d) Foot★

59. Gymnosperms are characterised by the:
(a) Absence of seeds★
(b) Presence of flowers
(c) Presence of seeds in cones
(d) Absence of vascular tissues

60. In which of the following groups would you place a plant which produces seeds but lacks flowers?
(a) Angiosperms (b) Pteridophytes
(c) Bryophytes (d) Gymnosperms★

61. Complete oxidation of one molecule of acetyl Co-A results in the formation of:
(a) 12 ATP★ (b) 15 ATP
(c) 19 ATP (d) 38 ATP

62. In which of the following process 2 electrons and 2 protons are used:
(a) Dehydrogenation★
(b) Deamination
(c) Decarboxylation
(d) Hydrogenation

63. The process of Acetyl Co-A synthesis from pyruvic acid is called
(a) Reduction
(b) Dehydrogenation
(c) Dephosphorylation
(d) Oxidative decarboxylation★

64. End products of aerobic respiration are:
(a) $CO_2 + H_2O$
(b) $O_2 + H_2O$ + Energy
(c) Energy
(d) $CO_2 + H_2O$ + Energy★

65. The number of carbons in pyruvic acid is:
(a) 3 ★ (b) 4
(c) 6 (d) 2

66. Terminal cytochrome of respiratory chain which donates electrons to oxygen is:
(a) Cyt.b (b) Cyt. c
(c) Cyt.a_3★ (d) Cyt. a_3

67. Metabolic water is:
(a) Produced during fermentation
(b) Produced during transpiration
(c) Produced during aerobic utilisation of glucose★
(d) Produced during condensation of glucose molecules in photosynthesis

68. Which one is a product of glycolysis?
(a) FAD (b) NAD
(c) NADP (d) NADH★

69. Hydrogen atoms released at succinate level in Krebs cycle are accepted by:
(a) FAD★ (b) NAD
(c) NADP (d) AMP

70. Anaerobic respiration of organisms produces:
(a) $CO_2 + H_2O$
(b) Alcohol + CO_2
(c) Lactic acid + H_2O★
(d) $CO_2 + H_2O$ + Energy

71. The sexual reproduction in bacteria was reported by:
(a) Watson & Crick
(b) Kornberg and Ochoa
(c) Lederberg and Tatum★
(d) Robert Koch

72. The harmful poisonous substances produced by bacteria are called:
(a) Toxins★ (b) Antitoxins
(c) Antibiotic (d) Aflatoxins

73. Diphtheria disease is caused by:
(a) Corynebacterium diphtheriae★
(b) Diplococus pneumo
(c) Pasteurella pestis
(d) Streptomyces species

74. 'Bacterial leaf blight' is a serious disease of:
(a) Wheat (b) Maize
(c) Barley (d) Paddy★

75. During conjugation in E. Coli:
(a) A part of the chromosome is usually transferred to the female bacterium in which it replaces the homologous part of DNA. ★
(b) A part of the chromosome is usually transferred to the female bacterium in which it adds to the DNA of the female bacterium
(c) The whole chromosome of the male bacterium is generally passed into the female cell
(d) Both (a) & (b)

76. Genophore is the mime of:
(a) DNA of bacteria★
(b) DNA of Eukaryotes
(c) The genes of Nurospora
(d) Genes of Drospohila

77. There is no bacterial activity in which of the following processes?
(a) Sewage disposal
(b) Tanning of leather
(c) Ripening of cheese★
(d) Preparation of sillage

78. True sexual reproduction does not take place in bacteria because:
(a) It causes the death of the donor "cell★
(b) Genetic recombination takes place
(c) The haploid cells are formed
(d) Diploidisation of female cells takes place

79. Genetic recombination in bacteria takes place by:
(a) Conjugation (b) Transformation
(c) Transduction (d) All of these★

80. The portion of donor DNA homologous to recipient DNA in a merozygote in a bacterium is called:
(a) Exogenote ★ (b) Endogenote
(c) Recipient genome (d) None of these

81. The endosperm in Pinus is:
(a) Pre-fertilisation tissue★
(b) Post-pollination tissue
(c) Post-fertilisation tissue
(d) All of these

82. Phloem of gymnosperms differs from angiosperms in:
(a) Having no sclerenchyma
(b) Having no companion cells★
(c) Having no sieve tube
(d) Having parenchyma

83. The ovuliferous scales of pine cone are homologous to:
(a) Petals (b) Carpels★
(c) Scales (d) Stamens

84. The edible part of Pinus seed is the:
(a) Endosperm★ (b) Pericarp
(c) Perisperm (d) Epispore

85. Female cone is absent in:
(a) Pinus (b) Cycas★
(c) Taxus (d) None

86. The male gametophyte of Pinus is:
(a) 2-celled. (b) 10-celled
(c) 6-celled★ (d) 4-celled

87. In Pinus, 4 embryos are formed from one zygote. This is called:
(a) Polyspermy
(b) Simple polyspermy
(c) Cleavage polyembryony★
(d) Cleavage polyspermy

88. Endosperm of Cycas is:
(a) Haploid ★ (b) Diploid
(c) Tetraploid (d) Triploid

89. Cycas is:
(a) Homothallic (b) Monoecious
(c) Dioecious★ (d) None

90. Female cone of Pinus is a:
(a) Modified needle

(b) Modified long shoot★
(c) Modified dwarf shoot
(d) None

91. The removal of a ring of bark from the Trunk of a tree eventually kills it because:
(a) Food does not travel down and the roots starve and die★
(b) Mineral salts cannot go up
(c) Water cannot go up
(d) Of immediate stoppage of photosynthesis

92. The wave length of green light is
(a) 720-800 mu (b) 500-530 mu★
(c) 660-720 mu (d) 400-450 mu

93. Translocation of sugar in flowering plants occurs in the form of:
(a) Starch (b) Gluco
(c) Suerose★ (d) Maltose

94. In C4 plants CO_2 combine with PEP in the presence of;
(a) Deoxy carboxylase
(b) RUDP carboxylase
(c) PFP earbovylase★
(d) None of the above

95. A photosynthetic unit contains approximately 230 molecules. This is referred to as a subunit of:
(a) Quantum (b) Maltose
(c) Photon (d) Quantasome★

96. Which one of the following is a limiting factor for photosynthesis?
(a) Oxygen★ (b) Carbon dixoide
(c) Light (d) Chorophyll

97. The dry weight of a green leaf will:
(a) Be greater in the late afternoon★
(b) Be almost the same throughout the day
(c) Be greater in the morning
(d) Be lesser in the morning

98. Tropical plants like sugarcane show high efficiency of CO_2 fixation because of:
(a) EMP Pathway
(b) Hatch Slack Cycle★
(c) Calvin Cycle
(d) TCA Cycle

99. A lot of starch is deposited in a banana fruit as it matures. Which of the following explains how the starch gets there?
(a) Starch solution passes through cells such as companion cell to fruit
(b) Starch grain passes through cells from xylem to fruit
(c) A sugar solution passes through cells such as companion cells to the fruit where it is changed to starch★
(d) Starch solution passes through cells from phloem to fruit

100. Which is the most effective in photosynthesis?
(a) Blue light (b) Red light
(c) Sunlight ★ (d) Green light

SET – 6

1. Bacterium responsible for fermentation of dairy milk is:
(a) Hay bacillus (b) Lactobacillus★
(c) Acetobacter (d) Rhizobium

2. Antibiotics cures diseases by:
(a) Competitive inhibition★
(b) Fighting with disease causing organisms
(c) Turning the pathogen out of the body
(d) Removing pain

3. Cellulose present in the food of grazing animals is:
(a) Digested by the intestinal bacteria★
(b) Digested by animal itself
(c) Digested partly by the animal and partly by the bacteria
(d) Passes out indigested

4. The bacteria which lack flagella and move by gliding are included in:
(a) Spirochaetes★ (b) Rickettsias
(c) Myxobacteria (d) Eubacteria

5. The bacteria that commonly lives in human intestine is:
(a) Vibrio cholerae
(b) Bocillus anthracis
(c) Corynebacterium
(d) Escherichia coli★

6. Aplasmidisa:
(a) Bacteriophage
(b) DNA molecule incorporated in the bacterial 'chromosome'
(c) DNA molecule present in mitochondria

(d) A small circular DNA molecule capable of self replication and that can carry genes into host organisms★

7. In bacteria, plasmid is:
(a) Plastid
(b) Extra chromosomal DNA fragment★
(c) Main DNA
(d) Repeatitive gene

8. The hydrogen donor in bacterial photosynthesis is:
(a) H_2O (b) H_2S★
(c) H_2SO_4 (d) NH_3

9. Vaccination protects us from disease because it:
(a) Produces more heat in the body
(b) Causes the production of antibodies★
(c) Increases the number of red blood corpuscels
(d) Helps the body to digest food

10. Which of the following is a mycoplasmic disease?
(a) Leaf curl of papaya
(b) Black rust of wheat
(c) Red rot of sugarcane
(d) Little leaf of brinjal★

11. The principal pigment in phaaeophyceae is:
(a) Phycocyanin (b) Phycoerythrin
(c) Fucoxanthin★ (d) Xanthophyll

12. Azygospore is:
(a) Haploid★ (b) Diploid
(c) Sporophytic (d) Trininid

13. The number of pyrenoids in a cell of Spirogyra is:
(a) One (b) Two to five
(c) Three to five (d) Numerous★

14. The number of pyrenoids in Chlamydomonas:
(a) One★ (b) Two
(c) Three (d) Four

15. The chlorophyll in Chalmydomonas occurs in:
(a) Grana (b) Thylakoids ★
(c) Pyrenoids (d) Stigma

16. A lifecycle in which the dominant phase is a sporophyte is known as:
(a) Sporophytic (b) Diplontic ★
(c) Haplontic (d) Diplobiontic

17. The number of chloroplasts in a cell of Spirogyra is:
(a) One to four (b) One to eight
(c) One to fourteen★ (d) Two to eight

18. One of the following is a larvicidal alga:
(a) Euglena (b) Pandorina
(c) Oscillatoria ★ (d) Polysiphonia

19. Gametes of Ulothrix are:
(a) Biflagellate★ (b) Quadriflagellate
(c) Non-flagellate (d) None of these

20. The ability to fix atmospheric nitrogen is found in the:
(a) Leaves of some crop plants
(b) Some marine red algae
(c) Some blue-green algae★
(d) Chlorella

21. The tunica carpus theory was proposed by:
(a) Wolff (b) Honstein
(c) Schmidt★ (d) None.

22. Which of the following is a living tissue?
(a) Parenchyma★ (b) Sclerenchyma
(c) Xylem vessel (d) Stone cell

23. In collenchymas, the thickening of the corners is made of:
(a) Cellulose (b) Pectin ★
(c) Lignin (d) Suberin

24. Stomata are absent in:
(a) Mesophytes
(b) Xerophytes
(c) Submerged hydrophytes★
(d) Halophytes

25. Lotus leaf has:
(a) Few stomata on the dorsal
(b) Many stomata on the dorsal surface★
(c) No stomata on either side
(d) Many stomata on both sides

26. The term xenia was coined by:
(a) Webber (b) Crete
(c) Focke★ (d) Swamy

27. The spherosomes are associated to aleurone layer in - the following manner:
(a) Lie inside the grain
(b) Lie only at the base of the grain
(c) Lie all around the grain★
(d) Lie only at the tip of the grain

28. Ruminate endosperm is found in:
(a) Brassica (b) Lathyrus
(c) Myristica ★ (d) Zea

29. When the first division of PEN is followed by wall formation, the endosperm so formed is called:
(a) Cellular (b) Helobial
(c) Either of these★ (d) Ruminate

30. If the pollen of white variety maize is transferred on the stigma of yellow variety, xenia will:
(a) Appear in 100% cases
(b) Appear in 50% cases
(c) Appear in 3:1 ratio
(d) Not appear at all★

31. The bryophytes were placed in class Aetheogamous by:
(a) Eichler (b) Engler
(c) Campbell (d) de Candolle★

32. The sporophyte of Riccia shows the presence of:
(a) Chlorophyll (b) Rhizoids
(c) Both of these (d) None★

33. Which of the following is an aquatic bryophyte?
(a) Anthoceros halli
(b) Riccia discolor
(c) Sphagnum compaction
(d) Riccio Jluitans★

34. Which one of the following is an aquatic bryophyte?
(a) Ricciocarpus nutans★
(b) Mnium hornum
(c) Marchantia polymorpha
(d) Sphaerocarpus cristatus

35. In bryophytes the diploid number of chromosomes occurs in the:
(a) Gametes
(b) Spores
(c) Rhizoids and scales
(d) Spore mother cells★

36. The lateral 'leaves' formed in follose Jungermanniales are:
(a) Dissected (b) Lobed ★
(c) Pinnate (d) Palmate

37. The photosynthetic chambers in thallose bryophytes open to exterior precisely by:
(a) Slime pores
(b) Intercellular spaces★
(c) Air pores
(d) Epidermal cells

38. Which one of the following statements is not true of Bryophyta?
(a) They lack tracheids and sieve tubes
(b) They are photosynthetic
(c) Their zygote undergoes meiosis and then produces the sporophyte★
(d) Their spores germinate, producing gametophytes

39. What is incorrect for bryophytes?
(a) Vascular tissue lacking
(b) Independent sporophyte absent
(c) Gametophyte reduced and dependent★
(d) Asexual reproduction by zoospores absent

40. Which of the following shows the aquatic ancestor/ of bryophytes?
(a) Gametophytic plant body
(b) Biflagellate spores
(c) Ciliated sperms★
(d) Non-ciliated sperms

41. The roots in most of the pleridophytes are:
(a) Monarch (b) Diarch★
(c) Tetrarch (d) Polyarch

42. In leptosporangiate ferns the sporangium arises from:
(a) Group of superficial initials yuj \jiuup ui nypuuenlial iniuals
(b) Group of hypodermal initials
(c) Single superficial initial★
(d) Single hypodermal initial

43. A mixed protostele is seen is:
(a) Lycopodium cernuum★
(b) L. clavatum
(c) L. serratum
(d) All of these

44. According to the concept of interstelar origin of pith the following event is thought to have taken place during the course of evolution:
(a) Shifting of xylem and phloem parenchyma to centre
(b) Transformation of vascular tissue into parenchyma★
(c) Shifting of vascular tissue to periphery
(d) Migration of leaf gap parenchyma to centre

45. Which of the following is a heterosporous plant?
(a) Ophioglossum (b) Equisetum
(c) Regnellidium★ (d) Lycopodium

46. The term actinostele was suggested by:
(a) Bower (b) Jeffery
(c) Zimmerman (d) Brebner★

47. The following group of plants shows heterospory:
(a) Ceratopteris, Cyatheae, Psilotum
(b) Matonia, Platyzoma, Equsetites
(c) Sigillaria, Schizaea, Azolla
(d) Isoetes, Pilularia, Lepidostrobus★

48. The seed habit probably arose in the following manner
(a) Heterospory → Heterothallium → seed habit
(b) Incepient heterospory → Heterospory → Heterothallism → seed habit
(c) Heterothallism → Incepient heterospory → Heterospory → Seed habit★
(d) Heterothallism → Heterospory → Incepient heterospory → Seed habit

49. The heterosporous pteridophytes differ from seed bearing plant in the following respect:
(a) Absence of nucellus
(b) Absence of integuments★
(c) Absence of archegonium
(d) All of these

50. Engler placed Pteridophyta under:
(a) Cryptogamia (b) Embryophyta★
(c) Tracheophyta (d) Pteroposida

51. The ovule is attached to the placenta by a slender stalk which is known as:
(a) Petiole (b) Placenta
(c) Funicle ★ (d) Pedicel

52. In a raceme inforescence the flowers are:
(a) Arranged in a basipetal succession
(b) Arranged in an acropetal succession★
(c) Of separate sexes
(d) Of the same sex

53. The axis between the androecium and the gynoecium is called:
(a) Gynandrophore (b) Androphore
(c) Gynophore★ (d) Anthophore

54. Syngenesious condition is:
(a) When all the carpels in a gynoecium are fused
(b) When filaments are free and the anthers are fused
(c) When filaments of stamens are fused and the anthers are free
(d) When both the filaments and the anthers are fused★

55. The national flower of Pakistan is:
(a) Rafflesia
(b) Wolffia microscopica
(c) Jasmine ★
(d) Rosa indica

56. A floral diagram represents the:
(a) Position of the flower
(b) Function of the flower
(c) Symmetry of the flower
(d) Diagrammatic notion of the floral characteristics★

57. The arrangement of sepals and petals with respect to each other in a floral bud is called:
(a) Aestivation ★ (b) Phyllotaxy
(d) Vernation (d) Venation

58. Empty glumes are modified:
(a) Stamens (b) Petals
(c) Bracts ★ (d) Carpels

59. Epicalyx represents:
(a) A whorl of bracts
(b) Involucre
(c) An additional whorl of calyx★
(d) A whorl of bracteoles

60. A flower is said to be complete when it has:
(a) Calyx and corolla only
(b) All the four whorls★
(c) Androecium and gynoecium
(d) Corolla, androecium and gynoecium

61. Photorespiration is affected by:
(a) Light intensity (b) Temperature
(c) CO_2 and O_2 (d) All of these★

62. Chlorophyll a is present in:
(a) All photosynthetic eukaryotes as well as prokaryotes
(b) All plants except fungi
(c) All higher plants carrying photosynthesis
(d) All O_2 evolving photosynthetic organisms★

63. Calvin cycle expands the following for fixation on molecules of CO_2:
(a) 9 ATP and 6 $NADPH_2$
(b) 8 ATP and 6 $NADPH_2$
(c) 9 ATP and 3 $NADPH_2$
(d) 6 ATP and 9 $NADPH_2$★

64. Which of the following is the first product of photorespiration:

(a) Glycolic acid
(b) Serine
(c) - Phosphoglycolate★
(d) Glycine

65. Which element is essential for photolysis of water:
(a) Nitrogen (b) Chlorine ★
(c) Ingenhousz (d) Oxygen

66. In C4 plants initial CO_2 fixation takes place in the chloroplasts of:
(a) Guard cells★
(b) Spongy mesophyll
(c) Palisade tissue
(d) Root

67. Photorespiration takes place only in:
(a) Green parts of the plant★
(b) All the living cells of the plant
(c) Mitochondria
(d) Root

68. The organelle associated with photorespiration is called as
(a) Lysosome (b) Peroxisome ★
(c) Glyoxisome (d) Mesosome

69. The wavelength of light most absorbed during photosynthesis is:
(a) 400 nm (b) 500 nm
(c) 550 nm (d) 660 nm★

70. Non-cyclic photophosphorylation involves:
(a) Pigment system II only
(b) Pigment system I only
(c) Both pigment systems I and II★
(d) None of these

71. In aerobic respiration:
(a) Glucose is the only substrate
(b) Glucose is a preferred substrate★
(c) Glucose cannot be used directly
(d) Any material which burns in air may be used as a substrate

72. Oxidation of succinate to fumarate in the Kreb's cycle is due to:
(a) Loss of electrons from it
(b) Removal of hydrogen from it★
(c) Addition of oxygen to it
(d) None

73. Total ATP production during EMP pathway is:
(a) 24 ATP molecules
(b) 38 ATP molecules
(c) 8 ATP molecules★
(d) 6 ATP molecules

74. The importance of Kreb's cycle is:
(a) Production of amino acids
(b) Production of vitamins
(c) Production of ATP molecules through oxidative phosphorylation★
(d) To encourage glycolysis

75. ATP is:
(a) An enzyme which brings about oxidation.
(b) A hormone
(c) A protein
(d) A molecule which contains high energy phosphate bonds★

76. Which of the following forms the connecting link between glycolysis and citric acid cycle and the oxidation of fatty acids?
(a) Citric acid (b) Succinic acid
(c) Acetyl CoA★ (d) Oxaloacetic acid

77. Oxidative phosphorylation is the formation of:
(a) ATP in photosynthesis
(b) ATP in respiration★
(c) NADPH in photosynthesis
(d) $NADPH_2$ in respiration

78. Fermentation takes place due to:
(a) All bacteria
(b) All fungi
(c) Some fungi and some bacteria★
(d) All micro organisms

79. The common phase between aerobic and anaerobic respiration is called:
(a) Tricarboxylic acid cycle
(b) Oxidative phosphorylation
(c) Embden Meyerhof-Parnas pathway or Glycolysis★
(d) Kreb's cycle

80. The following compounds are intermediates in the pathway of photorespiration:
(i) Phosphoglycolate (ii) Glyoxylate
(iii) Serine (iv) Glycine
The correct sequence of their appearance in the pathway is:
(a) (i), (ii), (iii), (iv) (b) (ii), (i), (iii), (iv)
(c) (i), (ii), (iv), (iii) ★ (d) (ii), (i), (iv), (iii)

81. Transpiration pull will be maximum under which of the following conditions?
(a) Open stomata, high humid atmosphere and well irrigated soil
(b) Open stomata, dry atmosphere and moist soil★
(c) Open stomata, high humid atmosphere and dry soil
(d) Closed stomata, low light intensity and humid atmosphere

82. Osmosis is defined as:
(a) The flow of solvent molecules from a region of higher concentration to a region of lower concentration through a semipermeable membrane. ★
(b) The flow of low concentration liquid
(c) The flow of solvent molecules from a higher concentration to a lower concentration region
(d) The flow of solvent molecules from a lower concentration to a higher concentration region.

