PHYSICS

(SECTION-A)

1. Two bodies are in equilibrium when suspended in water from the arms of a balance. The mass of one body is 36 *g* and its density is 9 *g / cm*^{3}. If the mass of the other is 48 *g*, its density in *g / cm*^{3} is

(A) $\frac{4}{3}$ (B) $\frac{3}{2}$ (C) 3 (D) 5

2. If two liquids of same masses but densities ρ_1 and ρ_2 respectively are mixed, then density of mixture is given by

(A) $\rho = \frac{\rho_1 + \rho_2}{2}$ (B) $\rho = \frac{\rho_1 + \rho_2}{2\rho_1\rho_2}$

(C) $\rho = \frac{2\rho_1\rho_2}{\rho_1 + \rho_2}$ (D) $\rho = \frac{\rho_1\rho_2}{\rho_1 + \rho_2}$

3. Construction of submarines is based on

(A) Archimedes' principle
(B) Bernoulli's theorem
(C) Pascal's law
(D) Newton's laws

4. Why the dam of water reservoir is thick at the bottom

(A) Quantity of water increases with depth
(B) Density of water increases with depth
(C) Pressure of water increases with depth
(D) Temperature of water increases with depth

5. An ice berg of density 900 *Kg/m*^{3} is floating in water of density 1000 *Kg/m*^{3}. The percentage of volume of ice-cube outside the water is

(A) 20% (B) 35%
(C) 10% (D) 25%

6. A metallic block of density 5 *gm* cm^{-3} and having dimensions 5 *cm* × 5 *cm* × 5 *cm* is weighed in water. Its apparent weight will be

(A) 5 × 5 × 5 × 5 *gf*
(B) 4 × 4 × 4 × 4 gf
(C) 5 × 4 × 4 × 4 gf
(D) 4 × 5 × 5 × 5 gf

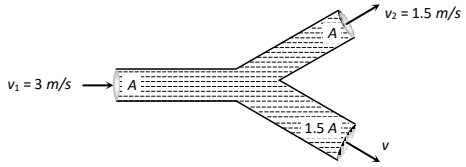
7. Pressure applied to an enclosed fluid is transmitted undiminished to every portion of the fluid and the walls of the containing vessel. This law was first formulated by

(A) Bernoulli (B) Archimedes
(C) Boyle (D) Pascal

8. Two solids *A* and *B* float in water. It is observed that A floats with $\frac{1}{2}$ of its body immersed in water and *B* floats with $\frac{1}{4}$ of its volume above the water level. The ratio of the density of *A* to that of *B* is

(A) 4 : 3 (B) 2 : 3
(C) 3 : 4 (D) 1 : 2

9. An incompressible liquid flows through a horizontal tube as shown in the following fig. Then the velocity *v* of the fluid is



(A) 3.0 *m*/*s* (B) 1.5 *m*/*s*
(C) 1.0 *m*/*s* (D) 2.25 *m*/*s*

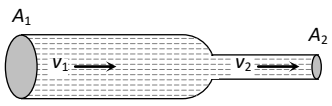
10. There is a hole of area *A* at the bottom of cylindrical vessel. Water is filled up to a height *h* and water flows out in *t* second. If water is filled to a height 4*h*, it will flow out in time equal to

(A) *t* (B) 4*t* (C) 2 *t* (D) *t*/4

11. The pressure at the bottom of a tank containing a liquid does not depend on

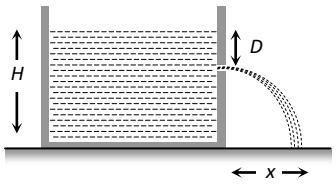
(A) Acceleration due to gravity
(B) Height of the liquid column
(C) Area if the bottom surface
(D) Nature of the liquid

12. A liquid flows in a tube from left to right as shown in figure. A_1 and A_2 are the cross-sections of the portions of the tube as shown. Then the ratio of speeds v_1 / v_2 will be



(A) A_1 / A_2 (B) A_2 / A_1
(C) $\sqrt{A_2} / \sqrt{A_1}$ (D) $\sqrt{A_1} / \sqrt{A_2}$

13. A tank is filled with water up to a height *H*. Water is allowed to come out of a hole *P* in one of the walls at a depth *D* below the surface of water. Express the horizontal distance *x* in terms of *H* and *D*



(A) $x = \sqrt{D(H-D)}$

(B) $x = \sqrt{\frac{D(H-D)}{2}}$

(C) $x = 2\sqrt{D(H-D)}$

(D) $x = 4\sqrt{D(H-D)}$

14. Velocity of water in a river is
(A) Same everywhere
(B) More in the middle and less near its banks
(C) Less in the middle and more near its banks
(D) Increase from one bank to other bank

15. A good lubricant should have
(A) High viscosity (B) Low viscosity
(C) Moderate viscosity (D) High density

16. Consider the following equation of Bernouilli's theorem. $P + \frac{1}{2}\rho V^2 + \rho g h = K$ (constant)
The dimensions of *K/P* are same as that of which of the following
(A) Thrust (B) Pressure
(C) Angle (D) Viscosity

17. **Assertion :** The blood pressure in humans is greater at the feet than at the brain.
Reason : Pressure of liquid at any point is proportional to height, density of liquid and acceleration due to gravity.
(A) If both assertion and reason are true and the reason is the correct explanation of the assertion.
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion.
(C) If assertion is true but reason is false.
(D) If the assertion and reason both are false.

