PART - A (PHYSICS)

Total Question (40)

1. Which of the following produces virtual image :
(1) Simple microscope (2) Ordinary camera (3) Projector (4) Cinemascope

2. What is the distance of centre of mass of a half ring from centre if the ring has radius = 0.5 m. **[XI]**
(1) $\frac{1}{\pi}$ (2) $\frac{1}{3\pi}$ (3) $\frac{2}{3\pi}$ (4) $\frac{1}{2\pi}$

3. A cart of mass 150 kg is pulled horizontally on a frictionless surface with force 10 N. If 100 g/s sand is being dropped in the cart vertically then find the speed of the system when cart has 100 kg sand in it.
(1) 10 m/s (2) 20 m/s (3) 40 m/s (4) 50 m/s

4. A needle of length ℓ m and mass m kg is placed horizontally on water surface having surface tension T. Find T in terms of m, ℓ. (g acceleration due to gravity)
(1) (2) $T = \frac{mg}{\ell}$ (3) $T = \frac{3mg}{2\ell}$ (4) $T = \frac{m}{2\ell}$

5. An infinite wire having charge density λ = 10 nC/m is moving along its axis with speed 100 m/s. Find magnetic field at a distance 4 cm perpendicular to wire.

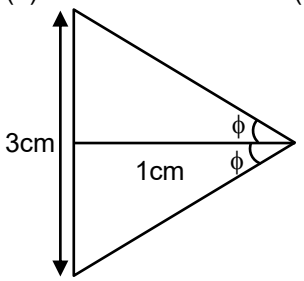
6. In a series RC circuit having battery of 12 V, capacitor is charged from 0 to 6 V in 0.1 s. Find value of resistance R.

7. A unpolarised light is passed through 3 polarisers. If the second polariser is at an angle 30º with the first and the third polariser is at an angle 60º with the second. Find the final intensity of the light passed through this combination if initial intensity was I.

8. If intensity in YDSE is 50% of maximum at a point. Calculate the path difference.

9. A wire of length 3 cm has current 1 amp. Find magnetic field at a perpendicular distance 1 cm from centre of wire.

(1) (2) (3) (4)



10. What is the maximum wavelength for Balmer series in H atom.

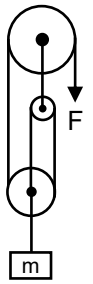
11. What is the velocity of electron in second orbital of He^{+} ion.

2

12. A man (mass = 50 kg) is in an elevator with is moving with acceleration 0.49 m/s^2 upwards. Find normal reaction exerted by man on floor of the elevator.

(1) 214.5 N (2) 314.5 N (3) 414.5 N (4) 514.5 N

13. If the block moves up with constant velocity v m/s. Find F.

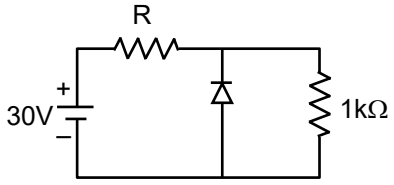


(1) $F = \frac{mg}{2}$ (2) $F = \frac{2mg}{3}$ (3) (4) $F = \frac{m}{3}$

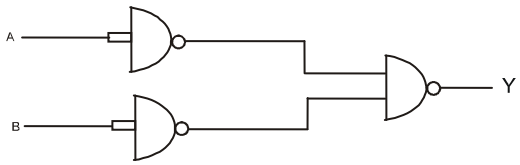
14. A solid non-conducting cylinder of radius R is charge such that volume charge density is proportional to r where r is distance from axis. The electric field E at a distance r (r < R) will depend on r as.

15. If an inductor of inductance L, radius r, current changes from I_1 to I_2. Find work done.

16. If current in diode is five times that in R_1. Breakdown voltage of diode is 6 volt.
Find R = ?

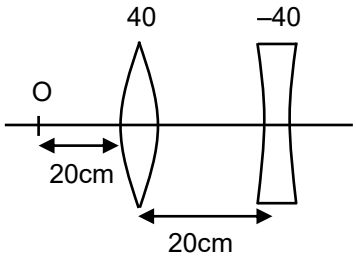


17. What is the out put of the given logic gate



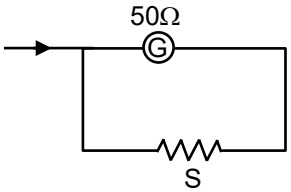
(1) A .B (2) $\bar{A}.\bar{B}$ (3) $\bar{A}+\bar{B}$ (4) A + B

18. Find the distance of image from convex lens.



(1) 24 cm (2) 20 cm (3) 4 cm (4) None of these

19. Range of the ammeter is 5 ampere and full scale deflection current is 0.5 μA. If resistance of galvanometer is 50Ω then find shunt resistance.