83. A plasmolysed cell can be deplasmolysed by placing it in:
(a) Pure water or hypotonic solution★
(b) Hypertonic solution
(c) Isotonic solution
(d) Saturated solution

84. A cell becomes turgid when placed in:
(a) Isotonic solution★
(b) Hypertonic solution
(c) Hypotonic solution
(d) All of these

85. Process of water exudation through hydathodes is called:
(a) Guttation★ (b) Transpiration
(c) Excretion (d) Hydrolysis

86. Maximum transpiration occurs from:
(a) Protoderm and procombium
(b) Dermal tissue★
(c) Periderm and lenticels
(d) Ground tissue and scale leaves

87. The degree of opening of stomata is determined by:
(a) Porometer ★ (b) Calorimeter
(c) Potometer (d) All of these

88. During absorption of water by roots the water potential of cell sap is lower than that of.
(a) Pure wate: aid soil solution
(b) Neither pure water nor soil solution★
(c) Pure water but higher than that of soil solution
(d) Soil solution but higher than that of pure water

89. A twig kept in water remain fresh for a longer time if some salt is added to it is due to:
(a) Absorption of more water
(b) Exosmosis
(c) Decrease in transpiration rate★
(d) Decrease in bacterial degradation activity

90. The bulliform cells of leaves lose their turgidity during excessive:
(a) Assimilation (b) Transpiration★
(c) Photosynthesis (d) Respiration

91. The flagellum having mastigonemes on one side only is called:
(a) Acronematic (b) Stichonematic★
(c) Pantonematic (d) Pleuronematic

92. 'Amanori' bread is prepared from the alga:
(a) Codium (b) Porphyra★
(c) Chondrus (d) Alaria

93. Gas vacuoles occur in the cells of:
(a) Red algae
(b) Blue-green algae★
(c) Brown algae
(d) Green algae

94. e -carotene occurs in:
(a) Red algae (b) Diatoms★
(c) Green algae (d) Brown algae

95. The algae preferred for cultivation in space:
(a) Diatom (b) Dinoflagellates
(c) Chlamydomonas (d) Chlorella★

96. The chief pigment of blue-green algae is:
(a) C-phycocyanin★ (b) C-phycoerythrin
(c) Both (a) & (b) (d) Allophycocyanin

97. The forms are all marine in the members belonging to the class:
(a) Myxophyceae (b) Chlorophyceae
(c) Xanthophyceae (d) Phaeophyceae★

98. 'Khombu' is the common name of an edible alga called:
(a) Viva (b) Laminaria★
(c) Durvillea (d) Porphyra

99. A unicelled non-motile alga:

(a) Volvox (b) Tetraspora
(c) Diatom★ (d) Ecballocystis

100. The blockage of water filter is caused due to the growth of:
(a) Diatoms (b) Oscillatoria
(c) Both (a) & (b) ★ (d) Microcystis

SET – 7

1. Minimum number of chromosomes have been recorded to the species of the alga:
(a) Cephaleuros (b) Chara
(c) Porphyra★ (d) Pohysiphonia

2. Make correct pairs:
A. Cyanophyceae a. Green clour
B. Chlorgphyceae b. Blue-green colour
C. Phaedophyceae c. Red colour
D. Rhodophayceae d. Brown colour
(a) Aa, Bb, Cc, Dd (b) Ab, Be, Cd, Da
(c) Ab. Ba, Cd, Be★ (d) Ac, Bd, Ca, Db

3. The pigment/s those are common to all algae:
(a) Phycocyanin and phycoerythrin
(b) Chlorophyll 'a'★
(c) Phycoerythin and chlorophyll
(d) Phycocyanin and chlorophyll i

4. In chlorophyceae the mode of sexual reproduction is:
(a) Isogamy, anisogamy and oogamy★
(b) Oogamy and anisogamy
(c) Isogamy and anisogamy
(d) Oogamyonly

5. Many blue-green algae occur in thermal springs. The temperature tolerance of these algae has been attributed to their:
(a) Preponderance of monopolar bonds in their proteins
(b) Mitochondrial structure
(c) Cell wall structure★
(d) Modern cell organisation

6. Dinitrogen fixation by Nostoc takes place in:
(a) Vegatative cells (b) Akinetes
(c) Heterocysts★ (d) Hormogonia

7. Sexual reproduction is absent in:
(a) Volvox (b) Nostoc★
(c) Ulothrix (d) Spirogyra

8. Unicelled cyanobacteria reproduce asexually by:
(a) Conjugation (b) Fragmentation
(c) Binary fission★ (d) Hormogones

9. Heterocysts are found in certain:
(a) Viruses (b) Bacteria
(c) Cyanobacteria★ (d) Mycoplasma

10. Incepient nucleus is found in:
(a) Myxophyceae★ (b) Phaeophyceae
(c) Rhodophyceae (d) Chlorophyceae

11. The enzyme, which converts glucose to glucose-6-phosphate is:
(a) Glucose synthase (b) Hexokinase★
(c) Phosphorylase (d) Arginase

12. In glycolysis net gain is two ATP molecules and two molecules of:
(a) $NADH_2$ ★ (b) $FADH_2$
(c) $FMNH_2$ (d) NADPIL

13. Krebs cycle takes place in:
(a) Dictyosomes
(b) Mitochondrial matrix★
(c) Iysosomes
(d) Endoplasmic reticulum

14. Which is the connecting link between glycolysis and Krebs cycle?
(a) Pyruvic acid (b) Oxaloacetic acid
(c) Acetyl-CoA★ (d) Cytochrome

15. Krebs cycle starts with the formation of a 6-carbon compound by chemical reaction between:
(a) Succinic acid and acetyl-CoA
(b) Fumaric acid and pyruvic acid
(c) Oxaloacetic acid and acetyl-CoA★
(d) Malic acid and acetyl-CoA

16. What is the other name for Krebs cyde?
(a) Citric acid cycle★ (b) Glycolate cycle
(c) EMP pathway (d) Glyoxylate cycle

17. The Krebs cycle begins with:
(a) Pyruvic acid★
(b) Fumaric acid
(c) Phosphoglyceraldehyde
(d) Lysine

18. Pyruvate dehydrogenase enzyme is used in conversion of:
(a) Glucose to pyruvate
(b) Pyruvic acid to lactic acid
(c) Pyruvate to acetyl-CoA★
(d) Pyruvate to glucose

19. Fumarase enzyme converts:
(a) Fumaric acid to malic acid★
(b) Fumaric acid to isocitric acid
(c) Malic acid to succinic acid
(d) Succinic acid to fumaric acid

20. Organelles which are regarded as 'power house' of the cell and in which the oxidative reactions of the respiratory process take place are:
(a) Iysosomes (b) Dictyosomes
(c) Chloroplasts (d) Mitochondria★

21. Fungal hyphae penetrate hard cell walls of their host with the help of:
(a) Hormones (b) Sugar exudates
(c) Enzymes ★ (d) Sharp tips

22. A plant which normally is a parasite but can live as a saprophyte also is called:
(a) Facultative parasite
(b) Saprophyte★
(c) Facultative saprophyte
(d) Obligate parasite

23. A facultative parasite is one, which is:
(a) An obligate saprophyte
(b) Parasitic but can live as saprophyte
(c) Normally a saprophyte
(d) Normally a saprophyte but can live as parasite under favourable conditions★

24. Which of the following is not necessary for fungal growth?
(a) Water (b) Warmth
(c) Light★ (d) Carbohydrates

25. The chief storage product in fungal cells is:
(a) Starch (b) Alcohol
(c) Oil droplets (d) Glycogen★

26. Parasitic fungi which pass their entire life in one host are
(a) Monoecious (b) Autocious★
(c) Heterocious (d) Simple parasites

27. Moulds, yeasts and mushrooms differ from other plants in that they:
(a) Are aquatic
(b) Lack cell wall
(c) Reproduce by sexual means only
(d) Do not photosynthesise★

28. A fungus parasitising another fungus is called:
(a) Epiphyte (b) Epibiotic
(c) Parasite (d) Mycoparasite★

29. A compact and hard mass of vegetative mycelium meant for perennation in some fungi is called:
(a) Oidium (b) Rhizomorph
(c) Sclerotium★ (d) Chlamydospore

30. When the vegetative cells fuse together it is known as:
(a) Somatogamy★ (b) Spermatisation
(c) Plasmogamy (d) Parthenogenesis

31. Cell wall in algae is made-up of:
(a) Cellulose★ (b) Chitin
(c) Cutin (d) Suberin

32. Auxospores and hormocysts are formed, respectively, by:
(a) Several diatoms and a few cyanobacteria★
(b) Some diatoms and several cyanobacteria
(c) Several cyanobacteria and several diatoms
(d) Some cyanobacteria and many diatoms

33. A motile flagellate asexual cell is known as:
(a) Zoospore★ (b) Zygospore
(c) Zoogamete (d) Tetraspore

34. The alga, which is rich in protein:
(a) Ulothrix (b) Spirogyra
(c) Nostoc (d) Chlorella★

35. Algae differ from bryophyta in possessing:
(a) Naked sex organs★
(b) Sex organs with sterile covering
(c) Chlorophyll a and b
(d) Aerobic respiration

36. False branching of the filament is seen in:
(a) Cephaleuros (b) Oscillatoria
(c) Fritschiella (d) Scytonema★

37. The diatomaceous earth is used to insulate boilers and steam pipes because:
(a) The wall of diatoms is deposited with calcium
(b) The diatomaceous earth is cheap
(c) It is a good conductor of heat
(d) The wall'of d(iatoms is made of SiO_2★

38. Algae can be described as:
(a) Autotrophic and chemosynthetic
(b) Autotrophic and photosynthetic★
(c) Heterotrophic and chemosynthetic
(d) Heterotrophic and photosynthetic

39. Cyanophages attack:
(a) Cyanobacteria★ (b) Bacteria
(c) Fungi (d) Lichens

40. Algae and other submerged green plants often float in water during day time and sink at night because:
(a) They come up to enjoy sunshine
(b) They become buoyant due to accumulation of oxygen as a result of photosynthesis★
(c) They loose weight at night because fish and other animals eat away their parts
(d) They become light due to consummation of food materials as a result of respiration

41. Black soil is productive because of abundant:
(a) Gravel and calcium
(b) Clay and humus★
(c) Silt and earthworms
(d) Sand and zinc

42. A non-renewable resource is:
(a) Water (b) Forest
(c) Wild life (d) Coal/Petroleum★

43. Fertility of soil is determined by its ability to:
(a) Hold organic matter
(b) Retain water
(c) Retain nutrients
(d) Support life★

44. Of the total amount of water, the water found in the seas and oceans forms about:
(a) 60 per cent (b) 70 per cent
(c) 80 per cent (d) 95 per cent★

45. Soil is composed of:
(a) Minerals, water and air
(b) Minerals, organic matter and water
(c) Minerals, organic matter, air and water★
(d) Urganic matter anu waier

46. Which of the following is a poisonous fungus?
(a) Amanita ★ (b) Erysiphe
(c) Phytopthora (d) Albugo

47. Which of the following is useful in the preparation of cheese?
(a) Rhizopus (b) Mucor
(c) Aspergillus★ (d) Penicillium

48. Which of the following is used in the baking of bread?
(a) Zygosaccharomyces ectosporous
(b) Sacchakimyces ludwigin
(c) Saccharmoyces cerevisiae★
(d) Rhizopus stolonifer

49. Gametangial copulation is seen in:
(a) Ulothrix (b) Spirogyra
(c) Puccinia (d) Rhizopus★

50. Coenogametangia are involved in sexual fusion in:
(a) Rhizopus ★ (b) Penicillium
(c) Puccinia (d) Agaricus

51. Who among the following proved for the first time that O_2 in photosynthesis comes out photolysis of water?
(a) Amon
(b) Hill
(c) Ruben, Hassid and Kamen★
(d) Blackman

52. The energy wastage occurs during:
(a) Dark reaction
(b) Photorespiration★
(c) Photosynthesis
(d) None

53. Which of the following equations most adequately sums up the photosynthetic reaction?
(a) $CO_2 + H_2O = CILO + O_2$
(b) $C_6H_{12}O_6 + 6O_2 = 6CO_2 + 6H_2O$
(c) $6CO_2 + 6H_2O = C_6H_{12}O6 + 6O_2$
(d) $6CO_2 + 6H_2O = C6H_{12}O + 6O_2 + 6H_2O$★

54. Which one of the following would not be limiting factor for photosynthesis?
(a) Oxygen★ (b) Carbon dioxide
(c) Chlorophyll (d) Light

55. During photosynthesis oxygen in glucose comes from:
(a) Water
(b) CO_2★
(c) Both water and CO_2
(d) From air

56. Dark reaction in photosynthesis is called so because:
(a) It can also occur in dark
(b) It does not require light energy★
(c) Of neither of these
(d) Of both of these

57. During photosynthesis when PGA is changed into phosphoglyceraldehyde which of the following reaction occur
(a) Oxidation (b) Reduction ★
(c) Electrolysis (d) Hydrolysis

58. Bacteriochlorophyll differs from chlorophyll in having:
(a) One hydrogenated pyrrole ring
(b) Two hydrogenated pyrrole rings★
(c) Three hydrogenated pyrrole rings
(d) Four hydrogenated pyrrole rings

59. Blackman demonstrated that increasing illumination increased the photosynthetic rate upto a point when CO_2 became limiting. If light was not limiting, temperature became limiting. Emerson found that maximum CO_2 fixation would be achieved with brief 'flashes of light. Mark the correct statement in the following.
(a) Only one factor can be limiting in photosynthesis
(b) Photosynthesis consists of a light and a dark reaction★
(c) The trapping of light by ch'orcpbsts is temperature dependent
(d) The trapping of light by chloroplasts can occur only if CO_2 is present

60. Which of the following radioactive isotope was employed by Calvin for tracing the path of carbon in photosynthesis?
(a) C^{11} (b) C^{14}★
(c) O^{18} (d) P^{35}

61. A typical example of self-pollination is:
(a) Maize (b) Papaya
(c) Wheat ★ (d) Mulberry

62. If the pollen of a flower falls on the stigma of another flower belonging to the same plant it is:
(a) Ecologically cross-pollination
(b) Genetically and ecologically cross-pollination
(c) Genetically self-pollination and ecologically cross-pollination★
(d) None

63. The term perianth is used when:
(a) Gynoecium and corolla are similar
(b) Calyx and corolla are similar★
(c) Androecium and calyx are similar
(d) Androecium and gynoecium are similar

64. Pollination is best defined as:
(a) Visiting flowers by insects
(b) Growth of pollen tube in ovule
(c) Transfer of pollen from anther to stigma
(d) Germination of pollen grain★

65. Insect-pollinated flowers usually possess:
(a) Brightly coloured pollen
(b) Sticky pollen grains with rough surface★
(c) Dry pollen grains with smooth surface
(d) Large quantities of pollen grains

66. Polyadelphous condition refers to:
(a) Androecium★ (b) Sepals
(c) Petals (d) Gynoecium

67. Allogamy is best favoured by:
(a) Homogamy (b) Dichogamy
(c) Diclíny ★ (d) Cleistogamy

68. Orchid seeds are:
(a) Very large and heavy
(b) Small and sticky
(c) Light and small★
(d) None

69. Emasculation is the same as:
(a) Cross-pollination
(b) Artifical pollination
(c) Self-pollination
(d) Removal of anthers★

70. Placenta is the point of attachment of:
(a) Ovules to thalamus
(b) Style to ovary
(c) Filament with the anther
(d) Ovules to the ovary★

71. Photophosphorylation means:
(a) Formation of ATP from ADP★
(b) Formation of NADP
(c) Formation of ADP from ATP
(d) Formation of PGA

72. Which one of the following is needed,-in both photosynthesis and respiration?
(a) Sunlight (b) Chlorophyll
(c) Glucose (d) Cytochrome★