18. The coefficient of viscosity for hot air is
(A) Greater than the coefficient of viscosity for cold air
(B) Smaller than the coefficient of viscosity for cold air
(C) Same as the coefficient of viscosity for cold air
(D) Increases or decreases depending on the external pressure

19. Cohesive force is experienced between
(A) Magnetic substances
(B) Molecules of different substances
(C) Molecules of same substances
(D) None of these

20. Two droplets merge with each other and forms a large droplet. In this process
(A) Energy is liberated
(B) Energy is absorbed
(C) Neither liberated nor absorbed
(D) Some mass is converted into energy

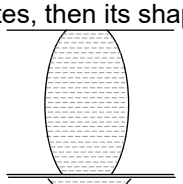
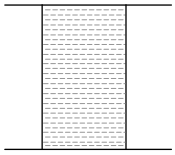
21. Radius of a soap bubble is '*r*', surface tension of soap solution is *T*. Then without increasing the temperature, how much energy will be needed to double its radius
(A) $4\pi r^2 T$ (B) $2\pi r^2 T$
(C) $12\pi r^2 T$ (D) $24\pi r^2 T$

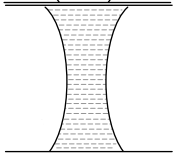
22. If the surface tension of a liquid is *T*, the gain in surface energy for an increase in liquid surface by *A* is
(A) AT^{-1} (B) AT
(C) A^2T (D) A^2T^2

23. Surface tension of a soap solution is $1.9\times10^{-2} N/m.$. Work done in blowing a bubble of 2.0 *cm* diameter will be
(A) $7.6\times10^{-6}\pi$ *joule*
(B) $15.2\times10^{-6}\pi$ *joule*
(C) $1.9\times10^{-6}\pi$ *joule*
(D) 1×10^{-4} *joule*

24. A liquid film is formed in a loop of area 0.05 m^2. Increase in its potential energy will be (T = 0.2 *N/m*)
(A) $5\times10^{-2} J$ (B) $2\times10^{-2} J$
(C) $3\times10^{-2} J$ (D) None of these

25. If a water drop is kept between two glass plates, then its shape is

(A)  (B) 

(C)  (D) None of these

26. Pressure inside two soap bubbles are 1.01 and 1.02 atmospheres. Ratio between their volumes is

(A) 102 : 101 (B) $(102)^3 : (101)^3$

(C) 8 : 1 (D) 2 : 1

27. When two capillary tubes of different diameters are dipped vertically, the rise of the liquid is

(A) Same in both the tubes

(B) More in the tube of larger diameter

(C) Less in the tube of smaller diameter

(D) More in the tube of smaller diameter

28. Two capillary tubes *P* and *Q* are dipped in water. The height of water level in capillary *P* is 2/3 to the height in *Q* capillary. The ratio of their diameters is

(A) 2 : 3 (B) 3 : 2

(C) 3 : 4 (D) 4 : 3

29. A wire of length L and radius *r* is rigidly fixed at one end. On stretching the other end of the wire with a force *F*, the increase in its length is *l*. If another wire of same material but of length 2*L* and radius 2*r* is stretched with a force of 2*F*, the increase in its length will be

(A) *l* (B) 2*l* (C) $\frac{l}{2}$ (D) $\frac{l}{4}$

30. The relationship between Young's modulus *Y*, Bulk modulus K and modulus of rigidity η is

(A) $Y = \frac{9\eta K}{\eta + 3K}$ (B) $\frac{9YK}{Y + 3K}$

(C) $Y = \frac{9\eta K}{3 + K}$ (D) $Y = \frac{3\eta K}{9\eta + K}$

31. If *x* longitudinal strain is produced in a wire of Young's modulus *y*, then energy stored in the material of the wire per unit volume is

(A) yx^2 (B) $2yx^2$

(C) $\frac{1}{2}y^2x$ (D) $\frac{1}{2}yx^2$

32. The spring balance does not read properly after its long use, because

(A) The elasticity of spring increases

(B) The elasticity decreases

(C) Its plastic power decreases

(D) Its plastic power increases

33. Two wires of copper having the length in the ratio 4 : 1 and their radii ratio as 1 : 4 are stretched by the same force. The ratio of longitudinal strain in the two will be

(A) 1 : 16 (B) 16 : 1

(C) 1 : 64 (D) 64 : 1

34. Longitudinal stress of $1\,kg/mm^2$ is applied on a wire. The percentage increase in length is $(Y = 10^{11}\ N/m^2)$

(A) 0.002 (B) 0.001

(C) 0.003 (D) 0.01

35. For silver, Young's modulus is $7.25 \times 10^{10}\ N/m^2$ and Bulk modulus is $11 \times 10^{10}\ N/m^2$. Its Poisson's ratio will be

(A) – 1 (B) 0.5

(C) 0.39 (D) 0.25

(SECTION-B)

36. Which one of the following substances possesses the highest elasticity

(A) Rubber (B) Glass

(C) Steel (D) Copper

37. The coefficient of linear expansion of brass and steel are α_1 and α_2. If we take a brass rod of length l_1 and steel rod of length l_2 at 0°*C*, their difference in length $(l_2 - l_1)$ will remain the same at a temperature if

(A) $\alpha_1 l_2 = \alpha_2 l_1$ (B) $\alpha_1 l_2^2 = \alpha_2 l_1^2$

(C) $\alpha_1^2 l_1 = \alpha_2^2 l_2$ (D) $\alpha_1 l_1 = \alpha_2 l_2$

38. Under elastic limit the stress is

(A) Inversely, proportional to strain

(B) Directly proportional to strain

(C) Square root of strain

(D) Independent of strain

39. Stress to strain ratio is equivalent to

(A) Modulus of elasticity

(B) Poission's Ratio

(C) Reyhold number

(D) Fund number

40. According to Hook's law force is proportional to

(A) $\frac{1}{x}$ (B) $\frac{1}{x^2}$ (C) x (D) x^2

41. When a block of mass M is suspended by a long wire of length L, the length of the wire becomes (L + ℓ). The elastic potential energy stored in the extended wire is:

(A) $\frac{1}{2}$MgL (B) Mgℓ

(C) MgL (D) $\frac{1}{2}$Mgℓ

42. Two wires of the same material and length but diameter in the ratio 1 : 2 are stretched by the same force. The ratio of potential energy per unit volume for the two wires when stretched will be :

