Max Marks :50

Instruction: Answer all the questions. Each question carries one mark

1. If $\cos(z) = 2$, the principal value of z is equal to

   A. $i\{\text{Ln}(1+\sqrt{2})\}$ B. $i\{\text{Ln}(2+\sqrt{3})\}$

   C. $i\{\text{Ln}(3+\sqrt{5})\}$ D. $i\{\text{Ln}(S+\sqrt{7})\}$

2. Along imaginary axis, the given integral $\int_0^i dz$ is equal to

   A. i–1 B. –1

   C. –i D. i

3. In a p dimensional linear vector space, a set of q vectors (q < p) is

   A. Necessarily linearly dependent

   B. Necessarily linearly independent

   C. Orthonormal

   D. Can be linearly dependent or independent

4. The independent solutions of the equation $\frac{d^2y}{dx^2} + \frac{dy}{dx} - 2y = 0$ are

   A. 1/x and x^2 B. $1/x^2$ and x

   C. exp(-2x) and exp(x) D. exp(2x) and exp(-x)

5. The value of integral $\oint_c \frac{z}{(9-Z^2)(Z+i)}\,dz$, where C is the circle $|Z| = 2$ described in the positive sense, is

A. $\pi/2$ B. $\pi/3$

C. $\pi/4$ D. $\pi/5$

6. A bra and ket vectors are said to be orthogonal if

A. their scalar product is zero

B. their vector product is zero

C. sum of their traces is zero

D. none of the above

7. In an abrupt PN junction in a semiconductor, the electric field inside the space-charge region

A. Varies linearly with distance

B. Is constant

C. Is proportional to square root of the distance from junction

D. Is proportional to square of the distance from junction

8. If the ratio of the concentration of electrons to that of holes in a semiconductor is 7/5 and the ratio of current is 7/4, then what is the ratio of their drift velocities

A. 4/7 B. 5/8

C. 4/5 D. 5/4

9. A pnp transistor circuit has $\alpha = 0.985$. If $I_c = 2$ mA, then the value of I_b is

A. 0.03 mA

B. 0.003 mA

C. 0.66 mA

D. 0.015 mA

10. A common base amplifier uses pnp transistor. When the transistor is biased in the active region, which one of the following statement is correct

A. Emitter and collector are both reverse biased

B. Emitter and collector are both forward biased

C. Emitter is forward biased and collector is reverse biased

D. Emitter is reverse biased and collector is forward biased

11. In CE mode, the input characteristics of a BJT is the variation of

A. I_B versus V_{BE} at constant V_{CE}

B. I_C versus V_{CE} at constant V_{BE}

C. I_C versus V_{CE} at constant I_B

D. I_B versus V_{CE} at constant V_{BE}

12. In an npn transistor, the leakage current consists of

A. Electrons moving from the base to the emitter

B. Electrons moving from collector to the base

C. Electrons moving from collector to emitter

D. Electrons moving from base to collector

$p^+ = i\hbar \frac{\partial}{\partial x}$

13. Which of the following is not a Hermitian operator in quantum mechanics

A. Position operator
B. Momentum operator
C. Angular momentum operator
D. Creation operator

14. Value of $\Delta x \Delta px$ for a coherent state is

A. h/2
B. less than h/2
C. more than h/2
D. zero

15. The wavefunction of a particle is given by $\psi = C\exp(-\alpha|x|), -\infty < x < \infty, C$ and α are positive constants. The probability of finding the particle inthe positive x region is

$C^2 \int_{-\infty}^{\infty} e^{\exp(-2\alpha|x|)}$

$c^2(-\alpha)$

A. 1
B. 1/3
C. 1/2
D. ¼

16. Number of radial nodes in the wave function $\psi_{n|m}$ for hydrogen atom is

A. n
B. n + l
C. n – l – 1
D. n – l + 1

17. If the potential is symmetric, then wave function of a particle will be

A. only symmetric
B. only antisymmetric
C. either symmetric or antisymmetric
D. neither symmetric nor antisymmetric

18. Commutator of two non-commuting Hermitian operators is

A. Hermitian

B. anti-Hermitian

C. either Hermitian or anti-Hermitian

D. neither Hermitian nor anti-Hermitian

19. The possible values of the total angular momentum J resulting from the addition of two angular momenta $J_1 = 3$ and $J_2 = 4$ are