20. Electric field inside the capacitor is 100 V/m and dielectric constant = 5.5. What is the polarization?

21. An infinite large sheet has charge density σ C/m^2 Find electric field at a distance d perpendicular to the sheet.

(1) (2) $E = \frac{\sigma}{\varepsilon_0}$ (3) $E = \frac{2\sigma}{\varepsilon_0}$ (4) None of these

22. A satellite which is revolving around earth has minimum distance from earth equal to r_1 and maximum distance equal to r_2 then time period of the satellite will be ?

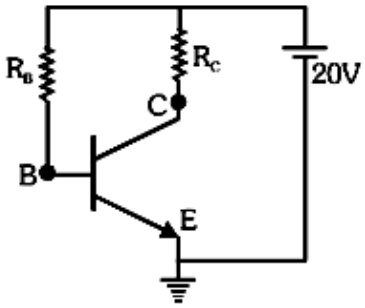
23. A particle performing SHM with angular frequency ω = 5000 radian/second and amplitude A = 2 cm and mass of 1 kg. Find the total energy of oscillation.

(1) 2 kJ (2) 5 kJ (3) 7 kJ (4) 15 kJ

24. A diatomic gas which has initial volume of 10 liter is isothermally compressed to 1/15th of its original volume where initial pressure is 10^5 Pascal. If temperature is 27ºC then find the work done by gas.

(1) -2.70×10^3 J (2) 2.70×10^3 J (3) -1.35×10^3 J (4) 1.35×10^3 J

25. For given CE biasing circuit, if voltage across collector-emitter is 12V and current gain is 100 and base current is 0.04 mA then determine the value collector resistance R_C.



26. In a common emitter (CE) amplifier having a voltage gain G, the transistor used has transconductance 0.03 mho and current gain 25. If the above transistor is replaced with another one with transconductance 0.02 mho and current gain 20, the voltage gain will be :

27. How many minimum NAND GATES are required for obtaining an output of A.B + C.D?

28. In a solenoid number of turns are N and a current I is passing through it. If diameter of the solenoid is D. Find out the energy per unit length in the solenoid.

29. **Assertion:** Linear momentum of a planet does not remain conserved.

Reason: Gravitational force acts on it.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

30. **Assertion:** In throttling, temperature remains constant.

Reason: Throttling is isothermal.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

31. **Assertion:** Energy of an isolated particles system is constant.

Reason: Isolated system do not allow exchange of energy

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

32. **Assertion:** A satellite is orbiting around a planet then its angular momentum is conserved.

Reason: Linear momentum conservation leads to angular momentum conservation.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

33. **Assertion:** $\vec{E} = E_x\hat{i} + E_y\hat{j} + E_z\hat{k}, \quad \vec{\nabla} \times \vec{E} = 0$

Reason: E_x, E_y, E_z is independent.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

34. **Assertion :** Electric field inside a conductor is 0.

Reason : Charge is present on surface of conductor.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

35. **Assertion :** A string wave traveling towards a free end changes its direction of motion but phase remains constant after reflection.

Reason : When string wave reaches the free end there is no medium present in front of it.

(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

36. **Assertion :** Magnetic field do not work on moving charge
Reason : Magnetic field do not provide acceleration to charge.
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

37. **Assertion :** Heart can be assumed as electric dipole.
Reason : Its ELOF are just same like a normal dipole.
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

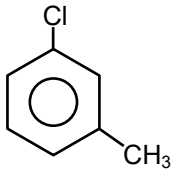
38. **Assertion :** When we jump from height then maximum possibilities to get hurt is at foot.
Reason : Maximum force is exerted on foot.

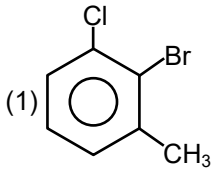
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

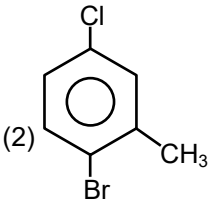
39. **Assertion :** Sky is maximum red in morning
Reason : Smallest wavelength scatter maximum
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

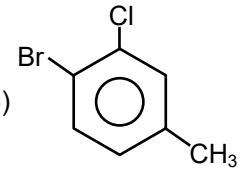
40. **Assertion :** Bernoulli's theorem is applicable only on laminar flow.
Reason : Laminar flow is consider to be non viscous.
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

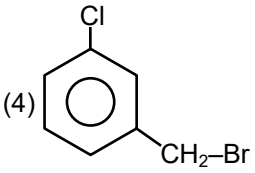
PART - A (CHEMISTRY)