(A) 1 : 1 (B) 2 : 1
(C) 4 : 1 (D) 16 : 1

43. The compressibility of a material is
(A) Product of volume and its pressure
(B) The change in pressure per unit change in volume strain
(C) The fractional change in volume per unit change in pressure
(D) None of the above

44. The ratio of lengths of two rods *A* and *B* of same material is 1 : 2 and the ratio of their radii is 2 : 1, then the ratio of modulus of rigidity of A and B will be

(A) 4 : 1 (B) 16 : 1
(C) 8 : 1 (D) 1 : 1

45. Modulus of rigidity of a liquid
(A) Non zero constant
(B) Infinite
(C) Zero
(D) Can not be predicted

46. The upper end of a wire of radius 4 *mm* and length 100 *cm* is clamped and its other end is twisted through an angle of 30°. Then angle of shear is

(A) 12° (B) 0.12°
(C) 1.2° (D) 0.012°

47. The work done in stretching an elastic wire per unit volume is or strain energy in a stretched string is
(A) Stress $\times$ Strain
(B) $\frac{1}{2}\times$ Stress $\times$ Strain
(C) $2\times \text{strain}\times \text{stress}$
(D) Stress/Strain

48. A wire of length 50 *cm* and cross sectional area of 1 *sq. mm* is extended by 1 *mm*. The required work will be $(Y = 2\times10^{10}\ Nm^{-2})$

(A) $6\times10^{-2}\ J$ (B) $4\times10^{-2}\ J$
(C) $2\times10^{-2}\ J$ (D) $1\times10^{-2}\ J$

49. Match the **Column I** with **Column II** and select the correct answer.

	Column I	**Column II**
(P)	Volume rate of flow	Beronulli's theorem
(Q)	Viscous drag	Torricelli's theorem
(R)	Speed of efflux (exit)	Stoke's law
(S)	Pressure difference between two points	Poisuilli's law points in a flow tube

(A) P$\rightarrow$4; Q$\rightarrow$3; R$\rightarrow$2 ; S $\rightarrow$ 1
(B) P$\rightarrow$2; Q$\rightarrow$4; R$\rightarrow$2 ; S $\rightarrow$ 1
(C) P$\rightarrow$1; Q$\rightarrow$2; R$\rightarrow$3 ; S $\rightarrow$ 4
(D) P$\rightarrow$2; Q$\rightarrow$3; R$\rightarrow$4 ; S $\rightarrow$ 1

50. Match **Column I** with **Column II** and select the correct answer.

	Column I		**Column II**
(P)	The shape of rubber heel changes under stress	(p	Young's modulus of elasticity is involved
(Q)	In a suspended bridge, there is a strain in the ropes by the load of the bridge	(q	Bulk modulus of elasticity is involved
(R)	In an automobile tyre, when air is compressed the shape of tyre changes	(r)	Modulus of rigidity is involved
(S)	A solid body is subjected to a deforming force	(s)	All the moduli of elasticity are involved

(A) A - q, B - r, C - s,D – p
(B) A - p, B - q, C - r,D - s
(C) A - r, B - q, C - p,D – s
(D) A - r, B - p, C - q,D - s

CHEMISTRY

(SECTION-A)

51. If elements with principal quantum number n > 4 are not allowed in nature, the number of possible elements would be -
(A) 60 (B) 32 (C) 64 (D) 50

52. If travelling at same speeds, which of the following matter waves have the shortest wavelength ?
(A) Electron
(B) Alpha particle (He^{2+})
(C) Neutron
(D) Proton

53. The correct statement(s) about Bohr's orbits of hydrogen atom is/are –
(A) $r = \left[\frac{n^2h^2}{4\pi^2me^2}\right]$
(B) K.E. of the electron = –1/2 (P. E. of the electron)
(C) Angular momentum (L) $= n\left(\frac{h}{2\pi}\right)$
(D) All the above

54. The ratio of $E_2 - E_1$ to $E_4 - E_3$ for the hydrogen atom is approximately equal to -
(A) 10 (B) 15 (C) 17 (D) 12

55. The frequency of line spectrum of sodium is 5.09 x 10^{14} s^{-1}. Its wave length (in nm) will be - [c = 3 × 10^8 m/s]-
(A) 510 nm (B) 420 nm
(C) 589 nm (D) 622 nm

56. The value of Bohr radius of hydrogen atom is –
(A) 0.529x 10^{-7}cm (B) 0.529x 10^{-8}cm
(C) 0.529x 10^{-9}cm (D) 0.529x 10^{-10} cm

57. The correct expression derived for the energy of an electron in the nth energy level is –
(A) $E_n = \frac{2\pi^2me^4}{n^2h^2}$ (B) $E_n = -\frac{2\pi^2me^4}{nh^2}$
(C) $E_n = -\frac{2\pi^2me^2}{n^2h^2}$ (D) $E_n = -\frac{2\pi^2me^4}{n^2h^2}$

58. For ionising an excited hydrogen atom, the energy required in eV will be -
(A) 3.4 or less
(B) More than 13.6
(C) Little less than 13.6
(D) 13.6

59. The wave number of the first line of Balmer series of hydrogen is 15200 cm^{-1}. The wave number of the first Balmer line of Li^{2+} ion is-
(A) 15200 cm^{-1} (B) 60800 cm^{-1}
(C) 76000 cm^{-1} (D) 136800 cm^{-1}

60. Which transition of the hydrogen spectrum would have the same length as the Balmer transition, n = 4 to n = 2 of He^+ spectrum?
(A) n_2 = 2 to n_1 = 1 (B) n_2 = 3 to n_1 = 1
(C) n_2 = 4 to n_1 = 2 (D) n_2 = 5 to n_1 = 3

61. The set of quantum numbers not applicable for an electron in an atom is –
(A) n = 1, ℓ = 1, m = 1, s = + 1/2
(B) n = 1, ℓ = 0, m = 0, s = + 1/2
(C) n = 1, ℓ = 0, m = 0, s = – 1/2
(D) n = 2, ℓ = 0, m = 0, s = + 1/2

62. A stream of electrons from a heated filament was passed between two charged plates kept at potential difference V esu. If e and m are chage and mass of an electron respectivelly, then the value of h/λ (where λ is wavelength associated with electron wave) is given by :
(A) 2meV (B) $\sqrt{meV}$
(C) $\sqrt{2meV}$ (D) me V

63. **Assertion :** Atomic orbital in an atom is designated by n, l, m_l and m_s.
Reason : These are helpful in designating electron present in an orbital.
(A) If both assertion and reason are true and the reason is the correct explanation of the assertion.
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion.
(C) If assertion is true but reason is false.
(D) If assertion is false but reason is true.