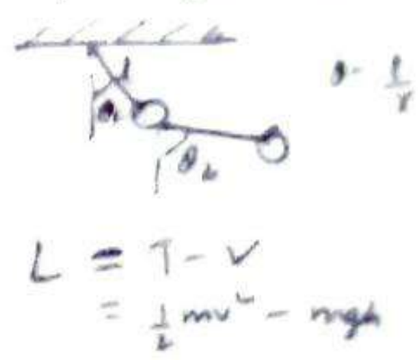
A. 2,3,4,5,6

B. 1,2,3,4,5,6,7

C. 1,2,3

D. 1,2,3,4

20. A spherical pendulum is hanging from another spherical pendulum by a rigid rod. The number of degrees of freedom for the system is



A. 1

B. 2

C. 3

D. 4

21. The generalized coordinate q_k of a classical system with Lagrangian L is said to be ignorable if

A. $\frac{\partial L}{\partial q_k} = 0$

B. $\frac{\partial L}{\partial q_k} = \dot{q}_k$

C. $\frac{\partial L}{\partial \dot{q}_k} = 0$

D. $\frac{\partial L}{\partial q_k} = \frac{d}{dt}\left(\frac{\partial L}{\partial \dot{q}_k}\right)$

22. Symmetry of Lagrangian under a gauge transformation leads to the law of conservation of

A. Linear momentum
B. Energy
C. Angular momentum
D. Charge

23. The path followed by a particle in sliding from one point to another in the absence of friction in the shortest time is a

A. circular
B. sigmoid
C. cycloid
D. catenary of revolution

24. A sphere rolling down from the top of a fixed sphere is an example of

A. scleronomic ,non-holonomic and conservative system
B. only conservative system
C. only scleronomic system
D. only non-holonomic system

25. The packing fraction of a body centered cubic lattice is

SC - 52
Bcc
Fcc

A. 0.52
B. 0.68
C. 0.74
D. 0.82

26. Reciprocal lattice of simple cubic lattice is

A. Face centered cubic
B. Body centered cubic
C. Simple cubic
D. Hexagonal

27. Number of Bravais lattices in a two dimensional material is

A. 5 B. 7

C. 9 D. 11

28. If (3,2,6) are the Miller indices of a plane in a simple cubic system, intercept made by the plane on the three crystallographic axes are in the ratio

A. 2 :3 : 1 B. 1: 1:1

C. 1:2 : 3 D. 3 : 2 : 6

29. The Van der Waal's interaction potential between inert gas atoms varies with their separation R as

A. $1/R^2$ B. $1/R$

C. $1/R^6$ D. $1/R^3$

30. The probability that a state which is 0.2 eV above the Fermi energy in a metal atom at 700K is occupied is

A. 96.2 % B. 62.3 %

C. 3.5 % D. 37.7 %

31. The specific heat of an ideal Fermi gas in three dimensions at very low temperature T varies as

A. T B. T^2

C. T^3 D. T^4

32. In a grand canonical ensemble

A. Energy is constant

B. Temperature is constant

C. Number of particles is constant

D. Energy and number of particles are constant

33. Which of the following statements is correct ?

A. Fermions are distinguishable whereas Bosons are not

B. Bosons are distinguishable whereas Fermions are not

C. both Fermions and Bosons are distinguishable

D. both Fermions and Bosons are indistinguishable

34. The wave functions of two identical particles in states 1 and 2 are given by $\phi_1(r_1)$ and $\phi_2(r_2)$ obeying Maxwell Boltzmann statistics. Wave function of the combined system is given by