73. The first CO_2 acceptor in C_4 plants is:
(a) PEP ★ (b) RuBP
(c) PGA (d) OAA

74. NADPH is generated through
(a) Photosystem I
(b) Photosystem II★

(c) Anaerobic respiration
(d) Glycolysis

75. The core metal of chlorophyll is:
(a) Fe (b) Mg★
(c) Ni (d) Cu

76. Most plants are green in colour because:
(a) The atmosphere filters out all the colours of the visible light spectrum except green
(b) Green light allows maximum photosynthesis
(c) Green light is the most effective wavelength region of the visible spectrum in sunlight for photosynthesis
(d) Chlorophyll is least effective in absorbing green light★

77. Protochlorophyll differs from chlorophyll in lacking:
(a) 4 hydrogen atoms in one of its pyrrole rings
(b) 4 hydrogen atoms in two of its pyrrole rings
(c) 2 hydrogen atoms in one of its pymole rings★
(d) 2 hydrogen atoms in two of its pyrrole rings

78. Which one qf the following statements about cytochrome P 450 is wrong?
(a) It A has an important role in metabolism
(b) It contains iron
(c) It is an S enzyme involved in oxidation
(d) It is a coloured cell★

79. Warburg effect is decreased rate of photosynthesis at:
(a) Low concentration of CO_2
(b) High concentration of CO_2
(c) Higher concentration of O_2★
(d) None of these

80. Which one of the following prokaryotic algae possesses chlorophyll b:
(a) Anacystis (b) Oscillatoria
(c) Prochloron★ (d) Segtonema

81. What is BOD?
(a) Amount of O_2 utilised by organisms in water
(b) Total amount of O_2 present in water
(c) Amount of O_2 utilised by microorganisms for decomposition★
(d) All of these

82. Effective Biological Resistance (EBR) is associated with:
(a) High temperature
(b) Low temperature★
(c) Radiation
(d) Pollution

83. Which of the following is a pollution-related occupational health hazard?
(a) Fluorosis (b) Silicosis
(c) Pneumoconiosis★ (d) Asthma

84. At present the most significant cause of dwindling biodiversity is:
(a) Biological magnification of DDT
(b) Global warming
(c) Deterioration of ozone layer
(d) Destruction of habitat★

85. Fluoride pollution mainly affects:
(a) Brain (b) Teeth ★
(c) Heart (b) Kidney

86. Escherichia coli is used as an indicator organism to determine pollution of water with:
(a) Industrial effluents
(b) Heavy metals
(c) Pollen of aquatic plants
(d) Faecal matter★

87. The immediate electron donor to PSI is:
(a) Plastocyanin★ (b) Quinone
(c) Perridoxin (d) Plastoquinone

88. Solarisation refuse to:
(a) Conversion of solar energy into chemical energy
(b) Photonidation of chlorophyll as a result of high intensity of light★
(c) Excitation of chlorophyll on irradiation
(d) Excitation of chlorophyll as a result of high radiation

89. Photorespiration occurs in plants in which CO_2 is fixed by a pathway of:
(a) Krebs cycle
(b) Glycolysis
(c) Calvin cycle★
(d) Hatch and Slack cycle

90. The "law of minimum" was proposed by:
(a) Hill (b) Blackman
(c) Priestley (d) Leibig★

91. Sexual reproduction in Spirogyra is:

(a) Isogamous
(b) Anisogamous
(c) Physiological anisogamous★
(d) Oogamous

92. Non-motile gametes are found in:
(a) Spirogyra★ (b) Ulothrix
(c) Funaria (d) Nostoc

93. Nostoc is a:
(a) Green alga
(b) Yellow-green alga
(c) Blue-green alga★
(d) Red alga

94. Life cycle of Ulothrix is:
(a) Haplobiontic★ (b) Diplobiontic
(c) Haplodiplobiontic (d) None of these

95. When fruits are developed without fertilization the process is called:
(a) Parthenogenesis (b) Parthenocarpy★
(c) Both (a) & (b) (d) None

96. Stomata of a plant open due to:
(a) Influx ol hydrogen ions
(b) Efflux of potassium ions
(c) Influx of calcium ions
(d) Influx of potassium ions★

97. Water is released as droplets - this is known as:
(a) Root pressure (b) Transpiration
(c) Guttation★ (d) None of these

98. If the concentration of external solution is more than the cytoplasm, the solution is known as:
(a) Hypertonic ★ (b) Isotonic
(c) Hypotonic (d) None of these

99. The cause of guttatior is mainly:
(a) Rootpressure★ (b) Osmosis
(c) Transpiration pull (d) Cohesive force

100. The water potential and osmotic potential of pure water are:
(a) 100 and zero (b) Zero and zero★
(c) 100 and 200 (d) Zero and hundred

SET – 8

1. If the entire fungus is used up in the formation of reproductive structure the organism is known as:
(a) Acarpic (b) Eucarpic
(c) Holocarpic★ (d) None of these

2. The perfect stage in fungi means that the fungus:
(a) Is perfectly healthy
(b) Forms resting spores
(c) Reproduces asexually
(d) Reproduces sexually★

3. Heterothallism in fungi was discovered by:
(a) Robert Brown (b) Blakeslee★
(c) Millardet (d) W.Fleming

4. Pin-mould is the common name of
(a) Agaricus (b) Rhizopus
(c) Neurospora (d) Mucor★

5. Fungi lacking cross walls in the mycelium belong to:
(a) Basidiomycetes (b) Deuteremycetes
(c) Ascomycetes (d) Phycomycetes★

6. The mycelium of basidiomycetes is called:
(a) Monokaryotic (b) Septate
(c) Dikaryotic★ (d) Aseptate

7. The female gametagium of ascomycetes is called:
(a) Ascocarp (b) Cleistothecium
(c) Aseogonium★ (d) Perithecium

8. Vegetative reproduction in yeast takes place by:
(a) Ascospores (b) Akinetes
(c) Budding★ (d) Aplanospores

9. In Penicillium, the hyphae are:
(a) Aseptate and coenocytic
(b) Aseptate and uninucleate
(c) Septate and uninucleate★
(d) Septate and multinucleate

10. An open ascocarp is called:
(a) Apothecium★ (b) Perithecium
(c) Cleistothecium (d) Hysterothecium

11. The French biologist who disproved the theory of Spontaneous Generation and gave Germ theory was:
(a) J.B. Lamarck
(b) Francesco Reddy
(c) August Weismann
(d) Louis Pasteur★

12. The Swiss naturalist and philospher who first used the term 'Evolution' was:
(a) Charles Darwin

(b) Malthus
(c) Charles Bonner★
(d) August Weismann

13. Which one of the scientists is best known for having come upon the theory of origin of species through Natural Selection independently of Charles Darwin?
(a) Julian Huxley
(b) Alfred Russell Wallace★
(c) Herbert Spencer
(d) Hutchinson

14. Which one of the following scientists discovered insulin?
(a) F. Banting★ (b) Stanley Miller
(c) Edward Jenner (d) C.B. Bridges

15. Plant virus was first isolated and crystallised by
(a) W.M. Stanley★ (b) Beijerinck
(c) Robert Koch (d) A. Laveran

16. Viruses were discovered in 1892 by a Russian scientist called:
(a) Dmitri Iwanowski★
(b) Beijerinck
(c) W.M. Stanley
(d) A. Laveran.

17. 'Contagium vivum fluidum' was given by:
(a) D. Iwanowski (b) Beijerinck★
(c) W.M Stanley (d) Pavlov

18. Which one of the following Scientists discovered heterothallism in Mucor and allied species of fungi?
(a) DeBary (b) Blackman
(c) Blakeslee ★ (d) Beijerinck

19. It is assumed that the primitive cell originated due to progressive chemical synthesis. This theory was confirmed by:
(a) Louis Pasteur (b) Stanley Miller★
(c) A.I. Oparin (d) J.B.S. Haldane

20. Which Swiss botanist distinguished the blue-green from the green algae in 1853?.
(a) W.H. Harvey
(b) K.W. Von Nageli★
(c) K. Landsteiner
(d) Charles Darwin

21. In hypertonic solution a cell's water potential:
(a) Increases
(b) Decreases★
(c) First increases, then decreases
(d) No change

22. The stomata in angiosporms open and close due to:
(a) Pressure of gases inside the leaves
(b) Their genetic constitution
(c) Turgor pressure of the guard cells★
(d) Turgor pressure of the subsidiary cells

23. When the contents of a cell are in the shrinkage state, the process is called:
(a) Hypotonic (b) Osmosis
(c) Endosmosis (d) Plasmolysis★

24. The stage when plasmolysis just begins and the plasmalemma starts receding the cell walls, it is called:
(a) Deplasmolysis
(b) Plasmolysis
(c) Incipient plasmolysis★
(d) None of tiV above

25. Due to low atmospheric pressure the rate of transpiration will:
(a) Increase★
(b) Decrease slowly
(c) Decrease rapidly
(d) Remain unaffected

26. The vacuolar membrane is called:
(a) Plasmalemma (b) Middle lamella
(c) Tonoplast★ (d) Chromoplast

27. In a terrestrial habitat which of the following factors affect temperature and rainfall conditions?
(a) Translocation (b) Transformation
(c) Transpiration★ (d) Transduction

28. The transpiration in the plants will be lowest
(a) When there is high humidity in the atmosphere★
(b) High wind velocity
(c) Environmental conditions are very dry
(d) There is excess of water in the cell

29. Which of the following is used for determining the rate of transpiration in plants?
(a) Auxanometer (b) Potentiometer
(c) Porometer (d) Potometer★

30. Which of the following is the most common type of transpiration?
(a) Cuticular (b) Stomatal ★
(c) Foliar (d) Lenticular

31. The cambium of dicot root is an example of:
(a) Primary apical meristem
(b) Primary lateral meristem
(c) Secondary lateral meristem★
(d) None

32. Conjoint collateral, closed vascular bundles are present in:
(a) Aristolochia stem (b) Sunflower stem
(c) Telia root (d) Grass stem★

33. In a dicot leaf, the xylem in the bundle cells is situated:
(a) Above the phloem★
(b) Below the phloem
(c) On both sides of the phloem
(d) Xylem is absent

34. Which of the following is a useful product of epidermal organ?
(a) Saffron (b) Cloves
(c) Cotton★ (d) Cork

35. Trees have a large amount of:
(a) Starch (b) Cellulose
(c) Ligno-cellulose★ (d) Chitin

36. Intercalary meristem are always:
(a) Chlorenchymatous
(b) Internodal★
(c) Sclerenchymatous
(d) Parenchymatous

37. Which tissue helps in increasing the girth?
(a) Intercalary meristem
(b) Lateral★
(c) Apical
(d) All of these

38. Cork of commerce is a derivative of:
(a) Cork cambium (b) Phloem★
(c) Vascular cambium (d) Xylem

39. Xylem is exarch in:
(a) Root ★ (b) Leaf
(c) Stem (d) Petiole

40. The vascular bundles of Helianthus are said to be:
(a) Bicollateral (b) Concentric
(c) Collateral★ (d) Both (a) & (b)

41. In Phytophthora the asexual reproductive bodies behave as:
(a) Conidia
(b) Sporangia★
(c) Conidiosporangia
(d) Both conidia and conidiosporangia

42. The azygospores produced in Mucorales are formed from:
(a) Zygotes
(b) Unfertilized gametangia★
(c) Vegetative mycelium
(d) The female sex organ

43. Early blight of potato is caused by:
(a) Albugo Candida
(b) Phytophthora infestans
(c) Altenaria solani★
(d) None

44. The phenomenon of heterothallism was observed for the first time in the order:
(a) Erysiphales (b) Mucorales★
(c) Ustilagina'es (d) None of above

45. Tikka disease of groundnut is caused by:
(a) Aspergillus (b) Puccinia
(c) Cercospora★ (d) Fusarium

46. The name 'smut diseases' is given to those produced by Ustilago because:
(a) Its mycelium is black in colour
(b) It parasitizes cereals
(c) The host becomes completely black
(d) The fungus produces black sooty spore masses★

47. White rust of crucifers is a pseudo-rust because:
(a) The disease is not caused by basidiomycetous members★
(b) The colour of the pustule is not red
(c) The disease is seen on crucifers
(d) The disease is not seen on wheat

48. Wilt of arhar is caused by:
(a) Pythium (b) Alternaria
(c) Colletorichum (d) Fusarium★

49. The whip smut of sugarcane is caused by:
(a) Ustilago maydis
(b) Ustilago hordei
(c) Ustilago scitaminea★
(d) Ustilago nuda

50. Downy mildews are caused by the members of:
(a) Erysiphales (b) Taphrinales
(c) Ustilaginales (d) Peronosporales★

51. Which of the following produces the mycotoxin trichothccenes?
(a) Cleviceps

(b) Alternaria
(c) Rhizopus
(d) Cephalosporium★

52. A. Fleming obtained penicillin from the fungus:
(a) Penicillium notatum★
(b) P. chrysogenum
(c) P. citrinum
(d) P. camemberti

53. LSD is obtained from:
(a) Chaetomium
(b) Cladosporium
(c) Cephalosporium
(d) Cleviceps★

54. Rotting of wood is caused by:
(a) Polyparus (b) Fames
(c) Ganoderma (d) All of these★

55. Gibberellins were first obtained from a fungus belonging to:
(a) Ascomycotina★ (b) Basidiomycotina
(c) Deuteromycotina (d) Myxomycotina

56. Which among the following is most poisonous?
(a) Fusarium (b) Coprinus
(c) Amanita★ (d) Aspergillus

57. A compact mass of woven hyphae associated with a fruiting body is:
(a) Rhizomorph (b) Sclerotium
(c) Stroma★ (d) Plectenchyma

58. The substrate not deteriorated by any fungal infection:
(a) Plastics (b) Rubber
(c) Leather (d) None ★

59. Heterothallism was discovered by:
(a) Wakesman
(b) Butter
(c) Blakeslee★
(d) Twort and de Herelle

60. Which of the following food is prepared with the help of fungi?
(a) Incaparina (b) Tempeh
(c) Both (a) & (b) ★ (d) None of these

61. The cambium layer in a tree is important because it provides:
(a) Anchorage
(b) Growth★
(c) Passage of materials
(d) Protection

62. When phloem is present on either side of the xylem, it is described as:
(a) Collateral (b) Bi-collateral★
(c) Radial (d) Xylocentric

63. The bark of a tree comprises:
(a) All tissues outside the vascular cambium★
(b) All tissues outside the cork cambium
(c) Only the cork
(d) The cork and the secondary cortex

64. Lenticel develops through the activity of:
(a) Vascular cambium
(b) Phellogen★
(c) Dermatogen
(d) Intercalary meristem

65. Closed vascular bundles are those in which:
(a) A bundle sheath surrounds a vascular bundle
(b) Cambium is not present★
(c) Cambium is present
(d) Vascular bundles lie close together

66. Trees on the seashore do not have annual rings because:
(a) The soil is sandy
(b) The-soil has too much moisture .
(c) There are climatic variations
(d) There are no climatic variations★

67. Hockey sticks are made out of:
(a) Tectona grandis (b) Dalbergia sisso
(c) Morus alba ★ (d) Salix

68. Cotton of commerce is:
(a) Outgrowth of the capsule
(b) Modification of sepals
(c) Outgrowth on the testa★
(d) Hairy growth on the stalk

69. Cork cambium gives rise to:
(a) Xylem and phloem
(b) Cortex and pith
(c) Cork towards outside and secondary cortex towards inside★
(d) Cork towards inside and secondary cortex towards outside

70. In monocot stems the vascular bundles are:

(a) Radial
(b) Open, collateral
(c) Closed, collateral★
(d) Open, bicollateral

71. The plant of Nostoc occur as endophyte in the thalli of:
(a) Riccia (b) Marchantia
(c) Anthoceros★ (d) Pellia

72. Nostocpunctiforme occurs as:
(a) Cryophyte (b) Endophyte★
(c) Epiphyte (d) Thermophyte

73. The filaments of Nostoc are:
(a) Uniseriate, straight and unbranched
(b) Uniseriate, curved and unbranched★
(c) Multiseriate, curved and unbranched
(d) Multiseriate. straight and branched

74. An intercalary heterocyst of Nostoc has polar nodules numbering:
(a) One (b) 1-2
(c) Two ★ (d) 2-3

75. The cells of Nostoc possess:
(a) Ribosomes only
(b) Ribosomes and ER
(c) ER and photosynthetic lamellae
(d) Ribosomes and photosynthetic lamellae★

76. The polar nodules in Nostoc are formed by thickening of:
(a) Cell wall★
(b) Cell wall and middle lamella
(c) Plasma membrane and ER
(d) ER and ribosomes

77. The innermost wall layer of Nostoc cell is made-up of:
(a) Mucopeptide★
(b) Cellulose
(c) Pectose only
(d) Cellulose and pectose

78. The following are not formed in Nostoc:
(a) Zoospores (b) Gametes
(c) Both (a) & (b) ★ (d) Either of these

79. Nostoc reproduces by the formation of:
(a) Hormogonia only
(b) Hormogonia and akinetes★
(c) Akinetes and aplanospores
(d) Aplanospores and hormogonia

80. Nostoc is a:
(a) Cyanobacterium★
(b) Beaded bacterium
(c) Bacteriophage
(d) Parasite

81. The best method to count the number of carpels in a syncarpous gynoecium is to count the:
(a) Styles (b) Stigmas
(c) Placentae★ (d) Ovarian ridges

82. A lateral style is found in:
(a) Chrysobalamls★ (b) Mentha
(c) Iberis (d) Datura

83. The syncarpy involves entire carpels in:
(a) Hibiscus (b) Dianthus
(c) Calotropis (d) Brassica★

84. The syncarpy is restricted to ovary and styles only in:
(a) Hibiscus ★ (b) Papaver
(c) Raphanus (d) All of these

85. In Erica the dehiscence of anther is:
(a) Extrorse (b) Latrose
(c) Introrse (d) Poral★

86. When the placenta appears to be borne on the septae, the placentation is described as:
(a) Free-central (b) Parietal
(c) Laminar★ (d) None of these

87. The placentation in Nymphaea is:
(a) Axile (b) Superficial★
(c) Free-central (d) Parietal

88. The style is gynobasic in:
(a) Brassica (b) Sida
(c) Cosmos (d) Ocimum★

89. A funnel shaped stigma is found in:
(a) Grasses (b) Crocus ★
(c) Malvestrum (d) Papaver

90. In which of the following parthenocarpy makes on sense:
(a) Banana (b) Orange
(c) Lemon (d) Pomegranate★

91. In Penicillium, the female sex organ is
(a) Gamep tangium (b) Antheridium
(c) Oogonium (d) Ascogonium★

92. In Puccinia, meiosis takes place during the germination of:
(a) Urediospore (b) Teliospore ★
(c) Aeciospore (d) None of these

93. Penicillin was discovered by:
(a) R. Koch (b) W. Flemming
(c) A. Fleming★ (d) S. Waksman

94. A flatoxin is produced by:
(a) Virus (b) Bacteria
(c) Fungi ★ (d) Nematode

95. Penicillin is commercial obtained from:
(a) Penicillium divaricatum
(b) P. chrysogenum★
(c) P. notatum
(d) P. expansum

96. On germination a moss spore forms:
(a) Protonema which bears sex organs
(b) Sex organs
(c) Protonema which gives rise to buds that grow into new moss ★
(d) Moss plant directly

97. Synergids helps in:
(a) Syngamy
(b) Chemotropism
(c) Triple fusion
(d) The entry of pollen tube★

98. Which of the following tissues produce enzymes and hormones?
(a) Parital layers (b) Endothecium
(c) Tapetum ★ (d) Archesporium

99. The innermost layer of pollen sac which is nutritive is:
(a) Tapetum ★ (b) Exothecium
(c) Endosperm (d) Endothecium

100. The egg apparatus is represented by the:
(a) Egg alone
(b) Egg and the antipodals
(c) Egg and two synergids★
(d) Egg and polar nuclei

SET – 9

1. Which of the following fruits is a case of parthenogenesis?
(a) A fruit without seeds after pollination
(b) A fruit with seed after pollination
(c) A fruit with viable seeds without fertilisation★
(d) A fruit with viable seeds after fertilisation.