64. **Assertion :** The transition of electrons $n_3 \to n_2$ in H atom will emit greater energy than $n_4 \to n_3$.
Reason : n_3 and n_2 are closer to nucleus tan n_4.
(A) If both assertion and reason are true and the reason is the correct explanation of the assertion.
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion.
(C) If assertion is true but reason is false.
(D) If assertion is false but reason is true.

65. Elements with similar chemical properties:-
(A) Occur only within the same period
(B) Have identical atomic mass (weight)
(C) Have identical number of neutrons
(D) Have the same number of electrons in the outer shell.

66. The places that were left empty by Mendeleef were, for:-
(A) Aluminum & Silicon
(B) Gallium and germanium
(C) Arsenic and antimony
(D) Molybdenum and tungsten

67. An element with atomic number 106 has been discovered recently. Which of the following electronic configuration will it posses :-
(A) $[Rn]\ 5f^{14}\ 6d^5\ 7s^1$
(B) $[Rn]\ 5f^{14}\ 6d^5\ 7s^2$
(C) $[Rn]\ 5f^{14}\ 6d^6\ 7s^0$
(D) $[Rn]\ 5f^{14}\ 6d^1\ 7s^2\ 7p^3$

68. Which of the following orders of ionic radii are correct:-
(a) Li < Be < Na (b) Ni < Cu < Zn
(c) Ti > V > Cr (d) Ti > Zr □ Hf
Correct answer is :-
(A) All (B) a, b
(C) b, c (D) b, d

69. Decreasing order of size of ions is :-
(A) $Br^- > S^{-2} > Cl^- > N^{-3}$
(B) $N3^- > S^{-2} > Cl^- > Br^-$
(C) $Br^- > Cl^- > S^{-2} > N^{-3}$
(D) $N^-3 > Cl^- > S^{-2} > Br^-$

70. The covalent and vander Waal's radii of hydrogen respectively are :-
(A) 0.37 Å, 0.8 Å (B) 0.37 Å, 0.37 Å
(C) 0.8 Å, 0.8 Å (D) 0.8 Å, 0.37 Å

71. The correct order of stability of Al^+, Al^{+2}, Al^{+3} is :-
(A) $Al^{+3} > Al^{+2} > Al^+$
(B) $Al^{+2} > Al^{+3} > Al^+$
(C) $Al^{+2} < Al^+ > Al^{+3}$
(D) $Al^{+3} > Al^+ > Al^{+2}$

72. IP_1 and IP_2 of Mg are 178 and 348 K. cal mol^{-1}.
The enthalpy required for the reaction
$Mg \rightarrow Mg^{2+} + 2e^-$ is :-
(A) + 170 K.cal (B) + 526 K.cal
(C) - 170 K.cal (D) - 526 K.cal

73. II^{nd} IP of which of the element is maximum–
(A) Lithium (B) Oxygen
(C) Nitrogen (D) Fluorine

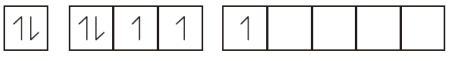
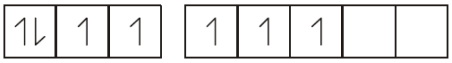
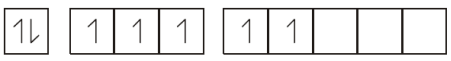
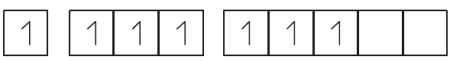
74. The amount of energy released for the process $X_{(g)} + e^- \rightarrow X^-_{(g)}$ is minimum and maximum respectively for :–
(a) F (b) Cl (c) N (d) B
Correct answer is :–
(A) c & a (B) d & b
(C) a & b (D) c & b

75. The X – X bond length is 1.00 Å and C – C bond length is 1.54 Å. If electro negativities of 'X' and 'C' are 3.0 and 2.0 respectively, the C – X bond length is likely to be:-
(A) 1.27 Å (B) 1.18 Å
(C) 1.08 Å (D) 1.28 Å

76. Carbon has a covalence of 2 in CO and 4 in CO_2 and CH_4, Its valence in C_2H_2 is:
(A) 3 (B) 4 (C) 2 (D) 1

77. Which condition favours the bond formation?
(A) Maximum attraction and maximum potential energy
(B) Minimum attraction and minimum potential energy
(C) Minimum potential energy and maximum attraction
(D) None of the above

78. The triple bond in $C \overleftarrow{=} O$ is made up of:–
(A) Three sigma bonds
(B) Three π –bonds
(C) One sigma and two π –bonds
(D) Two sigma and one π –bond

79. Which of the following configuration shows second excitation state of Iodine?
(A) 
(B) 
(C) 
(D) 

80. The pair of compounds which can form a coordinate bond is :-
(A) $(C_2H_5)_3B$ and $(CH_3)_3N$
(B) HCl and HBr
(C) BF_3 and NH_3
(D) (A) & (C) both

81. Descending order of electro negativity of sp^3, sp^2 & sp hybridized orbital's
(A) sp^2, sp, sp^3 (B) sp^3, sp^2, sp
(C) sp, sp^2. sp^3 (D) sp, sp^3, sp^2