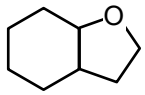
41.  $\xrightarrow[FeBr_3]{Br_2}$ Major product

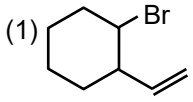
(1) 

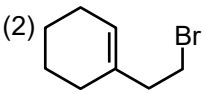
(2) 

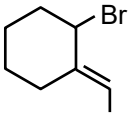
(3) 

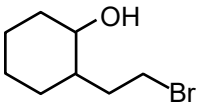
(4) 

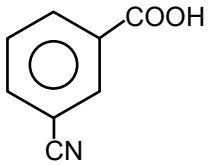
42.  $\xrightarrow[(ii)Conc.H_2SO_4]{(i)HBr/\Delta}$

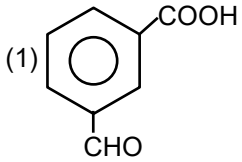
(1) 

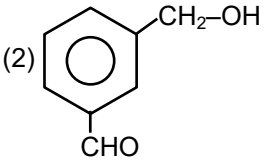
(2) 

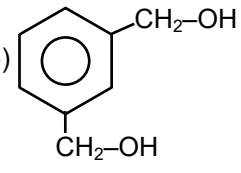
(3) 

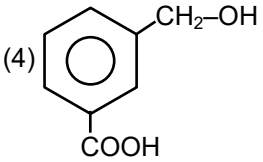
(4) 

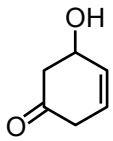
43.  $\xrightarrow[(ii)DIBAL-H]{(i)B_2H_6}$ $\xrightarrow{(iii)H_3O^{\oplus}}$

(1) 

(2) 

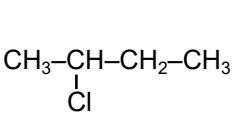
(3) 

(4) 

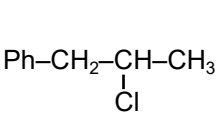
44.  Give IUPAC Name

(1) 5-Hydroxy cyclohex-3-en-1-one
(2) 3-Hydroxy cyclohex-5-en-1-one
(3) 8-Hydroxy cyclohex-3-en-1-one
(1) 7-Hydroxy cyclohex-5-en-1-one

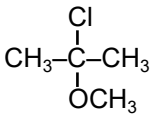
45. Reactivity order for SN1



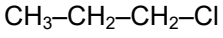
(i)



(ii)



(iii)



(iv)

(1) I > ii > iii > iv (2) ii > I > iii > iv (3) iii > ii > i > iv (4) iv > iii > ii > i

46. Which is incorrect

(1) Novestrol — Antifertility

(2) Serotonine — Tranquilizer

(3) Narrow spectrum — Chloromphenicol

(4) Rentac– antacid

47. Ideal gas mole expand isothermally reversibly 2 lt. to 4lt and same gas 3 mole expand from 2 lt. to x lt and doing same work, what is 'x'

(1) $(8)^{\frac{1}{3}}$ (2) $(4)^{\frac{2}{3}}$ (3) 2 (4) 4 lt

48. Which gas use in cooling tube in MRI tube ?

(1) He (2) Ar (3) CO_2 (4) N_2

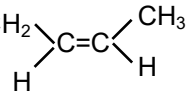
49. It first order reaction 80% reaction complete in 60 minute, What is $t_{\frac{1}{2}}$ of reaction

(1) 30 min (2) 42 min (3) 25.72 min (4) 14.28 min

50. A gas metal in bivalent state have approximately $23e^-$ what is spin magnetic moment in elemental state

(1) 2.87 (2) 5.5 (3) 5.9 (4) 4.9

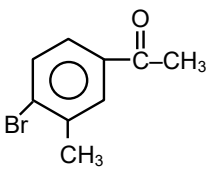
51. $Ph–CH_2–CH_2–C \equiv C–CH_3 \xrightarrow{Cl_2/h\nu}$

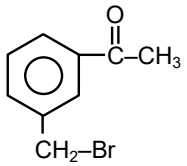
(1) 

(2)

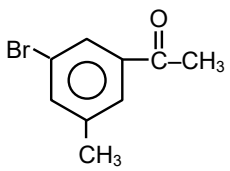
(3) $Ph–CH_2–CH(Cl)–CH=CH–CH_3$ (4) None of these

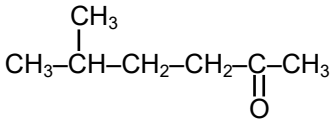
52. product

(1) 

(2) 

(3)

(4) 