2. In angiosperms, pollen grains are dispersed at the:
(a) 2-celled stage
(b) 3-celled stage
(c) 4-celled stage
(d) 2 or 3-celled stage★

3. Stamens are fused with each other by their anthers and also with the petals in
(a) Euphorbiaceae (b) Leguminosae
(c) Compositae★ (d) Liliaceae

4. Which one is the most logical sequence with reference to the life cycle of an angiosperm?
(a) Cleavage, fertilization, grafting, fruit formation
(b) Pollination, fertilization, seed formation, germination★
(c) Maturation, mitos differentiation, fertilisation
(d) Germination, endospeim formation, seed dispersal,, double fertilisation

5. Fig develops trom an mtlorescence called:
(a) Cyathium (b) Catkin
(c) Hypantbodium★ (d) None

6. Cauliflory is the phenomenon of development of:
(a) Floral buds on old stem from dormant buds★
(b) Shoot from the culture of old flowers
(c) Floral shoots from underground stem
(d) Flowers on young branches

7. The juicy edible part of the pomegranate fruit is
(a) Aril (b) Seed coat★
(c) Endocarp (d) Pericarp

8. Parthenogenesis occurs:
(a) When embryo is iormea irom egg without the fusion of the sperm★
(b) When embryo is formed by the fusion of egg and sperm
(c) When embryo is formed from another cell
(d) When sperm produces the embryo directly

9. Embryo development from gamctophytic cell without involving gametic fusion:

(a) Apospory (b) Isogamy
(c) Apogamy ★ (d) Syngamy

10. In a type of apomixis known as adventive embryony, embryos develop directly from the:
(a) Synergids or antipodals in an embryo sac
(b) Accessory embryo sacs in the ovule
(c) Zygote
(d) Nucellus or integuments★

11. The bacteria are:
(a) Eukaryotic (b) Prokaryotic★
(c) Mesokaryotic (d) None of above

12. The micro-drganisms found in the leguminous root are:
(a) Nitrosomonas (b) Azotobacter
(c) Rhizobium★ (d) Xanthdmonas

13. Sort out the bacterial disease:
(a) Typhoid (b) Cholera
(c) Tuberculosis (d) All the above★

14. A virulent poison is produced in canned foods by:
(a) Xanthomonas (b) Pseudomonas
(c) Rhizobium sp (d) Clostridium sp★

15. The nitrogen-fixing bacteria are:
(a) Azotobacter (b) Rhizobium
(c) Clostridium (d) All the above★

16. Sort out the ammonifying bacteria:
(a) Bacillus subtilis
(b) Bacillus mycodes★
(c) Bacillus ramosus
(d) All the above

17. Nitrogen fixation is done by:
(a) Soil fungi (b) Bacteria
(c) Green algae★ (d) Virus

18. The bacteria belong to:
(a) Bacillariophyceae
(b) Myxophyceae
(c) Schizomycetes★
(d) Myxomycetes

19. The common method of reproduction in bacteria is:
(a) Budding
(b) Fragmentation
(c) Fission★
(d) Hormogone formation

20. The bacteria-like algae are:
(a) Chlorophyceae (b) Phaeophyceae
(c) Myxophyceae★ (d) Rhodophyceae

21. The nurse cells are present in the sporogonium of:
(a) Riccia★ (b) Marchantia
(c) Porella (d) Anthoceros

22. Stomata are present on capsule wall of:
(a) Marchantia (b) Anthoceros★
(c) Porella (d) Riccia

23. In Riccia:
(a) Smooth rhizoids are present
(b) Pegged rhizoids are present
(c) Multi-cellular scales are present
(d) Both smooth and pegged rhizoids present★

24. In which of the following plants, sporophyte is completely dependent on gametophyte:
(a) Riccia (b) Funaria★
(c) Angiosperms (d) None of above

25. Obliquely seDtate rhizmds are found in:
(a) Riccia (b) Marchantia
(c) Funaria (d) Anthoceros★

26. Columella is absent in:
(a) Anthoceros
(b) Funaria
(c) Riccia★
(d) Anthoceros himalayensis

27. The gametophyte is leafy shoot in:
(a) Riccia (b) Marchantia
(c) Funaria★ (d) Anthoceros

28. The sporophyte grows continuously for a long period due to basal meristem in:
(a) Funaria (b) Anthoceros ★
(c) Riccia (d) Marchantia

29. Pseudoelaters are found in the sporophyte of:
(a) Riccia (b) Funaria
(c) Marchantia (d) Anthoceros★

30. Elevated areolae are present on the upper surface of the gametophytic thallus of:
(a) Funaria (b) Riccia★
(c) Marchantia (d) Anthoceros

31. The stimulant present in tea, cocoa and cola drinks is:
(a) Cocaine (b) Tannin
(c) Astringent (d) Caffeine★

32. Cocaine is derived from:
(a) Erythroxylon cocoa★
(b) Theobroma cacao
(c) Coffea arabica
(d) Thea shinensis

33. The drug that causes chronic psychosis and severe damage of CNS is:
(a) Hashish ★ (b) Charas
(c) Marijuana (d) LSD

34. A useful drug that damages gastric mucosa if taken with alcohol is:
(a) Valium (b) Antihistamine
(c) Aspirin ★ (d) Morphine

35. Amphetamines are central nervous system stimulants. Barbiturates are:
(a) CNS stimulators
(b) Effectless on CNS
(c) Hallucinogenic★
(d) CNS depressants

36. A thrust area in community health is:
(a) Prevention and control. of communicable diseases
(b) Prevention of blindness★
(c) Maternal and child health
(d) School health services

37. The source of coffee is:
(a) Flower (b) Seed ★
(c) Leaves (d) Buds

38. LSD is a hallucinogen and is derived from:
(a) Theobroma cacao
(b) Ergot fungus★
(c) Papaver somniferum
(d) Hemp plant

39. Which of the following is not a derivative of opium?
(a) Morphine (b) Heroine
(c) Codeine (d) Cocaine★

40. Which of the following drugs is obtained from Cannabis sativa?
(a) Ganja (b) Bhang
(c) Charas (d) All of them★

41. Latex cells occur in:
(a) Xylem (b) Cambium
(c) Bark ★ (d) Cortex

42. The artificial ripening of banana is done by:
(a) Keeping them in a room having temperature below 0°C.
(b) Keeping them at room temperature.
(c) Keeping them in a room where the temperature is high★
(d) None

43. Coconut oil derived from the copra can be classified as:
(a) Essential oil (b) Drying oil
(c) Semi-drying oil (d) Vegetable fat★

44. What is the source of chewing gum:
(a) Sugar from sugarcane
(b) Gum arabic from Acacia spp
(c) Latex from Achras sapota ★
(d) Fluid from Musa spp

45. Operculum is separated from theca region by:
(a) Annulus only
(b) Annulus and peristome
(c) Peristome and rim
(d) Annulus and rim★

46. The sporophyte of Funaria is:
(a) Parasitic on gametophyte and non-green
(b) Semi-parasitic on gametophyte and green★
(c) Independent of gametophyte and green
(d) None

47. The capsule of moss capsule becomes inverted at maturity due to:
(a) Epinasty ★
(b) Hyponasty
(c) Weight
(d) Peristomal activity

48. The chlorcnema of Funaria formed under experimental condition is characterised by:
(a) Oblique septae and bud formation
(b) Transverse septae and absence ofbuds★
(c) Transverse septae and bud formation
(d) Oblique septae and absence of buds

49. Under experimental conditions the protonemal phase of Funaria is distinguishable into two sub-phases which ultimately give rise to buds. The correct sequence of structures leading to the formation of buds is as under:
(a) Spore, caulonema, chloronema, buds

(b) Spore, caulonema, buds, chloronema, buds
(c) Spore, chloronema, caulonema, buds★
(d) Spore, chloronema, Juds, caulonema, buds

50. The archesporium in Funaria is:
(a) Cylindrical or bell-shaped
(b) Barrel shaped only★
(c) Cylingrical or V-shaped
(d) Cylindrical only

51. What is the role of light in plants?
(a) It is necessary for photosynthesis★
(b) It controls growth movements
(c) It controls the distribution of hormone
(d) All of above

52. Which gas came into the atmosphere with the evolution of the green plants on earth?
(a) Oxygen★ (b) Carbon dioxide
(c) Ammonia (d) Nitrogen

53. Of the total light reaching the earth, the following percentage is used in photosynthesis:
(a) 10% (b) 90%
(c) 50% (d) 12%★

54. In photosynthesis, oxygen in glucose is derived from:
(a) Water
(b) Partly, H_2O and partly CO_2
(c) Carbon dioxide★
(d) Not known at present

55. Which is least important in photosynthesis?
(a) Sunlight (b) Green light ★
(c) Blue light (d) Red light

56. If the CO_2 content in the atmosphere were as high a 300 ppm:
(a) Most plants would get killed
(b) The plants would thrive well★
(c) The plants would grow for some time and then die
(d) The plant growth would retard

57. Photophosphorylation is a process in which:
(a) Chemical energy is used to produce ATP
(b) Carbon dioxide is reduced to a carbohydrate
(c) NADP is formed
(d) Light energy is converted into chemical energy in the form of ATP★

58. Which of the following statements defines Hill's reaction correctly?
(a) Photolysis of water, releasing oxygen and hydrogen by isolated chloroplasts in light
(b) Photolysis of water by isolated chloroplasts in light resulting in the reduction of some chemical Compounds and release of oxygen. ★
(c) Photolysis of water by chloroplasts
(d) Photolysis of water by isolated chloroplasts resulting in the formation of NADPH2 and ATP.

59. Compensation point is reached:
(a) When carbon dioxide concentration is increased to enhance the rate of photosynthesis
(b) When minerals are added to the soil to compensate the soil fertility
(c) When the rate of photosynthesis is equal to the rate of respiration★
(d) When no photosynthesis takes place

60. 90% of the photosynthesis in the world is carried out by:
(a) Monocots (b) Gymnosperms
(c) Angiosperms (d) Algae★

61. Spirogyra karnalae reproduces asexually by forming:
(a) Zoospores (b) Aplanospores★
(c) Hypnospores (d) Autospores

62. Meiotic division on Spirogyra as seen at the time of:
(a) Germination of zygospore★
(b) Conjugation
(c) Vegetative reproduction
(d) Zygospore formation

63. Which one of the following statements concerning the algae is wrong?
(a) Most algae are photosynthetic
(b) Algae can be classified according to their pigments
(c) All algae are filamentous★
(d) Spirogyra does not produce zoospores

64. The conjugation papilla arising from the male cell in comparision to female is usually:
(a) Longer & thinner★

(b) Longer & thicker
(c) Shorter & thinner
(d) Shorter & thicker

65. The species Spirogyra affinis is peculiar in showing:
(a) Dicoid chloroplast
(b) Dome shaped apical cell
(c) Rhizoids ★
(d) All of these

66. Pyrenoids are made-up of:
(a) Core of protein surrounded by fatty sheath
(b) Core of nucleic acid surrounded by protein sheath
(c) Core of starch surrounded by sheath of protein
(d) Proteinaceous centre and starchy sheath★

67. Ulothrix can be described as:
(a) Filamentous alga with flagellated reproductive stages★
(b) Non-motile colonial alga lacking zoosproes
(c) Filamentous alga lacking flagellated reproductive stages
(d) Membranous alga producing zoospores

68. Which of the following is known as pond slilk?
(a) Spirogyra ★ (b) Ulothrix
(c) Nostoc (d) Anabaena

69. Zygotic meiosis takes place in:
(a) Selaginella (b) Spirogyra ★
(c) Pinus (d) Brassica

70. Spirogyra shows:
(a) Haplontic life cycle★
(b) Diplontic life cycle
(c) Haplobiontic life cycle
(d) Diplobiontic life cycle

71. In Albugo, meiosis occurs:
(a) Just after karyogamy
(b) During zoospore formation by zygote
(c) While forming germ tube by zoospore
(d) Inside the gametangia★

72. Postule and hypertrophy of host represent the following stages of Albugo infection:
(a) Asexual only
(b) Asexual and sexual respectively★
(c) Sexual only
(d) Sexual and asexual respectively

73. The species of Penicillium used for flavouring cheese:
(a) P. italicwn
(b) P. chrysogenum
(c) P. expanswn
(d) P. camemberti★

74. Gallic acid is obtained from the species of Penicillum:
(a) P. glaucum★ (b) P. notatum
(c) P. roquefortii (d) All of these

75. The mycotoxin obtained from Penicillium sp.
(a) Phalloidin (b) Ochratoxin ★
(c) Amanitin (d) Aflotoxin

76. Raper extracted penicillin from which species of Penicillium?
(a) P. notatum
(b) P. glaucum
(c) P. italicum
(d) P. chrysogenum★

77. Another important antibiotic obtained from Penicillium is:
(a) Cephalosporin (b) Frequentin
(c) Griseofulvin ★ (d) Campestrin

78. Approximate number of antibiotics obtained from Penicillium:
(a) -60 (b) -125★
(c) -80 (d) -100

79. The sequence of structures in a conidial mycelium of Penicillium spinulosum shall he:
(a) Foot cell → Conidiophore → Phialides → Conidia
(b) Gonidiophore → Foot cell Sterigmata → Conidia
(c) Foot cell → Phialides → Conidia★
(d) Conidiophore → Phialides → Conidia

80. The conidia of Penicillium are:
(a) Thick walled, uninucleate
(b) Thin walled, uni- or multinucleate★
(c) Thick walled, multinucleate
(d) Thin or thick walled, multinucleate

81. Peristomiam teeth of Funaria in number are:
(a) 8 (b) 64
(c) 16 (d) 32★

82. Development of gametophyte directly from the sporophytic tissue is called:
(a) Syngamy
(b) Apospory★
(c) Apogamy
(d) Parthenogenesis

83. A sterile jacket around gametangia is a feature of:
(a) Fungi (b) Algae
(c) Bryophytes★ (d) Lichens

84. The function of elaters and pseudoelaters is:
(a) Conduction of sap
(b) Spore dispersal★
(c) Absorption of nutrition
(d) To provide mechanical support

85. In which of the following groups would you place a plant which produces spores, has vascular tissue and lacks seeds?
(a) Gymnosperms (b) Algae
(c) Pteridophytes★ (d) Bryophaytes

86. All the following plants are heterosporous except:
(a) Dryopteris★ (b) Marsilea
(c) Pinus (d) Selaginella

87. A distinct alternation of generation is found in:
(a) Mucor (b) Dryopteris ★
(c) Ulothrix (d) Rhizopus

88. Pteridophytes are also called:
(a) Spermatophytes
(b) Phenerogams
(c) Amphibians of the plant kingdom
(d) Vascular cryptogams★

89. Sporophyte of Dryopteris:
(a) Supplies water and inorganic salt to the gametophyte
(b) Is dependent on the gametophyte only in the beginning★
(c) Is independent of the gametophyte from the very beginning
(d) None

90. An adaxial outgrowth from the base of the leaves in Selaginella is called:
(a) Velum (b) Ligule ★
(c) Stipule (d) Trabaculae

91. Fern stele is:
(a) Protostele (b) Dictyostele★
(c) Siphonostele (d) None of these

92. A fern differs from a moss in having a:
(a) Archaegonia
(b) An independent gametophyte
(c) Swimming anthrozoids
(d) An independent sporophyte★

93. Young sporophyte of Dryopteris draws nourishment from prothallus through the:
(a) Foot★ (b) Root
(c) Rhizoids (d) Haustoria

94. The structure that produces gametes in the prothallus are:
(a) Ascogonia and anthers
(b) Anthers and archegonia
(c) Antheridia and archegonia★
(d) None of these

95. Ortagrad type embryo is found in:
(a) Compositae (b) Cruciferace★
(c) Lilium (d) Indigofera

96. Apomixis is a type of reproduction that results in the development of a/an:
(a) New organism without fusion of gametes★
(b) New organism, from fusion products of gametes
(c) Embryo from endosperm
(d) Embryo from nucellus

97. Development of fruit without fertilization is:
(a) Parthenogenesis (b) Apomixis
(c) Parthenomtrpy★ (d) Fertilization

98. Formation of diploid embryo sac from diploid vegetative structure is called:
(a) Diplospoty
(b) Apospoty
(c) Adventitive polyembryony★
(d) Apomixis

99. Formation of extra embryos derived from nucellus or integument is called:
(a) Simple polyembryony
(b) Adventive polyembryony★
(c) Vegetative polyembryony
(d) Cleavage polyembryony