A. $\phi_1(r_1) + \phi_2(r_2)$

B. $1/\sqrt{2}[\phi_1(r_1) + \phi_2(r_2)]$

C. $1/\sqrt{2}[\phi_1(r_1) - \phi_2(r_2)]$

D. $\phi_1(r_1)\phi_2(r_2)$

35. A system of non-interacting Fermi particles with Fermi energy E_F has the density of states proportional to $E^{1/2}$, where E is the energy of the particle. Average energy per particle at absolute zero temperature T is

A. $E_F/6$

B. $E_F/5$

C. $2E_F/5$

D. $3E_F/5$

36. The average value of V_x, in Maxwellian distribution is given by

A. 0

B. kT/m

C. $\sqrt{(kT/m)}$

D. $\sqrt{(2kT/m)}$

37. The average number of photons in equilibrium at temperature T inside a cavity is proportional to

A. T

B. T^2

C. T^3

D. T^4

38. Energy required to excite a hydrogen atom from n=2 state to n=4 state is

A. 1.36 eV

B. 2.55 eV

C. 3.40 eV

D. 6.80 eV

39. Spin quantization is directly established by

A. Stern-Gerlach experiment

B. Franck-Hertz experiment

C. Photo-electric effect

D. Devisson-Germer experiment

40. L-S coupling occurs often in

A. all atoms

B. lighter atoms

C. heavier atoms

D. None of these

41. Which transition is not possible

A. $^2f_{5/2} \rightarrow {}^2d_{5/2}$

B. $^2d_{3/2} \rightarrow {}^2p_{1/2}$

C. $^2d_{3/2} \rightarrow {}^2S_{1/2}$

D. $^2p_{1/2} \rightarrow {}^2S_{1/2}$

42. Deuteron in its ground state has a total angular momentum J = 1and a positive parity. The corresponding orbital angular momentum L and spin angular momentum S combinations are

A. L = 0, S = 1and L = 2, S = 0

B. L = 0, S = 1and L = 1,S = 1

C. L = 0, S = 1and L = 2, S = 1

D. L = 1, S = 1and L = 2, S = 1

43. For an atom in the state $^3D_3$, the Lande g factor is

A. 2/3

B. 3/2

C. 3/4

D. 4/3

44. The splitting of a spectral line in the presence of a magnetic field is called

A. Stark effect

B. Zeeman effect

C. Franck Condon effect

D. Raman effect

45. Pure rotational spectrum of a diatomic molecule consists of

A. two equally spaced lines
B. three equally spaced lines
C. many equally spaced lines
D. no regular pattern

46. The ratio of the sizes of $^{208}Pb_{82}$ and $^{26}Mg_{12}$ nuclei is approximately

$R = R_0 A^{1/3}$

$\frac{R_{Pb}}{R_{Mg}} = \frac{(208)^{1/3}}{(26)^{1/3}}$

$= \left(\frac{104}{13}\right)^{1/3} =$

A. 2
B. 4
C. 8
D. 16

47. Half life of a free stationary neutron in space is approximately

$\frac{2^{13}}{(10^4}$ 135^{104}

A. 10° sec
B. 10^{1} sec
C. 10^{4} sec
D. 10^{3} sec

48. Which isotope has highest binding energy per nucleon

$B.E = (M_{pZ} + M_N N - M_{nuc})c$

$=$

A. ^{60}Co
B. ^{56}Fe
C. ^{58}Fe
D. ^{235}U

49. The quadrupole moment of a nucleus is a

A. Tensor of rank 2 or higher
B. scalar
C. vector
D. none of these

50. Which particle has zero baryon number

A. pion

B. neutron

C. proton

D. Δ

The teacher has been glorified by the phrase 'Friend, Philosopher and Guide' because

A. He has to play all the vital roles in the context of society

B. He transfuses the high values of the humanity into young ones sitting in the class-room

C. He is the great reformer and patriotic saviour of a nation

D. All of the above

. Which one is the highest order of learning ?