53.  No. of stereoisomerism.

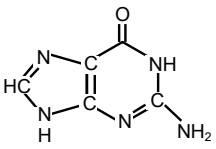
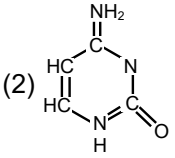
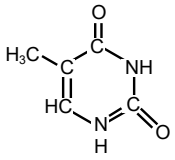
(1) 2 (2) 4 (3) 8 (4) 6

54. Order nucleophilicity

(i) OH^- (ii) HS^- (iii) $Ph–O^-$ (iv) $C_2H_5–O^-$

(1) i > ii > iii > iv (2) ii > iv > i > iii (3) ii > iii > i > iv (4) iii > iv > i > ii

55. Structure of Guanine is

(1)  (2)  (3)  (4) None

56. Cr^{+3} in aquous medium form green coloured complex with NH_3 ligand. How many ligand associated

(1) 3 (2) 4 (3) 5 (4) 6

57. Which molecule pair do not have identical structure

(1) I_3^- , BeF_2 (2) HClO, SO_2 (3) BF_3, ICl_3 (4) BrF_4^- , XeF_4

58. Which process use in smelting during metallurgy of coper

(1) Self reduction of copper (2) Cu_2S is converted into Cu_2O

(3) FeS convert into FeO (4) Reduction of Fe

59. Which of following factor always increases for spontaneous process

(1) ΔS (2) ΔH (3) $\Delta H - T\Delta S$ (4) $\Delta S -$

60. In acidic medium which of the following does not change its colour:

(1) (2) (3) (4)

61. 1 gm of polymer having molar mass 1,60,000 gm dissolve in 800 ml water, so calculate osmotic pressure in pascal at 27°C (R = 8.314 J/K mole)

(1) 0.78 (2) 0.90 (3) 0.50 (4) 1.20

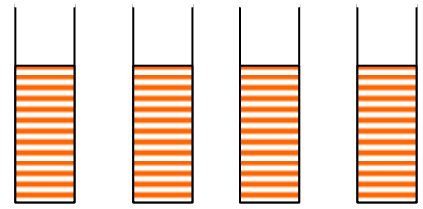
62. $AgNO_3$ does not decompose where :

(1) U.V. radiation (2) Skin (human) (3) Water 25ºC (4) Glucose

63. What is maximum wavelength of line of Balmer series of Hydrogen spectrum ($R = 1.09 \times 10^7\ m^{-1}$) :

(1) 400 nm (2) 654 nm (3) 486 nm (4) 434 nm

64. H_2S gas passed in all the following test tube so that precipitation abserve so which is correct match :



Cu, Sb Zn, Cd, Pb, Sn, Ni

(1) Cd – Black (2) Sb – orange (3) Ni – Yellow (4) Zn – Brown

65. Which contain at least one e^- in $\sigma 2p$ bonding MO

(1) O_2 (2) B_2 (3) C_2 (4) Li_2

66. What is impact on benzene in magnetic field :

(1) Strong attract (2) Weakly attract (3) Strongly repel (4) weak repel

67. Removal of charge from colloids :

(1) Peptizaiton (2) Coagulation (3) Dialysis (4) Bredig arc method

68. In Alum : $K_2SO_4 \cdot Al_2(SO_4)_3 . 24H_2O$

Which metal can replace Al

(1) Cr (2) Mn (3) In (4) Sc

69. Rate of two reaction whose rate constants are k_1 & k_2 are equal at 300 k such that :

So calculate $\ell n\frac{A_2}{A_1}$ = ? $Ea_2 - Ea_1 = 2RT$,

(1) ℓn4 (2) 2 (3) log 2 (4) 2-ℓn2

70. Which of the following exhibit minimum number of oxidation states :

(1) Mn (2) Np (3) Th (4) Cr

71. 0.1 mole, per litre solution present in conductivity cell where electrode of 100 cm^2 area placed at 1 cm and resistance observe is 5 x 10^3 Ohm, what is molar conductivity of solution?

(1) 5 x10^2 S cm^2 $mole^{-1}$ (2) 10^4 S cm^2 $mole^{-1}$

(3) 200 S cm^2 $mole^{-1}$ (4) 0.02 S cm^2 $mole^{-1}$

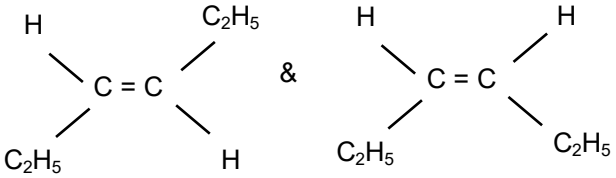
72. Mixture of two metals having mass 2 gm (A = 15, B = 30) and are bivalent and dissolve in HCl and evolve 2.24 L H_2 at STP. what is mass of A present in mixture?