82. Which of the following has a square planar structure?
(A) NH_4^+ (B) BF_4^-
(C) XeF_4 (D) CCl_4

83. The shape of ClO_3^- ion according to Valence Shell Electron Pair Repulsion (VSEPR) theory will be :
(A) Planar triangular (B) Pyramidal
(C) Tetrahedral (D) Square planar

84. Pick out the incorrect statement:-
(A) sp^3d hybridization involves $d_{x^2-y^2}$ orbital
(B) Hybridised orbital form σ-bond when overlaps with other orbital's.
(C) SF_2 molecule is more polar than CS_2
(D) o -nitrophenol is more volatile than p-nitrophenol

85. Increasing order of bond length in NO, NO^+ and NO^- is :-
(A) $NO > NO^- > NO^+$
(B) $NO^+ < NO < NO^-$
(C) $NO < NO^+ < NO^-$
(D) $NO < NO^+ = NO^-$

(SECTION-B)

86. The paramagnetic property of oxygen is well explained by :-
(A) Molecular orbital theory
(B) Resonance theory
(C) Valence bond theory
(D) VSEPR theory

87. Which of the following option w.r.t. increasing bond order is correct?
(A) $NO < C_2 < O_2^- < He_2^+$
(B) $C_2 < NO < He_2^+ < O_2^-$
(C) $He_2^+ < O_2^- < NO < C_2$
(D) $He_2^+ < O_2^- < C_2 < NO$

88. Born Haber cycle is mainly used to determine:
(A) Lattice energy
(B) Electron affinity
(C) Ionisation energy
(D) Electro negativity

89. The energies E_1 and E_2 of two radiations are 25 eV and 50eV respectively. The relation between their wavelengths i.e λ_1 and λ_2 will be :
(A) $\lambda_1 = \lambda_2$ (B) $\lambda_2 = 2\lambda_2$
(C) $\lambda_1 = 4\lambda_2$ (D) $\lambda_1 = \frac{1}{2}\lambda_2$

90. Maximum number of electrons in a subshell of an atom is determined by the following : –
(A) $2n^2$ (B) $4\ell + 2$
(C) $2\ell + 1$ (D) $4\ell - 2$

91. The orbital angular momentum of a p-electron is given as :-
(A) $\sqrt{\frac{3}{2}}\frac{h}{\pi}$ (B) $\sqrt{6}\frac{h}{2\pi}$
(C) $\frac{h}{\sqrt{2}\pi}$ (D) $\sqrt{3}\frac{h}{2\pi}$

92. Main axis of a diatomic molecule is z, molecular orbital p_x and p_y overlaps to form which of the following orbital ?
(A) π molecular orbital
(B) σ molecular orbital
(C) δ molecular orbital
(D) No bond will form

93. Which of the following option w.r.t. increasing bond order is correct ?
(A) $NO < C_2 < O_2^- < He_2^+$
(B) $C_2 < NO < He_2^+ < O_2^-$
(C) $He_2^+ < O_2^- < NO < C_2$
(D) $He_2^+ < O_2^- < C_2 < NO$

94. Amongst the elements with following electronic configurations, which one of them may have the highest ionization energy ?
(A) $Ne[3s^23p^1]$ (B) $Ne[3s^23p^3]$
(C) $Ne[3s^23p^2]$ (D)$Ar[3d^{10}4s^24p^3]$

95. The 1st Ionisation enthalpy of Na, Mg and Si are 496, 737, 776 $kJmol^{-1}$ respectively then what will be the 1st ionisation enthalpy of Al in $kJmol^{-1}$:
(A) 310 (B) 510
(C) 710 (D) 800

96. Aluminum is not acted upon by pure water as:
(A) Impurities in water are essential for the reaction to occur
(B) It is light metal
(C) It is protected by a film of aluminum oxide
(D) It is not a reactive metal

97. In the following reaction –
$B(OH)_3 + H_2O \longrightarrow [B(OH)_4]^- + H^+$
(A) $B(OH)_3$ is a Lewis acid
(B) $B(OH)_3$ is a Lewis base
(C) $B(OH)_3$ is amphoteric
(D) None is correct

98. Silicones have the general formula :
(A) SiO_4^{4-} (B) $Si_2O_7^{6-}$
(C) $(R_2SiO)_n$ (D) $(SiO_3)_n^{2-}$

99. Amongst the elements of group 14, the reducing power of the divalent species decreases in the order :
(A) Ge > Sn > Pb (B) Sn > Ge > Pb
(C) Pb > Sn > Ge (D) Sn > Pb > Ge

100. The tetrahalides of group 14 elements except that of carbon act as :
(A) Strong Lewis bases
(B) Strong Lewis acids
(C) Strong oxidising agents
(D) None of these

BIOLOGY

BOTANY (SECTION-A)

101. The structural and functional unit of living organism is
(A) Tissue (B) Cell
(C) Organ (D) Organ system

102. Who proposed the hypothesis that the body of plants and animals are composed of cells and product of cells?
(A) A British zoologist
(B) Mathias Schleiden
(C) A German botanist
(D) More than one option is correct

103. A loose sheath of glycocalyx layer is called
(A) Capsule (B) Cell wall
(C) Slime layer (D) Cell membrane

104. Select the incorrect match w.r.t. shape of bacteria:
(A) Cocci-Spherical
(B) Bacillus Cubical
(C) Vibrio Comma shaped
(D) Spirillum-Spiral shaped

105. Select the wrong statements w.r.t. cell wall:
(A) Primary cell wall gradually diminishes as the cell matures.
(B) The secondary cell wall is formed on the outer side of primary wall.
(C) The middle lamella is namely made up of calcium and magnesium pectate.
(D) Cell wall helps in cell-to-cell interaction and provides barrier to undesirable macromolecules.