A. Chain learning B. Problem - solving learning

C. Stimulus - response learning D. Conditioned - reflex learning

3. Effective teaching is function of

A. Teacher's satisfaction

B. Teacher's honesty and commitment

C. Teacher's making students learn and understand

D. Teacher's liking for professional excellence

4. The most appropriate meaning of learning is

A. Acquisition of skills B. Personal adjustment

C. Modification of behavior D. Inculcation of knowledge

5. Which of the following sampling methods is based on probability?

A. Stratified sampling
B. Convenience sampling
C. Quota sampling
D. Judgment sampling

6. The type of communication that the teacher has in the classroom, is termed as

A. Interpersonal
B. Mass communication
C. Group communication
D. Face-to-face communication

7. For an efficient and durable learning, learner should have

A. Ability to learn only
B. Requisite level of motivation only
C. Opportunities to learn only
D. Desired level of ability and motivation

8. Classroom communication of a teacher rests on the Principles of

A. Infotainment
B. Edutainment
C. Entertainment
D. Power Equation

9. Teacher's role at higher education level is to

A. Provide information to students
B. Promote self learning in students
C. Encourage healthy competition among students
D. Help students to solve their problems

10. Select the alternative which consists of positive factors contributing to effectiveness of teaching.

List of factors :

1: Teacher's knowledge of the subject.

2 : Teacher's socio - economic background.

3 : Communication skill of the teacher.

4 : Teacher's ability of pleasing the students.

5 : Teacher's personal contact with students.

6 : Teacher's competence in managing and monitoring the classroom transactions .

A. 2, 3 and 4 B. 3, 4 and 6

C. 2. 4 and 5 D. 1, 3, and 6

11. The meaning of ExPost Facto Research is :

A. The Research carried out after the incident

B. The Research carried out prior to the incident

C. The Research carried out along with the happening of an incident

D. The Research carried out keening in mind the possibilities of an incident

12. Which of the following is a non - probability sampling method?

A. Simple random sampling B. Systematic sampling

C. Cluster sampling D. Quota sampling

13. For the population with finite size, which of the following sampling method is generally preferred?

A. Cluster sampling
B. Area sampling
C. Systematic sampling
D. Preposive sampling

14. Which of the following is paramount requirement of a Researcher?

A. Scientific thinking
B. Scientific feeling
C. Scientific behavior
D. Scientific attitude

15. The purpose of value education is best served by focusing on :

A. cultural practices prevailing in the society
B. norms of conduct laid down by a social group
C. concern for human values
D. religious and moral practices

16. The main purpose of research in education is to:

A. Help in individual's personal growth
B. Increase the social prestige of an individual
C. Increase individual's market value of jobs
D. Help the individual to become an eminent educationist

17. A hypothesis is a :

A. Tentative statement whose validity is still to be tested

B. Statement of fact

C. Supposition which is based on the past experiences

D. All of the above

18. In which of the following cases, the formation of hypothesis may not be necessary

A. Investigative historical studies B. Experimental studies

C. Normative studies D. Survey studies

19. In order to study the relationship of family size to income a researcher classifies his population into different income slabs and then takes a random sample from each slab. Which technique of sampling does he adopt?

A. Cluster sampling B. Random sampling

C. Stratified random sampling D. Systematic sampling

20. Which of the following process is not needed in experimental research

A. Observation B. Reference collection

C. Controlling D. Manipulation

21. Which of the following is the goal of evaluation research

A. Situation-based decision making

B. People-based decision making

C. Data-based decision making

D. Trend-based decision making

22. The frequency distribution of a research data which is symmetrical in shape similar to normal distribution but centre peak is much higher is