100. Polyembryony was first reported in:
(a) Citrus ★ (b) Mangifera
(c) Opuntia (d) Cocos

SET – 10

1. Which of the following helps in translocation of food in plants:
   (a) Xylem (b) Phloem★
   (c) Sclerenchyma (d) Collenchyma
2. Number of carboxylation in C_4 cycle are:
   (a) Four (b) Three
   (c) Two★ (d) One
3. O_2 evolution is directly associated with:
   (a) PS I (b) PS II★
   (c) Phytochrome (d) Phycocyanin
4. Chlorophyll molecules are green in colour because they:
   (a) Transmit green light★
   (b) Transform green light
   (c) Reflect green light
   (d) Absorb green light
5. This is not an electron transferring molecule:
   (a) Coenzyme Q (b) Fe ~ S protin
   (c) ATP ★ (d) NAD
6. Which one of the following is the aim of Moll's half leaf experiment? To show that:
   (a) CO_2 is produced during anaerobic respiration
   (b) CO_2 is produced during aerobic respiration
   (c) CO_2 is essential for photosynthesis★
   (d) ChloroDhvll is essential for photosynthesis
7. Orange and red colour of flower and fruit is dueto:
   (a) Leucoplast (b) Chloroplast
   (c) Protoplast (d) Chromoplast★
8. Maximum photosynthesis occurs in:
   (a) Continuous light (b) Green light
   (c) Red light ★ (d) Blue light
9. In photosynthesis, energy from light reaction to dark reaction is transferred in the form of:
   (a) ADP (b) ATP★
   (c) RuBP (d) Chlorophyll
10. Stomata of CAM plants:
   (a) Are always open
   (b) Open during the day and close at night
   (c) Open during the night and close during the day★
   (d) Never open
11. Rotenone is a:
   (a) Natural herbicide
   (b) Bioherbicide
   (c) Natural insecticide ★
   (d) Insect hormone
12. A natural insecticide obtained from plants is:
   (a) Azadirachtin
   (b) Rotenone
   (c) Nicotine pyrethrum and cinerin
   (d) None of these★
13. VAMis:
   (a) Bioinsectidde (b) Bioherbicide
   (c) Endomycorrhiza★ (d) Ectomycorrhiza
14. Cochineal insect (Cactoblastis cactorum) has been used in checking the mild growth of:
   (a) Opuntia★ (b) Eichhomia
   (c) Aphids (d) Screw worm
15. The birthplace of Hevea Rubber is:
   (a) Malaysia
   (b) Brazil★
   (c) Peruvian Andes
   (d) South-East Asia
16. The centre of origin of wheat is:
   (a) North-East Asia
   (b) South-East Asia
   (c) Asia Minor and Afghanistan★
   (d) Mexico
17. Which is not a new world crop?
   (a) Tapioca (b) Peanut
   (c) Cashewnut (d) Poppy★
18. Which one belongs to the old world?
   (a) Squash (b) Pumpkin
   (c) Watermelon★ (d) Guava
19. The number of centres of original crop plants recognised by N. Vavilov is:
   (a) 8 (b) 11★
   (c) 7 (d) 21
20. Potato famine of Ireland was caused by the attack of fungus:
   (a) Phytopthora palmivora
   (b) Plasmopara viticola
   (c) Puccinia gramints★
   (d) Phytopthora infestans

21. Which of the following is a living fossil:
(a) Pinus (b) Cycas★
(c) Metasequoia (d) Ephedra

22. In which of the following features do gymnosperms resemble angiosperms:
(a) Presence of vessels in wood
(b) Mode of fertilization
(c) Nature of endosperm
(d) Presence of ovule★

23. A blue-green alga lives in:
(a) Riccia thallus
(b) Marchantia thallus
(c) Cycas roots ★
(d) Pisum roots

24. Which of the following statements is not true for gymnosperms:
(a) Leaves are compound
(b) Naked seeds are formed
(c) Xylem is made up of tracheids
(d) Xylem is made of vessels★

25. In the plant Cycas the male cone lacks:
(a) Microspores
(b) Microsporophyll
(c) Microsporangium
(d) Nucellus★

26. The trachieds of Cycas are:
(a) With uniseriate bordered pits
(b) With biseriate bordered pits
(c) With multi seriate bordered pits★
(d) Without bordered pits

27. The smallest gymnosperm known as
(a) Cycas revoluta (b) Zamia pygmia★
(c) Cupressus sp (d) Pinus roxburghii

28. Gymnosperms differ from angiosperm in:
(a) Presence of naked seeds and absence of vessels★
(b) Presence of seeds in vessels
(c) Having abortive seeds
(d) Having tracheids

29. Coralloid roots are found in:
(a) Cycas★ (b) Dryopteris
(c) Pinus (d) Lycopodium

30. Xylem of gymnosperm lacks:
(a) Tracheids
(b) Xylem parenchyma
(c) Xylem fibres
(d) Vessels★

31. Ginger is a stem and not a root because:
(a) It is non-green in colour
(b) It is bitter in taste
(c) It stores food
(d) It has nodes and internodes★

32. Roots which develop from any portion of the plant except the radicle are known as:
(a) Stilt roots
(b) Tap roots
(c) Adventitious roots★
(d) Fibrous roots

33. Phyllode is a modified:
(a) Leaf (b) Petiole ★
(c) Stem (d) Branch

34. Swollen leaf base is called:
(a) Pulvinus★ (b) Bract
(c) Tuber (d) Stipule

35. Thorn is a modified branch because:
(a) It is a part of the plant
(b) It looks like a branch
(c) It arises in the axil of a leaf★
(d) It is a hard, straight and pointed structure

36. Thorns, spines, and prickles in plant work as:
(a) Respiratory organs
(b) Defensive organs★
(c) Organs of offense
(d) Excretory organs

37. Red root is another name of:
(a) Potato roots
(b) Sugarcane roots
(c) Beet roots★
(d) None

38. Which of the following is in a sectivorous plant?
(a) Hydrilla (b) Drosera ★
(c) Castor (d) Ranunculus

39. Underground modification of stem is primarily meant for:
(a) Perennation★
(b) Growth
(c) Respiration
(d) Vegetative reproduction

40. Reticulate venation is found in the leaves of:
(a) Canna (b) Plum ★
(c) Banana (d) Maize

41. Which of the following take part in symbiosis of lichens?
(a) Alga -Fungus★
(b) Alga-alga
(c) Fungus-fungus
(d) Alga-gymnosperm

42. Lichens are important in studies on atmospheric pollution because they:
(a) Can also grow in greatly polluted atmosphere
(b) Can readily multiply in polluted atmosphere
(c) Efficiently purify the atmosphere
(d) Are very sensitive to pollutants★

43. Of which the lichens are good indicators?
(a) Sound pollution (b) Air pollution★
(c) Soil pollution (d) Water pollution

44. Which one of the following not true about lichens:
(a) Some form food for reindeer in arctic region
(b) Some species can be used as pollution indicators
(c) These grow very fast at the rate of about 2 cm per year ★
(d) Their body is composed of both algal and fungal cells

45. 'Cyphellae' in lichens are analogous to which of the following structures of higher plants:
(a) Stomata★
(b) Palisade tissue
(c) Mesophyll
(d) Bundle sheath

46. Most of the lichens consist of:
(a) Brown algae and higher plant
(b) Red algae and ascomycetas ★
(c) Blue-green algae and ascomycetes
(d) Blue-green algae and basidiomycetes

47. Which of the following structure helps in the respiration of lichens?
(a) Soredia (b) Cyphellae ★
(c) Isidia (d) Cephalodia

48. The symbiotic association of fungi and algae is called:
(a) Lichen★ (b) Mycorrhiza
(c) Rhizome (d) Endomycorrhiza

49. Reindeer moss is the common name of:
(a) Usnea comosa
(b) Cladonia rangifera ★
(c) Funaria hygrometrica
(d) Sphagnum aceutifolium

50. Sorcdia are found in:
(a) Liverworts (b) Hornworts
(c) Lichens ★ (d) Horse tails

51. The rhizoid in Funaria is:
(a) Tuberculated
(b) Unicellular and simple
(c) Distinct, branched and coenocytic
(d) Multicellular with oblique septate★

52. In Funaria plant, stomata are present in:
(a) Foot (b) Seta
(c) Capsule ★ (d) Leaf

53. Sex organs in Funaria develop:
(a) At the axils of leaves
(b) At the tip of gametophore★
(c) In the protonema
(d) Inside the capsule

54. Which of the following is absent in moss sporophyte?
(a) Seta (b) Foot
(c) Elater ★ (d) Columella

55. In Furnaria, calyptra is derived from:
(a) Antheridium (b) Capsule
(c) Columella (d) Archegonium★

56. The peristomal teeth of moss show:
(a) Hydrochasy★ (b) Xerochasy
(c) Chemotropism (d) Hydrotropism

57. In moss plant, the archegonial cluster alongwith the perichaetial leaves constitutes:
(a) Foot and seta (b) Perichaetium ★
(c) Operculum (d) None

58. The plant of Funaria is:
(a) Monoecious★ (b) Dioecious
(c) Heterocious (d) None of these

59. Mosses occur in moist place because:
(a) They cannot grow on land

(b) Their gamete need water medium★
(c) They lack vascular tissue
(d) They lack root and stomata

60. The plant body of moss (Funaria) is:
(a) Completely sporophyte
(b) Completely gametophyte★
(c) Predominantly gametophyte with sporophyte

61. The acceptor of CO_2 in C_3 plant is:
(a) Xylulose biphosphate
(b) 1,5, ribulose biphosphate★
(c) 3 phospho-glyceric acid
(d) Phosphoenol pyruvic acid

62. The thylakoids are removed and kept in a culture medium containing carbon dioxide and water. If the set-up is exposed to light, hexose sugars are not formed as end products. The most appropriate reason for this is that:
(a) Carbon assimilation cannot take place in the presence of light
(b) The pigment systems are not working
(c) The light trapping device is non-functional
(d) Enzymes are not available★

63. CO_2 fixation during C_4 pathway occurs in the chloroplast of:
(a) Bundle sheath cells★
(b) Snonsiv parenchyma
(c) Mesophyll cells
(d) Guard cells

64. Action spectrum of photosynthesis was described in 1883 by:
(a) Hatch and Slack
(b) T.W. Engelmann★
(c) Robert Hill
(d) M. Calvin

65. The theory of organic solutes moving from "the source to the sink" was proposed by:
(a) Van Helmont (b) Munch★
(c) M. Calvin (d) Arnon

66. The C_4 plants differ from plants with reference to the:
(a) Type of the first stable product produced
(b) Compounds that accept CO_2 in carbon assimilation
(c) Number of ATP's required to form starch★
(d) None of these

67. The universal hydrogen acceptor is:
(a) NAD ★ (b) ATP
(c) FMN (d) CoA

68. The C_4 plants are more efficient that C_3 plants because:
(a) CO_2 acceptor is PEP
(b) They have two types of chloroplasts
(c) They have photorespiration
(d) They lack photorespiration★

69. In bacteria, which of the following photosystems is present?
(a) PS II only
(b) Photosystem I only★
(c) Both PS I and PS II
(d) None

70. The discovery of the Emerson enhancement effect has shown the existence of:
(a) Photorespiration and photolysis of water
(b) Photophosporylation
(c) Two distinct photochemical reactions★
(d) Light and dark reaction in photosynthesis

71. Sometimes when a virus attacks a bacterium, neither the virus multiplies nor the bacterium dies. This phenomenon is called:
(a) Adsorption (b) Assimilation
(c) Lysogeny★ (d) Viral stability

72. A bacteriophage is:
(a) A virus attacking another virus
(b) A stage in the life cycle of a bacterium
(c) A bacterium attacking a virus
(d) A virus attacking a bacterium ★

73. Bacteriophage is made-up of:
(a) Protein
(b) DNA
(c) Nucleoprotein★
(d) Lipid and protein

74. Small pox is caused by a:
(a) Virus ★ (b) Bacteria
(c) House fly (d) Mosquito

75. RNA particles causing symptoms like that of virus diseases are known as:

(a) Vira (b) Viroid★
(c) Mycoplasma (d) Virion

76. Hydrophbia is caused by:
(a) Bacteria (b) Fungi
(c) Virus★ (d) Protozoa

77. Which one of the following statement is correct?
(a) Viruses are obligate parasites★
(b) All fungi are pathogenic
(c) All algae are eukaryotic
(d) Bacteria are always harmful to mankind

78. Among the following which are the smallest organism?
(a) Bacteria (b) Mycoplasma★
(c) Nostoc (d) Viruses

79. The term viroid was introduced by:
(a) Diener & Rayner★ (b) Enders
(c) Rayner (d) Diener

80. Prions are infectious:
(a) Nucleic acids (b) Lipids
(c) Proteins★ (d) Nucleoproteins

81. From which of the organism is streptomyein prepared?
(a) P. notatum (b) P. italicum
(c) P. chrysogenum★ (d) P. digitatum

82. Who gave the chemical compositions of chlorophyll, carotenes and xanthophylls?
(a) Willstatter and Stoll★
(b) Govindjee
(c) Park and Biggins
(d) Meyers and French

83. The rate of photosynthesis is independent of:
(a) Light intensity
(b) Duration of light★
(c) Light quality
(d) Temperature

84. Who observed that when Chorella cells were exposed to continuous light, the rate of photosynthesis was less as compared to when they were exposed to intermittent light?
(a) Ruben (b) Gates
(c) Warburg★ (d) Asimov

85. Which one of the following remains functional even after the fractionation of a cell?
(a) Endoplasmic reticulum
(b) Ribosomcs
(c) Mitochondria
(d) None★

86. The ultimate biological energy coines from:
(a) ATP (b) Glucose
(c) Mitochondria★ (d) Sunlighit

87. Which is the most important staple food?
(a) Legumes (b) Pulses
(c) Cereals★ (d) Millets

88. The richest source of protein is:
(a) Gram ★ (b) Arhar
(c) Soyabean (d) Lentils

89. The botanical name of red gram (arhan) is:
(a) Cajanus cajan★
(b) Cicer arietinum
(c) Phaseolus mungo
(d) Phaseolus aureus

90. The botanical name of bengal gram (chana) is:
(a) Cajanus cajan
(b) Cicer arietinum★
(c) Phaseolus mungo
(d) Lens esculentus

91. Gymnosperms differ from angiosperms in:
(a) Having naked ovules★
(b) Having fruits
(c) Having seeds
(d) None of these

92. The medical gymnosperm is:
(a) Cycas (b) Ephedra ★
(c) Zamia (d) Pinus

93. The smallest gymnosperm is:
(a) Zamia ★ (b) Cycas
(c) Ephedra (d) None of these

94. The X-mas tree is:
(a) Pinus sp (b) Araucaria sp ★
(c) Thuja sp (d) Taxus sp

95. 'Chilgoza' is obtained from:
(a) Pinus roxburghii (b) Pinus longifiolia
(c) Pinus gerardiana★ (d) Pinus sylvestris

96. The wood of gymnospenn is:

(a) Porous (b) Wrinkled
(c) Ring porous (d) Non-porous★

97. Cycas and Dryopteris resemble each other in the presence of:
(a) Cambium (b) Seeds
(c) Ciliated sperms★ (d) Vessels

98. Alternation of generation is exhibited by:
(a) Gymnosperms (b) Bryophytes
(c) Pteridophytes (d) All plants★

99. Roots are dimorphic in:
(a) Pinus (b) Cycas ★
(c) Taxus (d) Zamia

100. Canada Balsam, an oleoresin, is obtain from:
(a) Cedrus species
(b) Abies balsamia★
(c) Impatiens balsamia
(d) Pinus

PEDAGOGY

INSTRUCTIONAL PLANNING, STRATEGIES, LEARNING ENVIRONMENT (PEDAGOGY)

METHODS OF TEACHING

1. LECTURE METHOD

Lecture lays emphasis on the presentation of the content. Teacher is more active and students are passive participants but he uses question–answer technique to keep them attentive in the class. Teacher controls and plans for all acts of students.

STEPS:

i) Preparation: First of all, pupils mind should be prepared to receive the new knowledge. Nothing is to be imparted in vacuum. New knowledge is retained in the mind when it is linked with the relevant previous knowledge. For this purpose, the teacher render;
Put questions
Narrate a story use some audio–visual aid.
Discuss some relevant topic

ii) Presentation: After preparing the students, and announcing the aim of the lesson, teacher starts the presentation of the lesson. Here the teacher uses a number of teaching devices like questioning, narration, explanation, audio–visual aids etc. to make the various ideas clear to the pupils.

iii) Comparison or association: Facts or examples presented in the previous step should be compared and contrasted so that the pupils understand their mutual relationship.

iv) Generalization: Here they understand similarities and different relations. This leads to formulation of general principles, rules and formulas.

v) Application: The generalizations arrived at are applied to solve problems. Knowledge becomes useful when it is put to use.

Advantages:

The following are the major advantages of lecture method.

1. The habit of concentration may be developed among the students.
2. It is an economical teaching method. A large subject content may be taught relatively in small duration.
3. Very high order of cognitive objectives may be achieved.
4. The personality of teacher influences the learner's personality.
5. The new content can be easily introduced.
6. It provides the opportunity to the teacher to use different types of teaching aids.
7. Teacher can employ his full verbal communication and competency.

DISCUSSION METHOD

The discussion method of teaching is a process in which a small group assembles to communicate with each other, using speaking, listening and nonverbal processes in order to achieve instructional objectives. There are group members, who have reciprocal influence over one another and they are affected by the behavior of one another in the group. The participants use the available time to communicate with each other.

Principles:

This strategy is based upon the following principles of teaching:

(1) Principle of active participation.
(2) Principle of freedom for work.
(3) Principle of group work and equal opportunities to as questions and to answer them.

Planning for Discussion:

a. Choosing the discussion topic:
b. Phrasing the Discussion Question:
c. Outlining the Topic
d. Planning Discussion Strategy, The Beginning Phase:
e. Planning the Discussion Strategy, The Middle Phase.
f. Planning Discussion Strategy, The End Phase:

Advantages of Discussion Method:

The following are advantages of discussion method

a. Discussion helps students assimilate and integrate information, they have initially acquired from reading or lecture.
b. Discussion is useful for emphasizing the connection between old and new knowledge.
c. Discussion is most useful to teach the process of learning that is thinking. A provocative question in discussion

stimulates more thinking than a rhetorical question in a lecture.

d. What student can learn about thinking during class discussion.? They learn to approach a process, a problem, or a topic rationally, monitor their own thinking process and question their implicit assumption.

e. The discussion is particularly good at revealing students attitude.

f. Discussion is especially useful in social sciences or social studies because it is ideal way to demonstrate to students of any social, cultural and political problem to be evaluated.

g. Discussion method is practically effective at increasingly students interest involvement.

h. Discussion can promote interpersonal relationship, student rapport, independence and motivation in ways attained by the teacher alone.

DEMONSTRATION METHOD

In demonstrating method, teacher actually performs in front of students. Students observe while teacher explain the event and phenomenon.

Advantages

(i) It helps in involving more senses to make learning permanent.

(ii) Though, teacher behavior is autocratic, he invites the cooperation of pupils in teaching–learning process.

(iii) It develops interest in the learners and motivate them for their active participation.

(iv) It helps in achieving psychomotor objectives.

(v) Any simple or complex skill becomes easy to understand.

Disadvantages

(i) It can be used only for skill subjects.

(ii) Only the attention of the learners is invited towards the activity demonstrated. They are not free to discuss about it.

(iii) Due to poor economic conditions of the government–school scarcity of audio–visual aids and equipments: And, the teachers are not so creative to produce hand–made models for demonstration.

(iv) There is a general of sincerity and diligence among teachers. Who wish to complete the syllabus or syllabi at the earliest without putting sincere efforts.