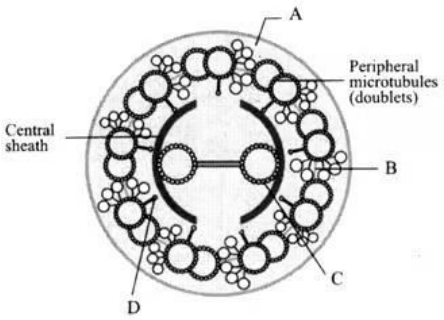
106. Endoplasmic reticulum, Golgi apparatus, lysosomes and vacuoles are component of endomembrane system because
(A) Their structures are similar
(B) Their functions are distinct
(C) Their functions are coordinated
(D) All of these

107. DNA present in mitochondria is different to the DNA present inside the nucleus in
(I) Having high GC content
(II) Being circular
(III) Being incapable of replication
(IV) Being single stranded
(A) Only (II) (B) (I) and (II)
(C) (II) and (III) (D) (II) and (IV)

108. The leucoplasts which store protein, carbohydrate and lipid are, respectively
(A) Aleuroplast, elaioplast, amyloplast
(B) Elaioplast, amyloplast, aleuroplast
(C) Amyloplast, aleuroplast, elaioplast
(D) Aleruoplast, amyloplast, elaioplast

109. The cellular structure that are almost like centrioles are
(A) Basal bodies of eukaryotic flagella
(B) Basal bodies of prokaryotic
(C) Centromere
(D) Both (A) and (B)

110. Go through the section of cilia/flagella showing different parts as follows:

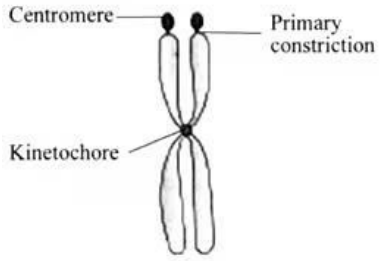


	A	B	C	D
(A)	Plasma membrane	Peripheral microtubule doublet	Central doublet microtubule	Control sheath
(B)	Plasma membrane	Interdoublet bridge	Central microtubule	Radial spoke
(C)	Cell membrane	Arm	Central microtubule	Hub
(D)	Cell membrane	Hub	Central sheath	Arm

111. The interphase nucleus has highly extended and elaborate P nucleoprotein fibres. These fibres contain
(I) DNA
(II) Basic protein, histones
(III) RNA
(IV) Non-histone proteins
(A) (I) and (II) only
(B) (I), (II) and (III) only
(C) (I), (II) and (IV) only
(D) All (I), (II), (III) and (IV)

112. Find the correct statements w.r.t. nucleus.
(A) Nuclear envelope consists of two parallel membranes with a space between 10 and 50 nm called perinuclear space.
(B) The outer membrane usually remains continuous with the endoplasmic reticulum.
(C) 80S ribosomes could be present on outer nuclear membrane by their 40S subunit.
(D) Nucleoli are spherical membrane bound structure present in nucleoplasm.
(A) Only (A)
(B) (A) and (B) only
(C) (A), (B) and (C)
(D) (A), (B), (C) and (D)

113. Error/s is/are made by the student during pictorial representation of chromosome. Study the diagram and select which of the following holds true regarding error.



(A) Centromere shown in figure should be labelled as satellite.
(B) Primary constriction labelled in figure is actually secondary constriction.
(C) Kinetochore labelled in figure must be replaced by centromere.
(A) Only (A) (B) Only (C)
(C) Only (A) and (B) (D) (A), (B) and (C)

114. Term chromatin was coined by
(A) Robert Brown (B) Flemming
(C) Hofmeister (D) Waldare

115. Which of the following statement is not true w.r.t. nucleus?
(A) The outer nuclear membrane usually remains continuous with the ER and also bear ribosomes.
(B) The nuclear matrix contains nucleolus and chromatin.
(C) Nuclear pores are the passage through which movement of RNA and proteins takes place in one direction.
(D) Chromatin contains DNA and some basic proteins Histone, some non-histone protein sand RNA.a

116. The organelles that are included in the endomembrane system are:
(A) Endoplasmic reticulum, Mitochondria, Ribosomes and Lysosomes
(B) Endoplasmic reticulum, Golgi complex, Lysosomes and Vacuoles
(C) Golgi complex, Mitochondria, Ribosomes and Lysosomes
(D) Golgi complex, Endoplasmic reticulum, Mitochondria and Lysosomes

117. Which of the following is correct with respect to the compounds in acid-soluble pool?
(A) They are called biomacromolecules.
(B) Their molecular weight is around 10,000 Da.
(C) They include nucleic acids and lipids.
(D) They have molecular weights ranging from 18 to 800 Da.

118. The relative abundance of_____ and_____ is higher in living organisms as compared to earth's crust.
(A) Magnesium, silicon
(B) Carbon, hydrogen
(C) Silicon, oxygen
(D) Calcium, magnesium

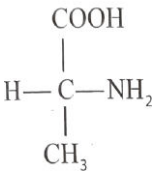
119. Which one of the following is correct for lactose with respect to its sugar components?
(A) Glucose-Fructose
(B) Glucose-Galactose
(C) Galactose-Fructose
(D) Mannose-Galactose

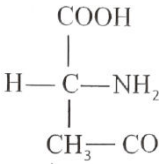
120. Which of the following set contains non-reducing disaccharides?
(A) Sucrose and maltose
(B) Maltose and lactose
(C) Lactose and trehalose
(D) Sucrose and trehalose

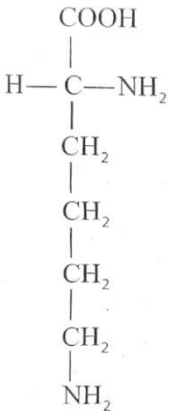
121. Which of the following set contains monosaccharides only?
(A) Sucrose and glucose
(B) Lactose and ribose
(C) Sucrose and lactose
(D) Fructose and xylose