(1) 1 gm (2) 1.5 gm (3) 0.5 gm (4) 0.75 gm

73. A + 2 B 2C K = ?
2 mole each A and B present in 10 lt so that C form is 1 mole, Calculate K_C
(1) 1.5 (2) 6.67 (3) 0.15 (4) 2.3

74. In vanderwaal equation at const temperature 300 K, a = 1.4 atm lt^2 $mole^{-2}$, v = 100 ml, n = 1 mole, what is pressure of gas :
(1) 42 atm (2) 210 atm (3) 500 atm (4) 106 atm

75. For geometric isomers of 3–hexene :



(1) M.P. is high and dipole moment high for trans
(2) M.P. is low and dipole moment low for trans
(3) M.P. is high and dipole moment low for trans
(4) M.P. is low and dipole moment high for trans

76. **Assertion :** N,N–Diethylethanamine is more basic then N,N-Dimethylmethanamine
Reason : +I effect of ethyl is more then methyl
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

77. **Assertion :** Bakelite is formed when novolac heat with formaldehyde which is thermosetting polymer
Reason : Bakelite is infusible solid mass
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

78. **Assertion :** 2,4-Dimethyl hex-2-ene has 4 stereoisomer
Reason : It show geometrical isomerism
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

79. **Assertion :** Ortho nitro phenol is more acidic than meta nitro phenol
Reason : Ortho nitro phenol has more –I effect than meta nitro phenol
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

80. **Assertion :** Reverse current flows in charging of lead storage battery:
Reason : During charging $PbSO_4$convert into Pb and PbO_2
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

81. **Assertion :** $[Cr(H_2O)_6]^{+2}$ $[Cr(H_2O)_6]^{+3}$ while converting, colour continuously changes.
Reason: CFSE is increases during change.
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

82. **Assertion:** When ideal gas expand from P_1,V_1,T_1 to P_2,V_2,T_2 in two steps, and work done is high in which number of steps are high
Reason: Work is path function
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

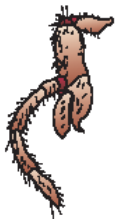
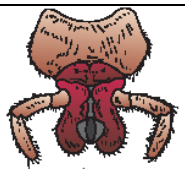
83. **Assertion :** On passing electric current in colloidal solution they do not move towards anode or cathode.
Reason: They do not contain any charge
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

84. **Assertion :** Pb_3O_4 react with HNO_3 and form PbO_2
Reason: Lead is stable in +4 oxidation state.
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

85. **Assertion :** N, N-Diethyl ethanamine is more basic the N, N-Dimethyl methanamine.
Reason : +I effect of ethyl group is more then methyl
(1) If both assertion and reason are true and reason is the correct explanation of assertion.
(2) If both assertion and reason are true but reason is not the correct explanation of assertion.
(3) If assertion is true but reason is false.
(4) If both assertion and reason are false.

PART - C (BIOLOGY)

86. Select the option with correct matching –

A.		(i)	Mandible
B.		(ii)	Labrum
C.		(iii)	Labium
D.		(iv)	Hypopharynx
E.		(v)	Maxilla

Option:

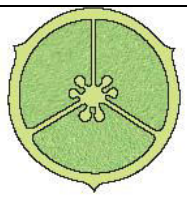
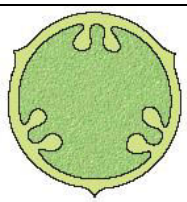
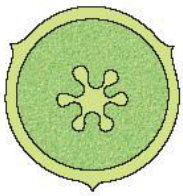
(1) A - (i), B - (ii), C- (iii), D - (iv), E- (v)

(2) A - (ii), B - (iii), C- (i), D - (iv), E- (v)

(3) A - (v), B - (iii), C- (i), D - (ii), E- (iv)

(4) A - (v), B - (iii), C- (i), D - (iv), E- (ii)

87. Select the correct matching

A.	**B.**	**C.**	**D.**
			

Option:

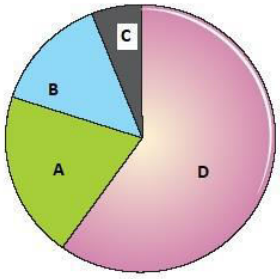
(1) A – Tomato, B - Argemone, C- Dianthus, D - Sunflower

(2) A – Dianthus, B - Argemone, C- Tomato, D - Sunflower

(3) A – Tomato, B - Sunflower, C- *Dianthus*, D - Argemone

(4) A - Argemone, B - Tomato, C- Dianthus, D - Sunflower

88. Which one of the following options correctly designate the per cent contribution of gases (A, B, C and D) responsible of global warming?