HEURISTICS METHOD

The term "heuristics' has been borrowed from the word 'Heurises', it means, "discover or investigate". The purpose of communication is to develop the tendency of investigation. Arm Strong is the exponent of this strategy. It is based upon the assumption of Herbert Spencer that the learner should be told as little as possible and he should be encouraged to learn himself as much as possible.

A problem is placed before the learners and they attempt to seek the solutions of the problem. The learners get full freedom of working and thinking. The number of devices are used for solving the problem.

Advantages:

The following are the main advantages of Heuristic strategy of teaching:

(1) It develops the scientific attitude of the leaner and tendency of observation.

(2) It evolves the feeling of self confidence and self reliance.

(3) The teacher provides the individual guidance to the learner.

(4) The teacher remains active.

(5) It develops logical and imaginative thinking among the learner.

(6) It is based upon psychological principles of learning.

(7) It creates the situation for divergent thinking.

PROJECT METHOD

a. Project method or a project has been defined in various ways such as 'it is that form of coordinated activity that's directed towards the learning of significant skill or process. It also involves the acquisition of much useful information and inevitably inviolately affects attitudes and interests. (Wesley).

b. It is a problematic act carried to completion in its natural setting (Kilpatrick)

STEPS IN A PROJECT

1. Provision of a situation

A situation is identified or arranged in which some problems are available with interesting ingredient for the pupils.

2. Selection of Objectives

A teacher guides and facilitates his pupils in this phase too, to select and find out aims and objectives of the project being

selected, keeping in mind real needs of pupils.

3. Planning
This is a very important step, so one must be careful in drawing a blueprint for a project. Planning should include a few alternatives. A discussion to exchange group ideas and views is very crucial. Suggestions must be critically examined and utilized.

4. Execution
Among group members are assigned duties in a way that all get activities of their choice and capability. No doubt, it needs patience of contributors to make it a success. In one project many activities can be developed. They all help in knowledge growth.

5. Evaluation
Work done on project must be evaluated by themselves (student group) and supervisor (teacher) as well, to locate the follies. Self-criticism is worth training giving. In this step objectives (pre-set) of that project are the standard and performance is measured against this standard.

6. Recording
Group / individuals must maintain a full record of various steps.

Advantages:

It has the following advantages:

(1) Project strategy is based upon psychological and sociological principles.
(2) The new knowledge is imparted by linking it with their life situations.
(3) It develops insight toward life problem.
(4) All school subject can be taught by a integrated approach.
(5) Project Strategy provides an opportunity for work experience, divergent thinking and social efficiency.

ACTIVITY METHOD

Activity method brings the students close to the real life situation. They get firsthand experience in an environment in which they are performing certain activity. It is recognized that the directed activities give reality to learning and effective teaching uses all available sources.

Different types of Activities

1. Exploratory – Knowledge getting
2. Constructive – Experience getting
3. Expressional – Presentation

Various activities suggested in the curriculum

a. Filling in Muslim majority areas in the outline map of the subcontinent.
b. Filling in boundaries of Pakistan in the outline map of the subcontinent.
c. Participation in the debates and dramas.
d. Organizing pupil show and taking part in the role playing.
e. Making charts.

PROBLEM SOLVING METHOD

This method is considered to be an excellent method since it develops skill and scientific attitude. Students become self dependent, self reliant and self confident. But this is a long and slow process in which too much stress is laid on practical work. It presupposes that all the students are problem solvers.

We may define problem solving as: "A manner of dealing with that, which is problematic. A method involving clear definition of problems confronted, formation of hypothetical solutions hunch or suggestion, deliberate test of hypothesis until evidence warrants its acceptance".

Advantages

Problem solving method do possess benefits that are listed as below.

- Pupils learn facts themselves. This is real education / learning.
- Discovery takes place. Acting in new situation is learnt. Confidence to face the problem is developed.
- Defining the problem and verification of result is learnt.
- Curiosities of pupils are satisfied and devices are found out.
- Ideas are born and originality is developed.

INDUCTIVE METHOD

In this method, the child is enabled to arrive at the general conclusion, establish laws or formulate generalizations through the observation of particular facts, and concrete examples. A universal truth is proved by showing that, if it is true for a particular case and is further true for a reasonably adequate number of cases, it is true for all such cases. The formula or generalization is thus arrived at through a convincing process of reasoning and solving of problems.

Merits

1. It is easy to understand a grammatical or mathematical principle established through a number of simple examples.

2. It is a logical method.
3. It gives the opportunity of active participation.
4. It is based on actual observation, thinking and experimentation.
5. It reduces dependence on memorization and homework.

Drawbacks

1. It is limited in range. It contains the process of discovering the formula with the help of a sufficient number of cases, but 'what next' is not provided in it.
2. Inductive reasoning is not absolutely conclusive. Three or four cases are picked up to generalize an observation.
3. It is likely to be laborious and time-consuming.
4. At the advanced stage, it is not so useful as some of the unnecessary details and explanations may become dull and boring.

DEDUCTIVE METHOD

It is the opposite of the inductive approach. Here the learner proceeds from general to particular, abstract to concrete and formula to examples.

Merits

1. The method is short and time-saving. The books and teachers, thus, have some preference for it.
2. It glorifies memory, as the students have to memorize a considerable number of formulae and definitions.
3. During practice and revision stage, deductive method is adequate and advantageous.
4. It combines with the inductive method to remove the incompleteness and inadequacy of the latter.
5. It enhances speed and efficiency in solving problems.

Drawbacks

1. It is very difficult for a beginner to understand an abstract formula if it is not preceded by a number of concrete instances.
2. Pure deductive work requires a formula for every type of problem and an extensive use of this method will demand the blind memorization.
3. Here memory is more important than understanding and intelligence.
4. If the pupil forgets the memorized formula which is very likely in cramming, he cannot recollect and reconstruct the formula easily.
5. The students cannot become active learners.
6. It is not suitable for the development of thinking, reasoning and discovery.

DRILL METHOD

Major Characteristics:

There is a repeated performance of a learning act until a desired level of skill to do the act correctly is attained or the teacher and student settle for a lesser level of competency. The performance may be verbal, as in music, speaking a foreign language, and speech correction and therapy; written, as in mathematics, spelling, and shorthand; or manual as in industrial arts, art, athletics and physical education, and typing.

Merits:

May be used to develop a desirable skill to perform an act or to acquire a proficiency, especially one that may be habituated, to continue to repeat an act, to make something or to write or say something until it is fully understood, to accomplish something overtly that provides a student with a competency or sense of satisfaction, especially if it motivates further participation in learning activities to develop an understanding of the principles underlying the operation of a machine, a tool, or object used in the performance of the skill to be able to judge the quality of such an object to individualize instruction, especially through use of teaching machines, computers, and audio-visual equipment.

QUESTION-ANSWER METHOD

The Socratic strategy is known as question-answer strategy. It is developed by the famous philosopher Socrates. He assumes that all knowledge within the learner and teacher has to unfold it. He further assumes that teacher should present the subject-matter in such a way that learner recognizes the truth and he can identify himself with it.

Focus: The strategy aims at achieving the cognitive objectives and bringing knowledge at the conscious level.

Structure: Socrates has suggested three steps in this strategy:

(1) To prepare questions are arrange them in a sequence.

(2) To present the questions in appropriate way so that curiosity may be created among the learners.

(3) To ask new questions by liking with the learner's responses. Teacher is able to recognize the intention of learner and provides motivation accordingly.

Purposes

(a) Exploring the entering behaviours of the learners.

(b) Provides motivation and encouragement.

(c) Makes them active in the classroom.

(d) Establishes a chain of learning by linking previous knowledge with new knowledge.

(e) Provides the direction to the mental process of learning.

(f) Develops thinking and analysis abilities of the learners.

(g) Revise the teaching content.

(h) Evaluates the effectiveness of teaching learning activities.

Advantages:

The following are major advantages of question–answer method.

(1) The classroom verbal interaction can only be encouraged.

(2) The learner remains active and participates in teaching acts.

(3) The new knowledge is imparted by linking with earlier acquired knowledge.

(4) It involves psychological principles of learning.

(5) It is more useful at primary and secondary level.

(6) It reduces the chances of indiscipline in classroom teaching.

(7) While asking the questions teacher should keep in mind the abilities, needs and interest of the learners.

MICRO TEACHING

The term, first of all, was coined by Dwight W. Allen and his co–workers in 1961 at Stanford University, U.S.A. It is now considered as a very effective teacher training technique at preservice and inservice level and used as an effective research tool all over the world.

Definitions

In order to understand the concept of Micro Teaching more clearly and precisely, let us study the expert views on it.

1. View of Allen:

Allen (1996) defined Micro Teaching as, "a scaled down teaching encounter in class size and class time". In this way, teaching is reduced to simple form. Size of the class is reduced to 5–10 students. Duration of teaching period is reduced to 5–10 minutes.

2. View of Bush:

According to Bush, Micro Teaching is "a teacher education technique which allows teachers to apply well defined teaching skills to a carefully prepared lesson in a planned series of five to ten minutes encounter with small group of real class–room students, often with an opportunity to observe the performance on video–tape".

MICRO TEACHING SETTING

According to the definition of micro teaching, "the teacher teaches a short lesson based on one skill, under practice to a small class for a short period of time".

Size of the Micro Class: According to the central concept of micro teaching, size of the class is reduced in order to produce environment for 'learning to teach'.We generally use 5–10 students in a micro–class.

Types of Pupils: The student–teacher has to perform the role of a teacher, of a student, and of a supervisor. These different roles by the student–teacher benefit him in acquisition of the teaching skill under practice.

Time Duration: In micro–teaching setting, the duration of micro class is also reduced. Usually, the duration of micro class is 5–10 minutes.

Teaching Skills

Micro–teaching is used for developing certain teaching skills. A teaching skill is defined as a set of teacher behaviours which are especially effective in bringing about desired changes in pupil–teachers. There are various teaching skills which can be developed among pupil–teachers. Allen and Ryans (1969) have suggested the following fourteen teacher–skills:

1. Stimulus variation
2. Set induction
3. Closure
4. Silence and non–verbal cues
5. Reinforcement
6. Asking questions
7. Probing questions,
8. Divergent questions,
9. Attending behaviour,

10. Illustrating,
11. Lecturing,
12. Higher order questions,
13. Planned repetition, and
14. Communication completeness

ADVANTAGES OF MICRO TEACHING

1. Reduces complexities:

Micro teaching is a scaled down teaching in terms of class size, class time and teaching skill. It reduces the complexities of Macro teaching.

2. More understanding of teaching:

Micro teaching breaks the whole teaching into different teaching skills. Each skill separately provides opportunity to see teaching more clearly.

3. Individualised teaching:

Micro teaching focuses on one individual at a time. Efforts are made to improve teaching of that teacher.

4. Feedback mechanism:

The expert gives his observation in the form of suggestions and practical demonstration to improve teaching.

5. Simulated teaching:

When peers perform the role of students, it is called simulated teaching.

6. Behaviour modification technique:

Micro teaching provides feed–back to teachers to improve their teaching in required direction.

7. Better than traditional teaching practice programmers:

Limitations

1. Costly:

If video recording is to be done, then it is very costly. It is easy to use it.

2. Lack of experts.

In micro teaching, an expert observes the micro–lesson, then he provides feed–back. It is not an easy job. We have very few experts who can perform different skills properly and provide feedback to student teachers.

3. Not Real teaching:

To teach a few students for a short duration of time is not actually a real teaching. In real class–room situations, teacher has to control the class also.

4. It is training technique:

Micro teaching is, in fact, a training technique for teacher–trainees. It cannot be used to present subject matter to students.

5. Intergration of skills is not easy:

Micro teaching provides training in individual skills. After that those teaching skills are integrated. But integration of skills is not an easy job.

SIMULATION METHOD

The words simulation is derived from the word 'simulate' which means to reproduce certain conditions by means of a model, for study or training purposes, for example, to simulate flight using a model flight in a wind tunnel. So, simulation refers to operation in which a real situation is represented in another form.

Simulation, is an articial situation of the pupil teacher in the class–room. It is telling the students through artificial environments how to cope with various class–room situations. In other words it is meant to create artificial situations which provide artificial experiences for he participants.

In our daily life, we notice children using simulation during play. Small girls play the role of their mothers using toy kitchen set. When a male child puts on beard and moustaches on his face, and a little girl serves the dishes to him, they are said to simulate that is, initiate the acts of their parents. During N.C.C. training, young boys and girls are engaged in simulating the war strategies.

SIMULATION IN TEACHING

A very important and pertinent question strikes one's mind: Why should a teacher–trainee be not asked to undergo teaching practice–directly in actual class–room situation? Being a trainee, he is not perfect and as such, the time of the class may get wasted and instead of any good teaching, much harm is likely to be done to students. This is why in teaching also, the technique of simulation has been introduced.

ADVANTAGES OF SIMULATED TEACHING

1. Simulation motivates and involves student teachers.
2. It can be enjoyable, realistic and helpful.
3. It forms a valuable element in the practical professional work of student teachers.
4. If forgets close links between theory and practice.
5. Simulations are self–monitoring. Participants recognize own progress by various feedback methods.
7. Personal tensions in the teaching situation are likely to be reduced by the process of self–monitoring.

Problems and Limitations

1. Its use cannot be made in all subjects of the curriculum.
2. It cannot be conveniently used in case of small children.
3. It requires a lot of preparation on the part of teachers.
4. We cannot afford the use of costly, sophisticated audio–visual materials.
5. It also reduces the seriousness of learning.

PROGRAMMED INSTRUCTION

Generally speaking, the instruction provided by a teaching machine or programmed text books is referred to as Programmed Learning or Programmed Instruction.

1. Views of Smith and Moore: "Programmed instruction is the process of arranging the material to be learned into a series of sequential steps, usually it moves the student from a familiar background into a complex and new set of concepts, principles and understanding".
2. Views of Michael J. Apter: On the basis of these definitions we can sum up that:

(i) Programmed learning is a method of individualized instruction.

(ii) The main concern of programmed instruction is to present the material in logical and sequential order.

(iii) Each unit or step contains not only information but it is also terminated with a question.

(iv) In programmed learning the learner proceeds through instructional material at his own speed.

(v) It has a provision for immediate feedback which is based on the theory of reinforcement.

(vi) It has the provision for continuous evaluation.

TYPES OF PROGRAMMED INSTRUCTION

1. Linear Programming

The Linear style of programming was developed by B.F. Skinner. It is in a straight line and extrinsic in nature. The learner starts from his initial behaviour and moves to the terminal behavior following a straight line.

In a linear programme, the subject–matter is divided into very small steps known as frames. The learner is required to respond actively at each step. His response is immediately confirmed before he goes to the second frame. It re–inforces his behavior. By proceeding from one step to another, the learner may then be able to acquire the desired learning experiences.

The programme is so structured that the probability of correct responses becomes very high.

Linear programming can be produced in book form for use on a linear teaching machine.

All the steps (frames)are so small and sequenced in such a way that the learner makes only correct responses. In case, the learner does not respond correctly to a particular frame he may be required either to repeat the frame or may be acquainted with the correct response.

2. Branching Programming

In branching programming the frame size is much larger than that of linear programming. It is followed by multiple choice answers, only one of which is correct.

It is designed to test student's learning of the material. If he chooses the correct answer, he is told that his answer is correct, and he is then presented with new information. If his answer is incorrect, he is told why is it wrong, and he either returns to the main stem to re–read the information or is routed along a remedial sequence.

Branching programmes may be produced for use on a teaching machine or in book form. The book form is known as the scrambled text book.

Diagrammatic Representation of Branching Programming:

The figure shows the main line and branches. As error on any step may lead to sub–sequence or branch, and then, after certain instructions, back to the main line and so on.

ADVANTAGES AND APPLICATIONS OF PROGRAMMED INSTRUCTION

1. The student remains active throughout when he is using a programme.
2. Programmed learning is basically and individualized instruction. Each student proceeds at his own pace. In a conventional teaching, the teacher attends to only children with average abilities. Consequently, the intelligent and the slow learners are ignored.
3. Immediate re–inforcement helps a child to know whether his answer is right or wrong. In normal class feed–back takes a long time.

4. A programme is planned and prepared much more carefully than a teacher would do for a conventional teaching programme.
5. Each programme has to prove itself to be effective during the progress of validation and must be re-written as many times as is necessary.
6. A programme is not a human being and hence can be used at any time of the day.
7. Programme material or teaching machines never get tired and lose their temper or patience.

LIMITATIONS OF PROGRAMMED LEARNING

Programmed instruction has the following limitations:

1. Direct teacher-pupil relationship or contract is not there.
2. Mere manipulation of a machine is not rewarding to children. Once the novelty wears off and if, at the start, too many errors appear the pupil loses interest and motivation. Later the re-inforcements often do not accelerate learning.
3. In language learning, speech is important and there is no scope for providing this experience in programmed learning.
4. Programmed instruction restricts the learner's freedom of choice resulting in damping of his imagination and initiative.
5. Operant conditioning is not found successful with all and in every situation.

COMPUTER ASSISTED INSTRUCTION (C.A.I.)

In CAI the computer interacts directly with the learners while presenting lessons. It delivers instruction directly to students and allows them to interact with the computer through the lessons programmed in the system. The computer's ability to engage in instructional 'dialogue' with the student while delivering information makes it adaptable to any number of instructional situations. It can facilitate various instructional modes. Let us discuss these modes in brief here:

(i) Tutorial Mode: In the tutorial mode, as in programmed instruction, information is presented in small units followed by a question. The student's response is analysed by the computer and appropriate feedback is given.

(ii) Drill or practice: This mode is to make sure that concept, rule and procedure has already been learned by the learner. The programme leads the learner through a series of examples to develop dexterity and fluency in using the skill.

(iii) Discovery mode: In this mode inductive approach to learning is taken up, that is, the problems are presented and the learner solves those problems through trial and error.

(iv) Simulation mode: In simulation mode the learner confronts a scaled down approximation of a real-life situation. Thus, this mode allows realistic practice without the expense of risks otherwise involved.

(v) Gaming mode: Gaming mode can or cannot be instructional. It is mostly recreational in purpose, while sometimes it teaches through games. It is specially suitable for young children.

Advantages:

(1) The novelty of working with a computer raises the learner motivation:

(2) Colour, music and animated graphics can add realism and appeal to drilling exercises, laboratory activities, simulations etc.

(3) High-speed personalized responses to learner actions yield a high rate of reinforcement;

(4) Memory capacity allows student's past performance to be recorded and used in planning the subsequent steps;

(5) Step, can present a more positive and effective climate, especially for slow learner.

(6) The record keeping ability of the computer makes individualized instructional feasible. Individual prescriptions can be prepared for all students (particularly mainstreamed special students) and their progress can be monitored.

(7) The teacher's span of control's enlarged, as more information is put easily at the teacher's disposal, helping to keep control close to him.