A. Skewed

B. Mesokurtic

C. Leptokurtic

D. Platykurtic

23. The most important thing in the behavior of the teacher is

A. Dominance

B. Discipline

C. Sympathy

D. Patience

24. Classroom communication is normally considered as

A. Effective

B. Cognitive

C. Affective

D. Selective

25. Positive classroom communication is :

A. Coercion

B. Submission

C. Confrontation

D. Persuasion

26. The word 'Research' means

A. To know
B. To get
C. To move
D To innovate

27. Atmosphere for learning should be

A. Quiet
B. Noisy
C. Adverse
D. Social

28. Feeling of cooperation can be developed in the students through

A. Lecture on cooperation
B. Group work
C. Showing pictures on cooperation
D. Constructive work

29. What are the barriers to effective communication?

A. Moralising, being judgmental and comments of consolation
B. Dialogue, Summary, and self -review
C. Use of simple words, cool reaction, and defensive attitude
D. Personal Statements, eve contact, and simple narration

30. PIB stands for :

A. Personal Information Bureau
B. Press Institute of Bombay
C. Press Information Bureau
D. Public Information Bureau

31. The ability to communicate effectively

A. depends on the education level of those around you

B. can be learned

C. depends on not using technology to send messages

D. is a natural talent that cannot be learned

32. In communication, the language is :

A. The verbal code

B. Intrapersonal

C. The symbolic code

D. The non-verbal code

33. The classroom communication should essentially be

A. Empathetic

B. Abstract

C. Non-descriptive

D. Contrived

It is firm resolve that we should strive together to built a new world- a world where there are no differences of rich and poor, colour and castes, where humanity will be sole test of brotherhood, where every religion will be respected, where the wealth of the nations would be employed for the developmental works and for the improvement of education, health and nutrition of the children, instead of building up atomic piles for waging wars, where nations would have friendly relations with one another even though they might have subscribed to different ideologies, where the structure of divine power in everyman would be converted into the refulgent light of spiritualism. The road is difficult now like the razor's edge, but if you want to preserve the human race, we will

perforce have to walk on this path - with courage, with patience and with self confidence.

Direction: Read the above paragraph carefully to answer the Question Numbers 34 - 38.

34. What is 'our firm resolve'?

A. To work together

B. To make a collective effort to build a new world

C. To build a new world

D. None of the above

35. 'Humanity will be sole test of brotherhood' means

A. human beings will judge brotherhood

B. human feeling will develop brotherhood

C. humanitarian considerations will be the only test of brotherly feeling

D. none of the above

36. The writer wants to say that nations should

A. not spend on education

B. not manufacture atom bombs

C. not wage wars

D. none of these

37. In the new society, everyone will have

A. divine power
B. ideologies
C. light of spiritualism
D. none of these

38. 'Road' in the last sentence refers to :

A. build new worlds
B. achieving spiritualism
C. getting divine power
D. none of these

39. Select ODD ONE OUT from the following pairs:

A. May : January
B. September : November
C. October : April
D. January : December

40. In the following series 50 is wrongly placed. Which number will come at the place of 50?

5,16,50, 158,481,_____

A. 51
B. 53
C. 48
D. 49

41. Jamia central library has 510 visitors on Sundays and 240 visitors on other days. Then the average number of visitors per day in a 30 days month beginning with a Sunday is:

A. 285
B. 276
C. 250
D. 280

42. 6 :43 ::5 :? , then what number can be put at the place of '?'.

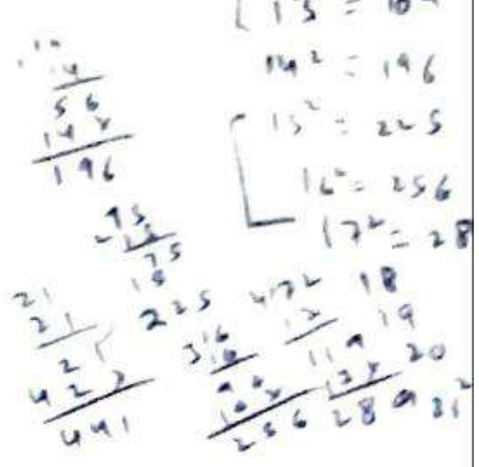
A. 63 B. 52

C. 26 D. 31

43. Next term in the following series is : 122, 197, 290, ...,

A. 399 B. 400

C. 401 D. 402



44. In the following series, how many '8' are there which are not preceded by '7' and followed by '9': 7, 8, 9, 9, 8, 5.4, 3, 8, 9, 5.8, 9, 8, 7, 7, 8, 9