	A	B	C	D
(1)	CH_4 (20%)	CFC_S (14%)	N_2O (6%)	CO_2 (60%)
(2)	CFC_S (20%)	CO_2 (14%)	N_2O (6%)	CH_4 (60%)
(3)	N_2O (20%)	CH_4 (14%)	CFC_S (6%)	CO_2 (60%)
(4)	CH_4 (20%)	N_2O (14%)	CFC_S (6%)	CO_2 (60%)

89. Match column-I to the column-II and select the option having correct matching –

Column-I		Column-II	
A	Bacteriophage λ	i	5386 nucleotides
B	*E. coli*	ii	3.3×10^9 bp
C	Human genome	iii	4.6×10^6 bp
D	ϕ x 174	iv	48502 bp

(1) A - (iv), B - (iii), C- (ii), D - (i)

(2) A - (iii), B - (ii), C- (i), D - (iv)

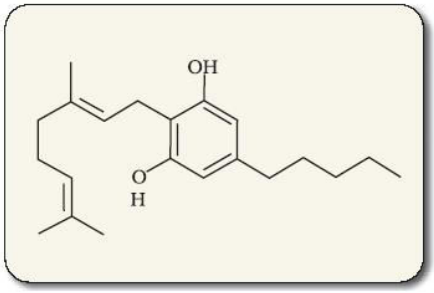
(3) A - (iv), B - (iii), C- (i), D - (ii)

(4) A - (iv), B - (i), C- (ii), D - (iii)

90. Which of the following option is correct?

(1)	Osteichthyes	4 pairs of gill slits covered by operculum
(2)	Chondrichthyes	6-15 pairs of gill slits
(3)	Arthropoda	Metamerism and excretion by nephridia
(4)	Platyhelminthes	Bilateral symmetry & coelomate e.g., *Taenia* and *Fasciola*

91. Identify the given diagram and its effect?



(1) Cannabinoid - Effects cardiovascular function

(2) Morphine - CNS depressant

(3) Cocaine – Euphoria

(4) Smack - Psychedelic effect

92. Choose the correct option–

(1) *Macropus* - hair on skin & pinna present

(2) *Pleurobrachia* - Cnidoblast

(3) *Pristis* - Gitar fish

(4) *Scoliodon* - Cat fish

93. Synthesis of lipids & carbohydrates is regulated by-

(1) SER

(2) RER

(3) Ribosomes

(4) Lysosomes

94. Choose the incorrect about mitochondria -

(1) Has 80S ribosome

(2) Naked circular DNA

(3) ETS on inner mitochondrial membrane

(4) Power house of the cell

95. Where does glycosylation of protein occur?

(1) Endoplasmic reticulum

(2) Lysosomes

(3) Mitochondria

(4) Chloroplast

96. Hormone secreted by α-cells of Pancreas?

(1) Insulin

(2) Glucagon

(3) Somatocrinin

(4) Somatostatin

97. Which of the following hormones coordinate with each other to maintain ideal blood Ca level?
(1) Thyrocalcitonin and glucagon
(2) Parathyroid hormone and cortisol
(3) Thyrocalcitonin and Thyroxin
(4) Thyrocalcitonin and Parathyroid hormone

98. Weakness of muscles & bones in elderly occurs due to deficiency of–
(1) Vitamin D
(2) Vitamin C
(3) Vitamin B complex
(4) Vitamin A

99. Which of the following correctly assigns the codons for glycine ?
(1) GGG, GGC, GGA
(2) AAA, AAG, AAC
(3) AUG, AUA, AUC
(4) CCC, CCG, CGA

100. Small pox has been eradicated from world –
(1) Due to active vaccination against small pox on large scale
(2) Due to auto immunity developed by us
(3) Due to discovery of vaccine long ago
(4) injectable salk vaccine for small pox was easily available

101. Albuminous seeds are found in–
(1) Pea, Groundnut, Castor
(2) Castor, Sunflower, Barley
(3) Wheat, Barley, Castor
(4) Pea, Groundnut, Sunflower

102. Where are Hot Spots of biodiversity in India ?
(1) Western ghats, Eastern ghats, Indo Burma
(2) Indo Burma, Eastern ghats and Sri Lanka Himalayas
(3) Western ghats & Sri Lanka, Indo Burma and Himalaya
(4) Eastern ghats & Sri Lanka, Indo Burma

103. Choose the correct match :
(1) Aves – Pneumatic bones
(2) Reptiles – 4 chambers heart
(3) Amphibia – Scales on body
(4) Osteichtyes – Perisistant notochord