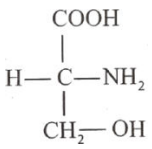
122. In the modern system of nomenclature which one of the following enzyme occupies 1st position
(A) Transferase
(B) Oxidoreductase
(C) Hydrolase
(D) Ligase

123. Which one of the given structures represents the structural formula of basic amino acid?

(A) 

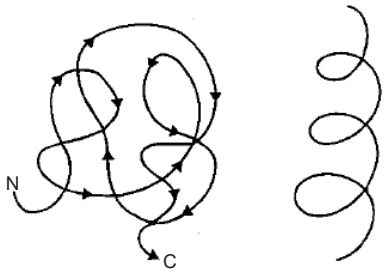
(B) 

(C) 

(D) 

124. Consider the following statements:
(i) Insulin is an example of heteropolymer.
(ii) The positional information of amino acids in a protein is provided by its primary structure.
(iii) The first amino acid in a protein is called C-terminal amino acid.
(iv) Secondary structure gives us a three-dimensional view of a protein. Which of the above statements are correct?
(A) (i) and (ii) (B) (ii) and (iii)
(C) (iii) and (iv) (D) (i) and (iv)

125. Consider the following diagrams of protein and find out the correct matching.



(A) (B)

(A) A-Primary structure, B-Secondary structure
(B) A-Secondary structure, B-Tertiary structure
(C) A-Tertiary structure, B-Secondary structure
(D) A-Tertiary structure, B-Quaternary structure

126. Which of the following is a characteristic feature of all -lipids?
(A) They are all esters of fatty acid and alcohol.
(B) Presence of nitrogen.
(C) Insoluble in water.
(D) Contain phosphate groups.

127. Which of the following is not formed by the hydrolysis of a nucleoside?
(A) Sugar
(B) Phosphoric acid
(C) Nitrogenous base
(D) Both (A) and (C)

128. Mark the odd one with respect to nucleosides.
(A) Adenosine (B) Guanosine
(C) Cytosine (D) Uridine

129. Glycosidic bond is formed between
(A) Adjacent nucleotides in a polynucleotide chain.
(B) Amino and carboxyl groups of two amino acids.
(C) Two carbon atoms of adjacent monosaccharides.
(D) Phosphate and hydroxyl group of sugar in a nucleotide.

130. Find out the correct match.
(A) Apoenzyme = Cofactor + Prosthetic group
(B) Holoenzyme = Cofactor + Apoenzyme 11
(C) Holoenzyme = Cofactor + Prosthetic group
(D) Cofactor = Apoenzyme + Metal ions

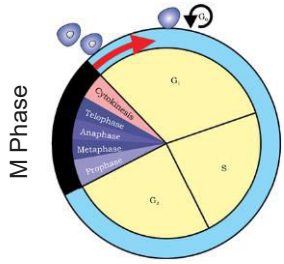
131. Which of the following rule was not given by the enzyme commission?
(A) Assigned each enzyme a name
(B) Mention of cofactors
(C) Assigned each enzyme a 4-digit code
(D) Divided enzymes into 6 main groups

132. A cell in quiescent stage is
(A) Non-proliferating
(B) Metabolically inactive
(C) Actively dividing
(D) A meristematic cell in plants

133. Interphase
(A) Is a biosynthetic phase in which the cell duplicates its organelles
(B) Constitutes more than 95% duration of cell cycle
(C) Is the phase between two successive M-phases
(A) Only (A) is correct
(B) Only (B) and (C) are correct
(C) Only (C) is incorrect
(D) All (A), (B) and (C) are correct

134. The most dramatic period of the cell cycle is
(A) Interphase (B) M-phase
(C) S-phase (D) G-phase

135. Study the given diagrammatic view of cell cycle indicating formation of two cells from one cell and select most appropriate option as answer.



(A) M-phase-Cells in this stage remain metabolically active but no longer proliferate
(B) G-phase Constitutes more than 95% duration of cell cycle
(C) G-phase RNA and proteins are synthesized, and cell growth continues
(D) S-phase-Amount of DNA and number of chromosomes double in nucleus

(SECTION-B)

136. How many of the following statements are true w.r.t. resting phase of cell cycle?
(i) Cell divides into two daughter cells.
(ii) Constitutes more than 95% duration of cell cycle.
(iii) Most of the cell organelles duplicate during G, phase.
(iv) Duplication of centriole and replication of DNA occur in S phase.
(v) Most dramatic period of the cell cycle.
(A) Two (B) Four
(C) Three (D) One

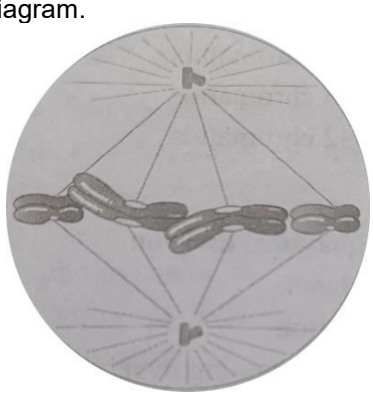
137. Number of mitotic divisions and generations required to produce 64 cells from a single cell are, respectively
(A) 32, 6 (B) 6,32
(C) 63, 6 (D) 63, 5

138. Period of active mitosis ranges from
(A) 10 minutes to a few hours
(B) A few hours to one day
(C) One day to a week
(D) Less than a minute

139. Initiation and complete condensation of chromosome e occur respectively in
(A) Prophase and anaphase
(B) Prophase and metaphase
(C) Interphase and prophase
(D) Interphase and metaphase

140. The best stage to observe morphology of chromosome is
(A) Anaphase (B) Prophase
(C) Prophase (D) Metaphase

141. Mark the option which truly represents the event of cell division stage in given diagram.



(A) Splitting of centromere
(B) Spindle fibre attached to kinetochore of chromosomes
(C) Nucleus, Golgi apparatus, ER reform
(D) Sister chromatids more to opposite poles

142. Recombination between homologous chromosomes is completed by the end of
(A) Diplotene (B) Pachytene
(C) Diakinesis (D) Zygotene

143. Choose odd one w.r.t. significance of meiosis:
(A) Helps in maintaining the chromosome number of each species.
(B) Increases genetic variability.
(C) Introduces new combination of traits.
(D) Replacement of cells of lining of gut of human body.