A. One B. Two

C. Three D. Four

45. Looking at a portrait of a man, Sanjay said, "His mother is the wife of my father's son. Brothers and sisters I have none". At whose portrait was Sanjay looking

A. His son B. His nephew

C. His cousin D. His uncle

46. In a certain code LATE is written as PEXI then code for TRACE is:

A. XUEGH B. XVFGI

C. XVEGI D. XVELI

47. A can do a work in 6 days. B can do the same work in 8 days and C can do it in 12 days. They start working together. A left after 2 days and B left after working for 3 days. How many more days are required to complete the work?

A. 2 days
B. ½ day
C. 1 day
D. 3 days

48. How many times are the hands of a clock at right angles in a day?

A. 24
B. 48
C. 22
D. 44

49. 'A' went 15 km to the west from his house, then turned left and walked 20 km he again turned east and walked 25 km and finally turned left and covered 20 km, how far is he now from his house

A. 15 km
B. 20 km
C. 25 km
D. 10 km

50. Find the missing terms in the series:

2, 15, 4, 1 2, 6, 7, ...? ....?.

A. 8, 8
B. 8, 0
C. 3, 8
D. none

51. Find the next term in the series BMO, EOQ, HQS,... ?...

A. KSU
B. LMN
C. SOV
D. SOW

52. Which term comes next in the sequence: AC, FH, KM, PR, , ... ?...

A. UW
B. VW
C. UX
D. TV

53. Haemoglobin : Iron ::Chlorophyll :

A. Copper
B. Magnesium
C. Cobalt
D. Calcium

54. Jama Masid : Delhi :: Red Square :

A. Hyderabad
B. Moscow
C. New York
D. Lahore

55. If SPIDER is written as PSDIRE in a certain code, how would COMMON be written in that code?

A. OCOMMO
B. OCMMNO
C. OCMOMN
D. OCMMON

56. In a certain code, RAI L is written as KCTN and SPEAK is written as CGRUM. How will AVOID be written in that code?

A. FKQXC
B. KQXCF
C. KRXCF
D. KQVCB

57. If REQUEST is written as S2RS2TU, then how will ACID be written?

A. 1394 B. IC94

C. BDJE D. 1D3E

58. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D?

A. Grandmother B. Grandfather

C. Daughter D. Grand daughter

59. A, B and C are sisters. D is the brother of E and E is the daughter of B. How is A related to D?

A. Sister B. Cousin

C. Niece D. Aunt

60. Statements: Some cars are windows.

Some windows are trees.

Some trees are mountains.

Conclusions:

I. Some mountains are cars.

II. Some trees are cars.

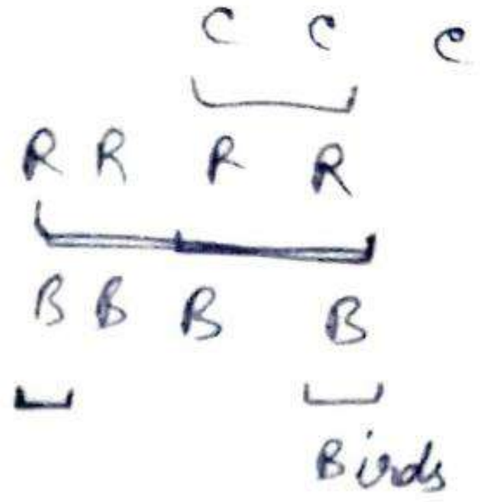
III. Some mountains are windows.

A. Only I follows B. Only I and II follow

C. Only II and III follow D. Only I and III follow

61. Statements: Some cats are rats.

All rats are bats. Some bats are birds.