104. Uric acid forms in body by :

(1) Phospholipid (2) Glucose

(3) DNA (4) RNA

105. CO_2 combines with Hb to form :

(1) Carbaminohaemoglobin (2) Carboxy haemoglobin

(3) Oxyhaemoglobin (4) Methaemoglobin

106. Most important hormone in post ovulatory phase :

(1) Progesterone (2) estrogen

(3) HCG (4) FSH

107. Which of the following is wrong about ethylene.

(1) Inhibit growth of root

(2) Ripening of fruits

(3) Elongation of stem in paddy

(4) Promote senescence of leaves & flowers

108. Which of the following is correct

(1) *Macropus*– Ear pinna, body hairs, 4 chambered heart

(2) *Pavo*–Long bones ossified, fore limbs modified to wings

(3) *Ichthyophis*–covering on eyelids, Scales present

(4) *Limulus*–chitinous exoskeleton, 3 pair of legs

109. Which among the following belong to same phyla?

(1) *Physalia*, *obelia*, *Pleurobranchia* – Coelenterata

(2) *Bombyx*, *Palaemon*, *Limulus* – Arthropoda

(3) Star fish, jelly fish, Sea urchin – Echinodermata

(4) Cuttle fish, devil fish, *Patella* – mollusca

110. Which of the following statement confirm the law of dominance

(1) 3:1 ratio in F_2 generation

(2) It is the conclusion of a dihybrid cross

(3) Alleles do not show any blending and both characters recovered as such in F_2 generation

(4) Alleles of a pair segregate from each other such that gamete receives only one of the two factors

111. Characteristics of cancer is

(1) All tumors are cancers

(2) Cancers show metastasis

(3) Cancerous cells show property of contact inhibition

(4) All viruses are oncogenic

112. To obtain seedless watermelon, which among the following method is followed :

(1) Apomixis (2) Somatic hybridization

(3) Organogenesis (4) Micropropagation

113. Which among the following belong to Auxin?

(1) IAA, IBA, CK (2) GA_3, 2,4-D, IAA

(3) IAA, IBA, NAA (4) 2,4-D, IAA, ABA

114. **Assertion :** Alleles can transmit from parents to progeny without variations.

Reason : Alleles of different genes could be linked.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

115. **Assertion :** CO_2 diffuses only from tissue to alveoli and not in reverse direction.

Reason : CO_2 is 10 times more soluble than O_2

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

116. **Assertion :** *Trichoderma* used as biocontrol agents.

Reason : Bacculoviruses also used as biocontrol agent

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

117. **Assertion :** Nucleopolyhedrovirus used as biocontrol agent

Reason : It kills insects and pests

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

118. **Assertion :** Agrobacterium tumefaciencs causes crown gall tumor in plants.

Reason : E.coli can't transfer DNA in plants.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

119. **Assertion :** Sequoia is longest tree among Gymnosperms.

Reason : All members of lycopsida are homosporous.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

120. **Assertion :** Pavlov has improtant contribution in study of digestion.

Reason : Pavlov discovered that salivation occurs when food is placed in front of us.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

121. **Assertion :** Dark reaction of photosynthesis uses ATP and $NADPH_2$

Reason : Dark reaction takes place in absence of light.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

122. **Assertion :** Fermentation occurs by incomplete oxidation of glucose.

Reason : Yeast form ethanol & CO_2 from pyruvic acid.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

123. **Assertion :** Mitochondria are absent in RBC.

Reason : RBC form ATP by glycolysis.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

124. **Assertion :** Most of the enzymes of oxidative decarboxylation are present in mitochondrial matrix.

Reason: ETS operates on inner membrane of mitochondria

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

125. **Assertion :** Kidney transplant from a non-matching donor gets rejected.

Reason : Cell mediated immunity mediated by B-lymphocytes reject it.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

126. **Assertion :** Sonalika & Kalyan sona are high yielding varieties of wheat.

Reason : They are developed by IARI.

(1) Both A and R are true and R is the correct explanation of A.

(2) Both A and R are true but R is not correct explanation of A

(3) A is true but R is false

(4) A and R are false

127. **Assertion :** Monocytes constitute only 6-8% of WBCs but are very essential
Reason: These are phagocytic cells.
(1) Both A and R are true and R is the correct explanation of A.
(2) Both A and R are true but R is not correct explanation of A
(3) A is true but R is false
(4) A and R are false

128. **Assertion :** *Taenia solium* & *Fasciola* belong to Platyhelminthes.
Reason : Platyhelminthes are coelomates
(1) Both A and R are true and R is the correct explanation of A.
(2) Both A and R are true but R is not correct explanation of A
(3) A is true but R is false
(4) A and R are false