Limitation:

(i) Despite the dramatic reduction in cost of computer and computer use, computerized instruction is still relatively expensive. Careful consideration must be given to the costs and benefits of computers in education. Maintenance can also be a problem especially if the equipment is subjected to heavy use.

(ii) The design and production of computer specifically for instructional purposes has lagged being design and production for other purposes.

(iii) There is a lack of high quality direct–instruction master for use with computers, especially for the micro–computers. There is also a compatibility problem–often the software developed for one computer system cannot be used with another. The case with which the software–especially cassettes can be duplicate without permission has inhibited commercial publishers and private entrepreneurs from producing and marketing instructional software.

TEAM TEACHING

Team teaching is a comprehensive term with many faces. In most widely applied sense, it means giving two or more teachers a joint responsibility for the education of group of pupils larger than what is generally considered a normal size of class.

TEAM TEACHING DEFINED

1. Views of Shaplin:

Shaplin has defined team teaching in the following words: "Team teaching is a type of instructional organization, involving teaching personnel and the students assigned to them, in which two or more teachers are given responsibility, of working together, for all or a significant part of the instruction of some group of students."

2. Views of M.B. Naik:

"In a team teaching method, two or more teachers make a plan of the subject or subjects co–operatively, carry it out, and always evaluate its effect on the students periodically."

In brief, team teaching refers to the following factors or components:

1. It involves more than one teacher i.e. there is a group of teachers.
2. Teaching becomes a joint responsibility. This includes instructional planning and other aspects of teaching. Team teaching is essentially cooperative teaching.
3. It is an organization of instructional material or courses of studies at all educational levels such as elementary, secondary or college levels.
4. The number of teachers depends upon nature and objectives of the course, the size of the class and the facilities to be used.

ADVANTAGES OF TEAM TEACHING

1. Better utilization of resource: It results in the optimum use of available resources, human material and finance. A number of teachers can work together and make the best use of their specialized knowledge.
2. Better planning: Team teaching overcomes repetition and allows every teacher to devote more time towards planning and preparation of his unit.
3. Effective use of teaching techniques: Team teaching leads to the integration of the curriculum. Teaching becomes more meaningful and effective. Teachers observe each other and thus improve their teaching techniques.
4. Better follow–up– work: It ensures better follow up work as a number of specialists teach the same subject to the same class.
5. Better motivation: It provides better motivation for good teachers to become team leaders and better motivation for the students while they are being taught by a number of teachers. Teachers with greater technical skills influence the performance of their expert colleagues.

In addition to these advantages, team teaching if very useful for gifted or intelligent students, as well as for the slow learners. It also helps in solving the problem of shortage of subject teachers and ensures improvement of instruction and school atmosphere as a whole.

COOPERATIVE LEARNING

Cooperative learning takes many forms within classrooms. Its essential characteristic is that it fosters positive interdependence by teaching students to work and learn together in a small–group setting. Traditional cooperative learning groups consist of three to four students who work on an assignment or project together in such a way that each group member contributes to the learning process and then learns all the basic concepts being taught. Both individual students and the group as a whole are held accountable for the outcome.

Features of cooperative learning

1. Positive Interdependence: In traditional classrooms, where competition is emphasized, students experience negative

interdependence–competing with one another for educational resources and academic recognition. Competition encourages better students to hoard knowledge and to celebrate their successes at the expense of other students. In cooperative learning classroom, students work together to ensure the success of each student. Positive interdependence teaches students that school life for each one of them is enhanced when everyone succeeds.

2. Face–to–Face Interaction: The small group setting allows students to work directly with one another, to share opinions and ideas, to come to common understandings, and to work as a team to ensure each member's success and acceptance.
3. Individual Accountability: In cooperative learning settings, each student is held accountable for his or her own academic progress and task completion, apart from the accomplishments of the group as a whole.
4. Development of Social Skills: Cooperative learning offers students a chance to develop the interpersonal skills needed to succeed at school, work, and within the community.
5. Group Evaluation: Groups of students need to evaluate and discuss how well they are meting their goals, what actions seem to hurt group interactions.

Merits

Benefits of cooperative learning

1. Improve comprehension of basic academic content
2. Reinforces social skills
3. Allows student decision making
4. Creates active learning environment
5. Boosts students' self–esteem
6. Celebrates diverse learning styles
7. Promotes student responsibility
8. Focuses on success for everyone

ROLE PLAYING OR DRAMATIZATION

The Drama is a form of English literature like prose and poetry. It is also an effective method of teaching as well as device of training. It is effectively used for teaching historical stories and events. The events of history can not be repeated but can only be dramatized by role–playing. The historical content can be made more effective and interesting for the students. The following are the main methods of teaching Drama:

Structure:

It is a dramatic strategy. The student–teacher has to play the role of student and teacher. The student–teacher has to teach a small lesson to his own colleagues, assuming them as secondary class students. They have to act as students. Every pupil has to teach a lesson in a rotation. The teaching is followed by discussion and suggestions which are given for the modification and improvement of behavior.

Characteristics:

A good drama includes the following characteristics:

1. The story should be effective and interesting.
2. The subject–content should be full with the feelings for the welfare of making.
3. The character or role should be encouraging and effective.
4. The dialogue should be active and alive. The dialogue should be short.
5. There should be coordination among the activities and the dialogues.
6. The play should be effective for developing the feelings and under standing of the students.
7. The vocabulary and style of language should be according to the level of the students.
8. The size of play should not be too long. The long drama should be divided into parts or serials like the television.
9. The subject content and dialogue should not reflect adversely on any religion or community.
10. The dialogue and songs should be simple and easy to comprehend easily.
11. There should be turnover in the dialogue so that monotony can be removed. It may be the source of recreation and enjoyment.

Advantage:

This strategy has the following advantages:

1. It provides an opportunity for rehearsal prior to actual classroom teaching.
2. The pupil teacher understand his own teaching activities through analysis, synthesis and evaluation.
3. It is useful for developing social skills.

4. It provides immediate reinforcement for the modification of his behavior.

Limitations:

The strategy suffers from the following limitations:

1. The learning situations are more artificial and pupil–teacher fails to present its real form.
2. It cannot be used for developing specific teaching skills.

SIGNIFICANCE OF LESSON PLANNING

i. Proper lesson planning helps the teachers to do justice with different aspects of the lesson.

ii. Lesson planning helps teacher in identifying the teaching objectives and managing teaching–learning to achieve these objectives.

iii. Lesson planning helps the teacher to plan and use essential component behaviours and teaching skills helpful in realization of teaching objectives. It develops reasoning thinking and imagination powers of the teacher.

iv. Lesson plan helps in making teaching more purposeful properly coordinated and gives the student–teacher more confidence and better performance.

v. Lesson planning prevents wastage of time and energy because it helps the teacher to be systematic and orderly. It saves him from haphazard teaching.

vi. The pattern followed in a lesson plan helps the teacher to teach, revise and evaluate his teaching. Thus, it helps the pupil in fixing up the knowledge of the subject–matter in their minds.

vii. Proper lesson planning helps in maintaining discipline in the classroom by keeping the students busy in teaching–learning process.

viii. It helps in maintaining the sequence of content and presentation. It prevents the teacher from deviate from the topic. Thus, it prevents duplicacy and confusion.

Lesson–planning gives the teacher confidence and makes the teaching–learning process slick: It provides adequate lesson summaries, helps in assignments and in the selection of proper strategies, tactics and audio–visual aids.

MEANING AND DEFINITION OF LESSON PLAN

i. According to Smith. B.O. (1983) "Daily lesson planning involves defining the objectives, selecting and arranging the subject–matter and determining the method and procedure".

ii. According to Copper Thomas E. (178) "A teaching outline of the important points of a lesson arranged in order they are to be presented, it may include objectives, points to be made, questions to be asked, references to materials assignments etc."

Herbartian Approach To Lesson Planning

It is based on a apperceptive theory of learning i.e. mind of the child is like a clean slate. If the new knowledge related to previous knowledge is given. It will be more easy and retainable for a longer period.

This approach is influenced by classical human organization theory because it is a teacher centred approach.

This approach is used for memory level teaching and involves five steps.

(a) Preparation
(b) Presentation
(c) Comparison
(d) Abstraction
(e) Generalization

This approach is commonly used in teaching of various school subjects. On the basis of five steps outline of a lesson plan is given in the following form.

Date _____
Class _____
Period _____
Subject _____
Topic _____

General Objective

These objectives are formulated by the teacher in his subject keeping in view of entering behavior of the learners.

For example: To develop the knowledge of grammar among the students.

Specific Objectives:

These objectives are formulated on the basis of general objectives and considering the nature of the topic and level of students. These are specified in terms of knowledge, skill or appreciation. These objectives are written in behavioural terms.

M.B.D.

For Example

Student will be able to recall the definition of noun.

Student will be able to enumerate the examples of noun....

Introduction:

Here, the teacher employs his insight and experience for linking new knowledge with the previous knowledge of the students. The topic is not introduced directly but it is usually emitted by the students' responses by asking introductory questions.

Teaching aids.

Audio-visual aids are selected according to the proposed topic.

Previous knowledge

Students' previous knowledge is mentioned. For example Students are familiar with figure of speech. They know that nouns are naming words.

Statement of aim:

The teacher gives his statement of teaching topic by incorporating the students' responses. For example "Today, we will study about the noun and its kinds"

Presentation:

The teacher prepares the developing questions after introducing the topic. These questions are arranged in logical sequence, i.e. from simple to complex, considering the structure of the topic.

Explanation:

The teacher is supposed to explain the answers of the given answer form.

Blackboard summary:

The teacher has to prepare the blackboard summary of his teaching points and explanations.

Review questions:

The purpose of these questions is to practice the students' learning and evaluate their performance whether they have comprehended the teaching unit or not. These review questions are asked only after running the blackboard summary.

For Example

Q.1 What is the definition of Noun?

Q.2 Give some examples of noun.....

Home assignments:

At the end of the lesson plan, home assignment is given to the students on the same teaching unit. The purpose of home work is to practice, to organize and to study the topic for better understanding and retention.

MCQs

1. In teaching experienced members guide the immature one's for
   (a) Spending time
   (b) Qualification
   (c) Quality of life
   (d) Adjustment of life
2. Which is not the focal point of triangular process of teaching
   (a) Teaching method
   (b) Teacher
   (c) Pupil
   (d) Contents
3. The goal of teaching is
   (a) To give information
   (b) to involve pupils in activities
   (c) To impart knowledge
   (d) Desirable change in behaviour
4. The rules of presenting the contents to make them easy are called
   (a) Methods of teaching
   (b) Maxims of teaching
   (c) Techniques of teaching
   (d) Teaching strategies
5. SOLO stands for
   (a) System of the observed learning outcome
   (b) Structure of the observed learning output
   (c) Structure of the observed learning outcome
   (d) System of the observed learning output
6. SOLO taxonomy consists of levels
   (a) 2 (b) 3
   (c) 4 (d) 5
7. With reference to solo taxonomy one aspect of a task is understood in
   (a) Unistructural level
   (b) Multistructural level
   (c) Relational level
   (d) Extended abstract level
8. Two or more aspects are understood in
   (a) Unistructural level
   (b) Multistructural level
   (c) Relational level
   (d) Extended abstract level

9. Integration is developed between two or more Aspects in
(a) Unistructural level
(b) Multistructural level
(c) Relational level
(d) Extended abstract level

10. To go beyond the given in formation is
(a) Unistructural level
(b) Multistructural level
(c) Relational level
(d) Extended abstract level

11. SOLO taxonomy was presented by
(a) Bloom (b) Krath whol
(c) Simpson (d) Biggs & Collis

12. Students are passive in
(a) Project method
(b) Discovery method
(c) Lecture method
(d) Inquiry method

13. Symposium is a type of
(a) Discovery method
(b) Discussion method
(c) Lecture method
(d) Demonstration method

14. Heuristic means
(a) To investigate
(b) To show
(c) To do
(d) To act

15. Arm strong was the exponent of
(a) Problem solving method
(b) Project method
(c) Discussion method
(d) Heuristic method

16. According to Kilpatrick, the types of projects are
(a) 2 (b) 3
(c) 4 (d) 5

17. Activity involves
(a) Physical action
(b) Mental action
(c) Many action
(d) Physical and mental action

18. We move from specific to general in
(a) Inductive method
(b) Deductive method
(c) Drill method
(d) Discussion method

19. Practice is made in
(a) Inductive method
(b) Deductive method
(c) Drill method
(d) Discussion method

20. The Socratic method is known as
(a) Lecture demonstration method
(b) Discussion method
(c) Inquiry method
(d) Question – Answer method

21. Which is not true about projects
(a) It is a purposeful activity
(b) It is proceeded in social environment
(c) It is accomplished in real life
(d) It is teacher centred activity

22. Duration of lessons in macro-lesson plans is
(a) 5 · 10 min (b) 10 · 20 min
(c) 20 · 30 min (d) 35 · 45 min

23. In British approach of lesson planning, more emphasis is on
(a) Activity
(b) Teacher
(c) Content presentation
(d) Teacher and content presentation

24. American approach emphasizes
(a) Teacher
(b) Content presentation
(c) Learning objectives
(d) Methods

25. Which one is not the type of lesson plans on the basis of objectives
(a) Micro lesson plan
(b) Cognitive lesson plan
(c) Affective lesson plan
(d) Psychomotor lesson plan

26. Which is not true about lesson plan
(a) It develops confidence
(b) It helps in oderly delivery of contents
(c) It is developed by students
(d) It saves from haphazard teaching

27. A good drama does not include
(a) Interesting story
(b) Alive dialogues
(c) Very long play
(d) Subject full of feelings

28. Which is not the objective of Drama / role play
(a) Recreation and enjoyment
(b) Development of social skills
(c) Development of skills of conversation
(d) Do make rehearsals

29. Drama or role play is useful for teaching

(a) History
(b) Science
(c) Malts
(d) Language

30. The main types of teleconferencing identified are
(a) 2 (b) 3
(c) 4 (d) 5

31. Which is not the types of teleconferencing
(a) Audio teleconferencing
(b) Video teleconferencing
(c) T.V teleconferencing
(d) Computer teleconferencing

32. Which one is accountable in cooparative learning
(a) Individual (b) Group
(c) Both a & b (d) None of a & b

33. Cooperative learning is an alternative to
(a) Competitive models
(b) Teaching models
(c) Lesson plans
(d) Micro teaching

34. The number of students in cooperative learning groups are
(a) 3 · 4 (b) 5 · 6
(c) 8 · 10 (d) 10 · 15

35. The essential characteristic of cooperative learning is
(a) Effective learning
(b) Positive interdependence
(c) Cooperation
(d) Division of labour

36. The students like to spend the most of the time with
(a) Teachers (b) Parents
(c) Relatives (d) Peers

37. Peer culture constitutes
(a) Socialization (b) Individualization
(c) Both a & b (d) None of a & b

38. Which is not the advantage of team teaching
(a) Better utilization of resources
(b) Better planning
(c) Better use of teaching techniques
(d) Better financial benefits of teachers

39. The hypothesis underlying team teaching is
(a) Teachers feel bore while working alone
(b) Teacher are not competent
(c) The best teachers in schools are shared by more students
(d) The single teacher cannot control the class

40. CAI stands for
(a) Computer analyzed instruction
(b) Computer assisted instruction
(c) Computer assisted interview
(d) Computer analyzed interview

41. Which is not the mode of CAI
(a) Tutorial mode (b) Drill mode
(c) Simulation mode (d) Question mode

42. Example of psychomotor domain is that student:
(a) Demonstrates awareness to environmental pollution
(b) Performs an experiment
(c) Can compare results of two experiments
(d) Can narrate a story

43. Ability to develop a life style based upon the preferred value system is:
(a) Responding (b) Valuing
(c) Organizing (d) Characterizing

44. Example of cognitive domain is:
(a) Describe a topic
(b) Develop an X-ray film
(c) Type a letter
(d) Take responsibility for tools

45. At the highest level of hierarchy is:
(a) Understanding (b) Application
(c) Evaluation (d) Analysis

46. Student can design a laboratory according to certain specification in which category of objective?
(a) Analysis (b) Synthesis
(c) Evaluation (d) Knowledge

47. The number of domains in taxonomies of educational objectives is:
(a) Two (b) Three
(c) Five (d) Six

48. The highest level of cognitive domain is:
(a) Synthesis
(b) Analysis
(c) Comprehension
(d) Evaluation

49. The process of determing the value or worth of anything is:
(a) Test (b) Measurement
(c) Assessment (d) Evaluation

50. Educational objectives have been divided into:

(a) Two domains (b) Three domains
(c) Four domains (d) Five domains

51. Taxonomy of educational objectives was presented in:
(a) 1946 (b) 1956
(c) 1966 (d) 1976

52. The classification of cognitive domain was presented by:
(a) Benjamin S. Bloom
(b) Skinner
(c) Krathwhol
(d) Simpson

53. Cognitive domain have:
(a) Three subgroups
(b) Four subgroups
(c) Five subgroups
(d) Six subgroups

54. The lowest level of learning in cognitive domain is:
(a) Comprehension
(b) Application
(c) Knowledge
(d) Synthesis

55. The highest level of learning in cognitive domain is:
(a) Evaluation (b) Synthesis
(c) Analysis (d) Application

56. The right sequence of subgroups of cognitive domain is:
(a) Knowledge, Comprehension, Application, Synthesis, Analysis, Evaluation
(b) Knowledge, Comprehension, Application, Evaluation, Analysis, Synthesis
(c) Knowledge, Comprehension, Evaluation, Application, Analysis, Synthesis
(d) Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation

57. Knowing / memorizing and recalling is concerned with:
(a) Comprehension
(b) Application
(c) Knowledge
(d) Evaluation

58. To grasp the meaning of the material is:
(a) Comprehension
(b) Application
(c) Knowledge
(d) Synthesis

59. To use previous learned material in new situation is:
(a) Comprehension
(b) Application
(c) Knowledge
(d) Analysis

60. To break down material into component parts to know its organizational structure is:
(a) Comprehension
(b) Application
(c) Analysis
(d) Synthesis

61. To put ideas together to form a new whole is:
(a) Evaluation (b) Synthesis
(c) Analysis (d) Application

62. To know the worth or value of material is:
(a) Analysis (b) Application
(c) Knowledge (d) Evaluation

63. The intellectual skills are reflected by:
(a) Cognitive Domain
(b) Affective Domain
(c) Psychomotor Domain
(d) None of above

64. Attitudes, values and interests are reflected by:
(a) Cognitive Domain
(b) Affective Domain
(c) Psychomotor Domain
(d) None of above

65. Which domain is concerned with physical and motor skills?
(a) Cognitive Domain
(b) Affective Domain
(c) Psychomotor Domain
(d) None of above