Conclusions:

I. Some birds are cats.

II. Some bats are cats.

III. Some birds are rats.

IV. No bird is a rat

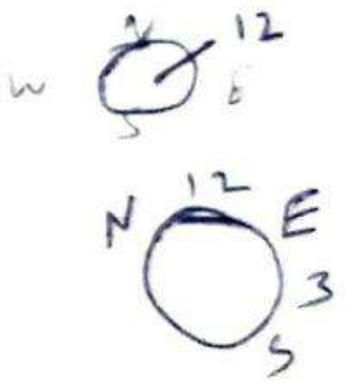
A. Only III follows

B. Either I or IV and III follows

C. Either I or IV and II follows

D. None of these

62. It is 3 o'clock in a watch. If the minute hand points towards the North-east, then the hour hand will point towards the



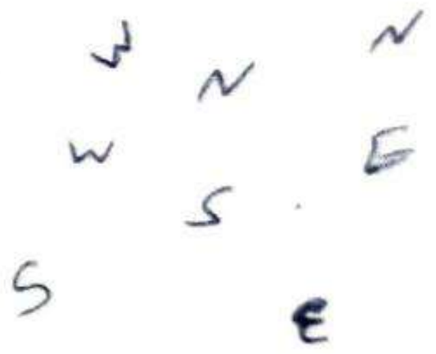
A. South

B. South-west

C. North-west

D. South-east

63. If South-east is called East, North-west is called West, South-west is called South and so on, what will North be called



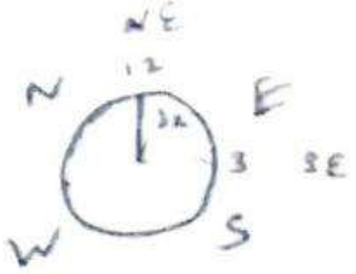
A. East

B. North-east

C. North-west

D. South

64. A clock is so placed that at 12 noon its minute hand point towards north-east. In which direction does its hour hand point at 1.30 p.m.?



A. North

B. South

C. East

D. West

65. Which one of these is not a way of measuring central tendency?

A. Measuring the middle value or midpoint after data has been ranked

B. Measuring the value often known as the average, that includes all data values

C. Regression analysis

D. Measuring the value that occurs most frequently

66. Standard deviation is :

A. Way of measuring the most frequently occurring values

B. Way of measuring the average of values

C. Way of measuring the extend of spread of quantifiable data

D. Way of measuring the middle values of quantifiable data

67. What sort of data is income?

A. Interval

B. Ratio

C. Nominal

D. Ordinal

68. What sort of data is Pin code ?

A. Interval

B. Ratio

C. Nominal

D. ordinal

Year	Population (million)	Electrical Power Production (GW)*
1951	20	10
1961	21	20
1971	24	25
1981	27	40
1991	30	50
2001	32	80
2011	35	100

* 1GW = 1000 Million Watt

Based on the above table answer Questions 69-74.

69. In which decade, the average power availability per person was maximum?

A. 1971-1981 B. 1981-1991

C. 1991-2001 D. 2001-2011

70. By what percentage the power production increased from 1951-2011?

A. 900% B. 100%

C. 300% D. 600%

71. Based on the average decadal growth rate, what will be the population in the year 2021?

A. 36.62 million B. 40.34 million

C. 38.49 million D. 37.28 million

72. Average decadal growth rate (%) of the population is

A. -5%
B. - 12.21%
C. - 9.82%
D. -6.73%

73. In the year 1951, what was the power availability per person?

A. 500 W
B. 100 W
C. 200 W
D. 400 W

74. Which decade registered from the maximum growth rate (%) of population?

A. 2001-2011
B. 1961-1971
C. 1971-1981
D. 1991-2001

75. Mach List- I and List - II and select correct group of matching.

List - I		List - II	
P.	RAM	1.	Hertz
Q.	CPU Speed	2.	MB
R.	Monitor	3.	Bytes/Sec
S.	CD-ROM Speed	4.	Inch

A. (P, 2), (Q, 1), (R, 4), (S, 3)
B. (P, 1), (Q, 2), (R, 3), (S, 4)
C. (P, 3), (Q, 4), (R, 1), (S, 2)
D. (P, 4), (Q, 3), (R, 1), (S, 2)