129. **Assertion :** Phytoplankton, algae & higher plants are chief producers in pond ecosystem.
Reason : Many algae are responsible for production of ethanol.
(1) Both A and R are true and R is the correct explanation of A.
(2) Both A and R are true but R is not correct explanation of A
(3) A is true but R is false
(4) A and R are false

130. **Assertion :** Gonorrhoea is a dreaded disease.
Reason : Cannot be completely cured even if diagnosed at early stage.
(1) Both A and R are true and R is the correct explanation of A.
(2) Both A and R are true but R is not correct explanation of A
(3) A is true but R is false
(4) A and R are false

131. **Assertion :** During pregnancy, development of foetus occurs in stages.
Reason: In second month of pregnancy, limbs, most of the organs and external genitalia are formed.
(1) Both A and R are true and R is the correct explanation of A.
(2) Both A and R are true but R is not correct explanation of A
(3) A is true but R is false
(4) A and R are false

132. **Assertion:** Deficiency of vitamin D causes bone weakness
Reason : Cholecalciferol is synthesised in skin by the action of sunlight
(1) Both A and R are true and R is the correct explanation of A.
(2) Both A and R are true but R is not correct explanation of A
(3) A is true but R is false
(4) A and R are false

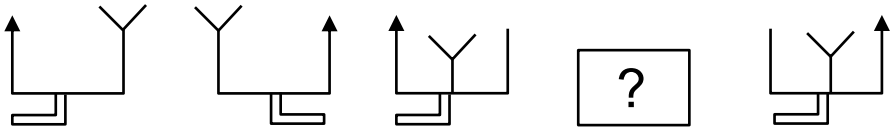
PART - D (GK + MENTAL ABILITY)

133. Who is the chief justice of India?

134. What is the full form of IRCTC?

135. What is the full form of SIM?

136.



137. We have total 1700 Rs. A has got 5 times of C & 2 times of B, then how much money does A have?

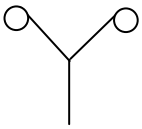
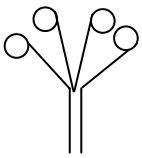
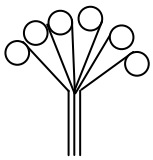
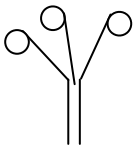
138. Where is the Headquarter of United Nations ?

139. What is the name of the yacht on which Six women naval officers completed their journey around the world?

140. Find the Odd One Out.

(1)  (2)  (3)  (4) 

141. Find the Odd One Out.

(1)  (2)  (3)  (4) 

142. Put these cities in a proper sequencing
Srinagar .....Bangalore .....Mumbai .....Bhopal .....Delhi

143. What is the full form of PIN in postal system ?

144. Establish the relation…


USA


?

145. Advertisers are charged more money for their ads by the Channels during IPL.

1. More Viewers watch the TV during IPL
2. Advertisers are ready to pay more money during IPL

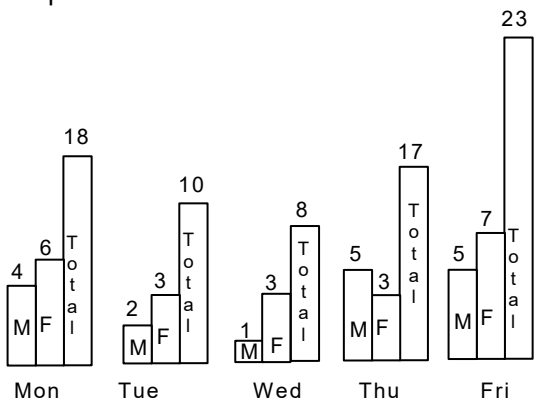
(1) Only 1 (2) Only 2 (3) 1 and 2 both (4) Both are not correct

146. There are 5 friends in a group. One more friend joins them & the average weight of the group increases. If you have to find the weight of the 6th Friend then.

1. 6th friend increases the average weight by 10% & the new average weight if 66 Kgs.
2. Average weight increases by 6 Kgs.

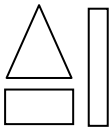
(1) Only 1 is required (2) only 2 is required
(3) 1 and 2 both required (4) Can't be determined.

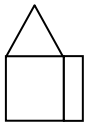
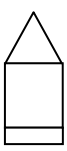
147. Male, Female, Transgender and children visit a hospital on a daily basis. Transgender number are constant on each day. See the graph below & find the day on which the maximum children visited the hospital?



148. The Price of 2 Tables is equal to price of 5 chairs. If a person purchases 10 Chairs & 10 Tables in Rs. 7000/ then find out the price of 2 chairs & 4 tables.

149.



(1)  (2)  (3) (4)