66. The focus of cognitive domain is:
(a) Physical and Motor Skills
(b) Intellectual Skills
(c) Attitudes and Interests
(d) None of above

67. The affective domain was classified by:
(a) Benjamin S. Bloom
(b) Simpson
(c) Krathwhol
(d) Bruner

68. Affective domain is divided into:

(a) Four subgroups
(b) Five subgroups
(c) Six subgroups
(d) Seven subgroups

69. The lowest level of learning in affective domain is:
(a) Responding (b) Valuing
(c) Attending (d) Organization

70. Which is placed at the highest level of learning in affective domain:
(a) Attending (b) Responding
(c) Organization (d) Characterization

71. Right order of sub-groups of affective domain is:
(a) Attending, Responding, Valuing, Characterization, Organization
(b) Attending, Responding, Characterization, Valuing, Organization
(c) Attending, Valuing, Responding, Organization, Characterization
(d) Attending, Responding, Valuing, Organization, Characterization

72. Willingness to attend to particular phenomenon is:
(a) Attending / Receiving
(b) Responding
(c) Valuing
(d) Organization

73. Which sub-group of affective domain focuses on active participation in:
(a) Attending / Receiving
(b) Responding
(c) Valuing
(d) Organization

74. Bringing together different values into a consistent value system is:
(a) Attending / Receiving
(b) Responding
(c) Valuing
(d) Organization

75. Affective domain focuses on adoption of a value system as a part of life style in:
(a) Responding
(b) Valuing
(c) Organization
(d) Characterization

76. Psychomotor domain was classified by Simpson in:
(a) 1962 (b) 1972
(c) 1982 (d) 1992

77. Affective domain was divided into subgroups by Krathwhol in:
(a) 1954 (b) 1964
(c) 1974 (d) 1984

78. Psychomotor domain was divided by Simpson in :
(a) Four subgroups
(b) Five subgroups
(c) Six subgroups
(d) Seven subgroups

79. The characteristic of behavioural objective is:
(a) Observable and Immeasurable
(b) Non-observable and measurable
(c) Observable and measurable
(d) None of above

80. The right sequence of sub-groups of psychomotor domain is:
(a) Perception, Set, Guided response, Mechanism, Complex overt response, Adaptation, Origination
(b) Perception, Complex over response, Set, Guided response, Mechanism, Adaptation, Organization
(c) Set, Origination, Guided response, Mechanism Complex overt response, Adaptation, Perception
(d) Guided response, Mechanism, Perception, Set, Adaptation, Organization, Complex overt response

81. Objective related to affective domain is:
(a) Student can paint a picture
(b) Student can draw a graph
(c) Student values honesty
(d) Student can write a letter

82. Bringing together scientific ideas to form a unique idea is:
(a) Application (b) Analysis
(c) Synthesis (d) Evaluation

83. Which is vast in scope:
(a) Teaching Tactic
(b) Teaching Technique
(c) Teaching Strategy
(d) Teaching Method

84. Students find/explore the informations themselves in:
(a) Lecture method
(b) Discovery method
(c) Both
(d) None

85. Teacher performs practically and explains in:
(a) Lecture method
(b) Discovery method
(c) Demonstration method
(d) Problem solving method

86. Role of student is active in:
(a) Discovery method
(b) Problem solving method
(c) Inquiry method
(d) All above

87. Micro teaching is a:
(a) Teaching method
(b) Teacher training technique
(c) Motivational technique
(d) None of above

88. What is the time of presentation in Micro teaching?
(a) 1 – 5 min (b) 5 – 10 min
(c) 10 15 min (d) 15 – 20 min

89. What is the No. of students in micro teaching?
(a) 1 – 15 (b) 5 – 10
(c) 10 – 15 (d) 15 – 20

90. Microteaching started in:
(a) 1950 (b) 1960
(c) 1970 (d) 1980

91. Microteaching focuses on the competency over:
(a) Methods (b) Skills
(c) Contents (d) None of above

92. Which is more suitable in teaching of science?
(a) Lecture method
(b) Demonstration method
(c) Discussion method
(d) Project method

93. Which one is exception?
(a) Books (b) Magazines
(c) Diagrams (d) T.V

94. Which is not included in print media?
(a) Books (b) Magazines
(c) Diagrams (d) T.V

95. How many senses a person uses while observing film?
(a) 1 (b) 2
(c) 3 (d) 4

96. How much knowledge is gained through the sense of seeing?
(a) 75% (b) 13%
(c) 6% (d) 3%

97. How much knowledge is gained through the sense of listening?
(a) 75% (b) 13%
(c) 6% (d) 3%

98. How much knowledge is gained through the sense of touch?
(a) 75% (b) 13%
(c) 6% (d) 3%

99. How much knowledge is gained through the sense of smell?
(a) 75% (b) 13%
(c) 6% (d) 3%

100. How much knowledge is gained through the sense of taste?
(a) 75% (b) 13%
(c) 6% (d) 3%

101. According to W. Therber, types of Models are:
(a) 2 (b) 3
(c) 4 (d) 5

102. Mock up models are those which explain:
(a) Principles or working of machine
(b) Internal structure
(c) External structure
(d) None of above

103. A field trip is arranged for:
(a) Making an excursion
(b) See other people doing things
(c) Note the meaning of action
(d) All of the above

104. Interest can be created in students in specific topics of study by the use of:
(a) Chalk board
(b) Fellalin
(c) Bulletin board
(d) All of the above

105. The most direct experience from the following is that of:
(a) Motion pictures
(b) Visual symbol
(c) Demonstration
(d) Field trip

106. What is true about Science Text Book?
(a) There is no difference between textbook and curriculum
(b) Our teachers take textbook as curriculum
(c) Our teachers do not take textbook as a part curriculum
(d) Textbook does not help in the selection of instructional activities

107. Which one is a standard for demonstration method?
(a) Students should observe the demonstration and teacher should not tell important finding
(b) To keep accuracy of results the teacher should dictate the result
(c) Demonstration should be pre-tested to remove the weakness in demonstration
(d) All of the above

108. Wragg has suggested how many numbers of students in a micro teaching class?
(a) 35 to 40 (b) 25 to 30
(c) 15 to 20 (d) 5 to 10

109. What is the merits of microteaching?
(a) Feedback helps in the improvement of method of teaching
(b) Due to shortage of time you divide the lesson plan into small units and thus gain mastery over the skill
(c) It helps in self evaluation and teacher build up confidence in them
(d) All of the above

110. Method based on the facts that students learn association, activity and cooperation is known as.
(a) Demonstration
(b) Project
(c) Problem-solving
(d) Discussion

111. Exhibition of Science fairs promote students ability of:
(a) Knowledge and comprehension
(b) Comprehension and application
(c) Higher order skills
(d) Lower order skills

112. The ultimate focus of scientific method is on:
(a) Hypothesis formulation
(b) Observations
(c) Experimentation
(d) Formulation of a law/theory

113. What is the first step in the Project method of teaching?
(a) Determination of activities
(b) Determination of objectives
(c) Planning
(d) Distribution of work

114. Which one is NOT the Psychological principle of teaching?
(a) Proceed from concrete to abstract
(b) Proceed from complex to simple
(c) Proceed from known to unknown
(d) Proceed from simple to difficult

115. Which is the SECOND step in the problem solving method?
(a) Testing hypothesis
(b) Recognition and definition of problem
(c) Conclusion
(d) Formulation of hypothesis

116. Which is the best method of teaching Science at school level?
(a) Lecture (b) Analytical
(c) Direct (d) Demonstration

117. Which is not the step of scientific method:
(a) Observation (b) Experiment
(c) Prediction (d) Interview

118. The ultimate result of scientific method is:
(a) Development of knowledge
(b) Development of senses
(c) Both a & b
(d) None of a & b

119. Aims are:
(a) National expectations
(b) Institution expectations
(c) Learning expectations
(d) None of the above

120. Goals are at:
(a) National level
(b) Subject level
(c) Classroom level
(d) All of the above

121. Objectives are at:
(a) National level
(b) Subject level
(c) Classroom level
(d) All of the above

122. To promote science and technology is:
(a) Aim (b) Goal
(c) Objective (d) All of the above

123. To impart computer education is:
(a) Aim (b) Goal
(c) Objective (d) All of the above

124. To identify the parts of the computer is:
(a) Aim (b) Goal
(c) Objective (d) All of the above

125. "State first law of motion" indicates:

(a) Knowledge (b) Comprehension
(c) Application (d) Evaluation

126. "Elaborate with example, the first law of motion" indicates:
(a) Knowledge (b) Comprehension
(c) Application (d) Evaluation

127. Inquiry means:
(a) To investigate (b) To learn
(c) To teach (d) To find

128. Inquiry method includes:
(a) Observation
(b) Experiments
(c) Questioning answering
(d) Showing

129. Which one is the best for large group instruction:
(a) Lecture method
(b) Demonstration method
(c) Project method
(d) Inquiry method

130. Useful for higher classes is:
(a) Lecture method
(b) Demonstration method
(c) Project method
(d) Inquiry method

131. First component of lesson planning is:
(a) Objectives (b) Presentation
(c) Homework (d) Summary

132. The teaching method recommended for elementary school science in Pakistan is:
(a) Lecture method
(b) Project method
(c) Activity method
(d) Laboratory method

133. It is a learning log of student's achievement:
(a) Project (b) Assignment
(c) Port Folio (d) Observation

134. Demonstration means:
(a) To perform (b) To develop
(c) To show (d) To observe

135. Herbert model for lesson planning has steps:
(a) Three (b) Four
(c) Five (d) Six

136. Discovery method is advanced method of:
(a) Heuristic method
(b) Inquiry method
(c) Both a & b
(d) None of a & b

137. The steps to be taken in Problem Solving Method are:
(a) Two (b) Three
(c) Four (d) Five

138. Method based on Dewey's philosophy is:
(a) Lecture method
(b) Demonstration method
(c) Inquiry method
(d) Project method

139. Who says that project is a purposeful activity:
(a) Dewey (b) Stevenson
(c) Ballard (d) Kilpatrick

140. Which is not the step of project method:
(a) Planning (b) Execution
(c) Analysis (d) Evaluation

141. Programmed learning was presented by:
(a) J. S. Bruner (b) Benjamin Bloom
(c) John Dewey (d) B. F. Skinner

142. Portfolio is the collection of:
(a) School record
(b) Teacher work
(c) Student work
(d) Office work

143. In programmed learning, learning takes place under:
(a) Natural conditions
(b) Artificial conditions
(c) Controlled conditions
(d) None of the above

144. Teaching method based upon the assumption of Herbert Spencer that the learner should be told as little as possible is:
(a) Heuristics Method
(b) Demonstration Method
(c) Discussion Method
(d) Lecture Method

145. An overall procedure which is adopted by a teacher to achieve certain goals is:
(a) Method (b) Technique
(c) Strategy (d) Tactic

146. Selection of different media for different students is done in:
(a) Role Playing
(b) Individualized Instruction
(c) Programmed Instruction
(d) Computer Assistant Instruction

147. A repeated performance of learning act until attainment of desired level of skill to do the act correctly is:
(a) Demonstration Method

(b) Problem Solving Method
(c) Project Method
(d) Drill Method

148. A process in which a small group assembles to communicate will each other, using speaking, listening and non-verbal processes in order to achieve instructional objectives is:
(a) Lecture Method
(b) Discussion Method
(c) Question Answer Method
(d) Demonstration Method

149. During discussion method, teacher passes/announces a:
(a) Exercise (b) Activity
(c) Topic (d) Question

150. The surface category in SOLO Taxonomy consists of:
(a) Five Stages (b) Four Stages
(c) Three Stages (d) Two Stages

151. The 'Surface' Category in SOLO Taxonomy consists of:
(a) Prestructural and Unistructural
(b) Unistructural and Multistructural
(c) Multistructural and Relational
(d) Relational and Extended Abstract

152. The 'deep' category in SOLO Taxonomy consists of:
(a) Prestructural and Unistructural
(b) Unistructural and Multistructural
(c) Multistructural and Relational
(d) Relational and Extended Abstract

153. Synthesis requires:
(a) Formulation of new structural material
(b) Understanding the structure of the material
(c) Judge the value of material
(d) Use the material in new situation

154. "The students will be able to translate a paragraph of English into Urdu" This objective fits in the category of cognitive domain:
(a) Knowledge (b) Comprehensive
(c) Application (d) Analysis

155. Microteaching is a technique of teaching:
(a) In classroom
(b) Subject in detail
(c) By more than one teacher
(d) A narrow and specific skill

156. The fixation of correct information through repetition is caused by:
(a) Lecture Method
(b) Demonstration Method
(c) Activity Method
(d) Drill Method

157. The domain which deals with physical abilities and coordination objectives is called:
(a) Affective Domain
(b) Psychomotor Domain
(c) Cognitive Domain
(d) Solo Taxonomy

158. Lecture method is generally described as:
(a) Teacher Centered
(b) Child Centered
(c) Activity Centered
(d) None of the above

159. The name of Heuristic method is derived from the Greek word:
(a) Hervules (b) Hero
(c) Heurises (d) None of the above

160. "Teaching is a form of interpersonal influence aimed at the changing the behaviour potential of another is the view presented by:
(a) N.L. Gage
(b) Ned.A.Flanders
(c) M.C. Morrison
(d) Stones

161. Solo Taxonomy provides systematic way of describing the learner's:
(a) Ability (b) Understanding
(c) Performance (d) Skill

162. Lesson plan makes the work:
(a) Regular (b) Systematic
(c) organized (d) a, b, c

163. Simulation is an elaborate type of:
(a) Role play (b) Gaming
(c) Socio drama (d) All

164. Basic feature in lesson planning is:
(a) Content (b) Method
(c) Objectives (d) Evaluation

165. The method based on the psychological principle of "Trial and Error" is:
(a) Heuristic method
(b) Problem solving method
(c) Project method
(d) Activity method

166. A student performs a skill independently at the level of psychomotor domain is:
(a) Imitation (b) Manipulation
(c) Precision (d) Articulation

KEY MCQ's

1. (d) 2. (a) 3. (d) 4. (b) 5. (c) 6. (c)
7. (a) 8. (b) 9. (c) 10. (d) 11. (d) 12. (c)
13. (b) 14. (a) 15. (d) 16. (c) 17. (d) 18. (a)
19. (c) 20. (d) 21. (d) 22. (d) 23. (d) 24. (c)
25. (a) 26. (c) 27. (c) 28. (d) 29. (a) 30. (b)
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37. (a) 38. (d) 39. (c) 40. (b) 41. (d) 42. (b)
43. (d) 44. (a) 45. (c) 46. (b) 47. (b) 48. (d)
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142. (c) 143. (c) 144. (a) 145. (c) 146. (b)
147. (d) 148. (b) 149. (c) 150. (d) 151. (b)
152. (d) 153. (a) 154. (b) 155. (d) 156. (d)
157. (b) 158. (a) 159. (c) 160. (a) 161. (c)
162. (d) 163. (d) 164. (c) 165. (a) 166. (d)

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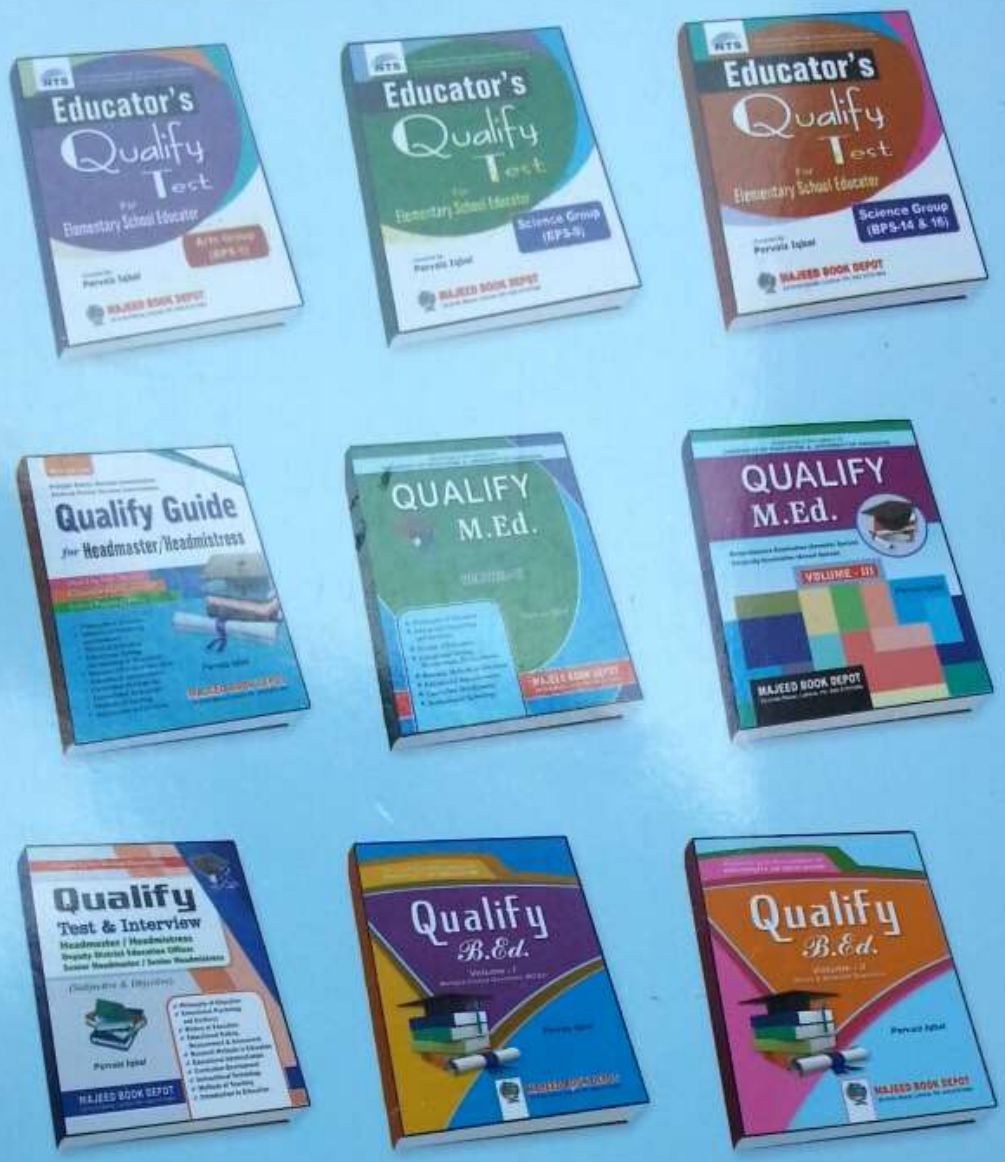
BY THE SAME AUTHOR



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