76. Bitcoin uses which network technology for transaction and mining.

A. Peer to Peer Network
B. Distributed Network
C. Wide Area Network
D. Intranet Network

77. The standard protocol of the internet is:

A. TCP/IP
B. Java
C. HTML
D. SMPL

78. Which of the following domain name extension is used for gateways and administrative hosts

A. .gov
B. .mil
C. .net
D. .org

79. Internet Protocol version 4 (IPv4) defines an IP address as a _____ number

A. 4-bit
B. 8-bit
C. 16-bit
D. 32-bit

80. ASCII stands for

A. American Standard Code for International Interchange
8. American Scientific Code for Information Interchange
c. American Standard Code for Intelligence Interchange
D. American Standard Code for Information Interchange

81. Firmware is stored in

A. RAM
B. Cache
C. ROM
D. Hard disk

82. What does XP stands for in the operating system 'Windows XP'?

A. Extra Power
B. Extended Product
C. Extra Performance
D. Experience

83. Full form of TIFF is :

A. Tagged Image File Format
B. Text Image File Format
C. Transfer Image File Format
D. Text Image Fax Format

84. Which of the following group of statements are correct:

P. Mouse, Keyboard and Plotter are all input devices.

Q. Unix, Windows and Linux are all operating systems.

R. Register, Cache and Hard-disk are all memory modules.

S. Monitor, Printer and Scanner are all output devices.

A. P,Q
B. P,S
C. R,S
D. Q,R

85. Which one is the founder or inventor of BITCOIN, the famous cryptocurrency?

A. Satoshi Nakamoto
B. Peter Thiel
C. Warren Buffet
D. Bitcoin.org

86. Which of the following group consists of volatile memory:

A. RAM and Floppy Disk
B. Hard disk and ROM
C. RAM and Cache
D. Cache and ROM

87. When a computer is switched on, the BIOS is loaded from:

A. Hard Disk
B. RAM
C. ROM
D. CD-ROM

88. Which of the following is not a search engine:

A. Zing
B. Google
C. Yahoo
D. Bing

89. One billion bytes is approximately equal to :

A. Kilobyte
B. Terabyte
C. Gigabyte
D. Megabyte

90. Deforestation has an alarming effect on

A. Increase in grazing area
B. Sunlight
C. Weed control
D. Soil erosion

91. The smog in cities in India mainly consists of

A. oxides of nitrogen and unburnt hydrocarbons
B. oxides of sulphur
C. carbon monoxide and SPM
D. oxides of sulphur and ozone

92. Noise pollution is created if noise is in excess to :

A. 80 db
B. 70 db
C. 90 db
D. 60 db

93. Who among the following is known as "father of ecology in India"?

A. P. Maheshwari
B. S. K. Kashvao
C. B.P. Pal
D. Ramdeo Misra

94. The country which hosted the first world Earth Summit on conservation of environment is :

A. USA
B. India
C. Brazil
D. UK

95. Tai Mahal is threatened especially due to the effect of :

A. $S0_2$
B. Chlorine
C. CO_2
D. NO_2

96. The man conversing on the surface of the moon :

A. can hear the sound but its intensity will be very low
B. cannot hear the sound of each other
C. find the sound of their voices magnified
D. hear the sound of each other in less time in comparison to earth

97. National Science day is celebrated on the birthday of which of the following?

A. J. C. Bose
B. Home J. Bhabha
C. C. V. Raman
D. Meghnad Saha

98. When milk is converted into curd, the sour taste is due to

A. Acetic acid
B. Citric acid
C. Lactic acid
D. Tartaric acid

99. Gun-powder is a mixture of :

A. Nitrates of potassium and sodium
B. Sulphates of potassium and mangnesium
C. Charcoal , sulphur and potassium nitrate
D. Potassium sulphate and charcoal

100. Pedology is the study of :

A. Soil
B. Locomotion of animals
C. Rocks
D. Crop disease