144. In meiosis I, a bivalent is an association of
(A) Four chromatids and four centromeres
(B) Two chromatids and two centromeres
(C) Two chromatids and one centromere
(D) Four chromatids and two centromeres

145. Chiasmata shows the site of
(A) Spindle formation
(B) Synapsis
(C) Chromosome condensation
(D) Crossing over

146. Read the following statements:
(A) Terminalisation of chiasmata occurs
(B) Fully condensed chromosomes
(C) Spindle is assembled
(D) Represents transition to metaphase
The above characteristics are attributed to
(A) Zygotene (B) Pachytene
(C) Leptotene (D) Diakinesis

147. Stage between the meiosis I and meiosis II is
(A) Called intrameiotic interphase
(B) Characterised by polymerisation of deoxyribonucleotides
(C) Short lived
(D) More than one option is correct

148. Consider the following statements and select the option that correctly fills the blank:
(i) The chromatids of a homologous chromosome become clearly visible as tetrad in (A).
(ii) During the cytokinesis in plant cells, phragmoplast is formed and grows (B) to form the cell plate.

	A	B
(A)	Zygotene	Centrifugally
(B)	Pachytene	Inwards
(C)	Pachytene	Centrifugally
(D)	Leptotene	Outwards

149. Genetic recombination occurs during
(A) S-phase
(B) Metaphase of meiosis I
(C) Anaphase of meiosis II
(D) Prophase of meiosis I

150. Exchange of paternal and maternal chromosomes material during cell division is
(A) Dyad formation
(B) Bivalent formation
(C) Crossing over
(D) Synapsis

ZOOLOGY (SECTION-A)

151. The harmful gas produced by catabolic reaction in our body is
(A) Oxygen (B) Carbon dioxide
(C) Phosphine (D) Ozone

152. In which of the following skin serves as an accessory organ of respiration?
(A) Rabbit (B) Frog
(C) Lizards (D) Birds

153. The adult frog does not respire through
(A) Buccopharyngeal cavity
(B) Gills
(C) Skin
(D) Lungs

154. Which is the correct sequence of the air passage in man?
(A) Nasal cavity → pharynx → trachea → larynx → bronchi → bronchioles → alveoli
(B) Nasal cavity → pharynx → larynx → trachea → bronchi → bronchioles → alveoli
(C) Nasal cavity → larynx → pharynx → trachea → bronchi → bronchioles → alveoli
(D) Nasal cavity → larynx → bronchi → pharynx → trachea → bronchioles → alveoli

155. Opening of larynx into pharynx is guarded by
(A) Syrinx (B) Epiglottis
(C) Tracheal valves (D) All of these

156. Pleura is a double membrane sac which envelops
(A) Kidneys (B) Brain
(C) Lungs (D) Nasal passage

157. Even when air being absent, the human trachea does not collapse due to the presence of
(A) Bony rings
(B) Turgid pressure
(C) Chitinous rings
(D) Cartilaginous rings

158. Select the incorrect statement from the following:
(A) Pleural fluid reduces friction on the lung surface.
(B) The anatomical setup of lungs in thorax is such that any change in the volume of the thoracic cavity will be reflected in the lung (pulmonary) cavity. Such an arrangement is essential for breathing, as we cannot directly alter the pulmonary volume.
(C) The tracheae, primary, secondary and tertiary bronchi and initial bronchioles are supported by complete cartilaginous rings.
(D) During swallowing, the glottis can be covered by a thin elastic cartilaginous flap called epiglottis to prevent the entry of food into the larynx.

159. During inspiration, the diaphragm
(A) Relaxes to become dome-shaped
(B) Contracts and flattens
(C) Expands
(D) Shows no change

160. Expiratory muscles contract at the time of
(A) Deep inspiration
(B) Normal inspiration and expiration
(C) Forceful expiration
(D) Muscular expansion of lungs

161. On an average, a healthy human breathes how many times/minute
(A) 20 to 40 (B) 72 to 75
(C) 3 to 5 (D) 12 to 16

162. Functional residual capacity can be represented as
(A) TV + ERV (B) ERV + RV
(C) RV + IRV (D) ERV + TV + IRV

163. Which is not true?
(A) pCO_2 of deoxygenated blood is 95 mm Hg.
(B) pCO_2 of alveolar air is 40 mm Hg.
(C) pO_2 of oxygenated blood is 95 mm Hg.
(D) pO_2 of deoxygenated blood is 40 mm Hg.

164. The solubility of CO2 is _____ times higher than that of O2.
(A) 10-15 (B) 20-25
(C) 30-35 times (D) 210 times

165. Diffusion membrane is made up of
(A) Thin squamous epithelium of alveoli
(B) Endothelium of alveolar capillaries
(C) Basement membrane between the two layers
(D) All the above

166. The total percentage of O2 transported by haemoglobin or RBC is
(A) 3% (B) 97%
(C) 70% (D) 7%

167. Respiratory rhythm centre is present in which part of brain?
(A) Pons
(B) Medulla oblongata
(C) Cerebrum
(D) Cerebellum

168. Emphysema is a
(A) Cardiovascular disease
(B) Pulmonary disease
(C) Renal disease
(D) Pain in lungs

169. Which of the following is incorrect about occupational respiratory disorder?
(A) It occur in some industries, especially those involving grinding or stone-breaking.
(B) Long exposure in such industries leading to fibrosis (proliferation of fibrous tissues).
(C) Workers in such industries can be protected from these disorders by wearing protective masks.
(D) It is an allergic disease always.

170. A large proportion of oxygen is left unused in the human blood even after its uptake by the body tissues. This O_2
(A) Helps in releasing more O_2 to the epithelium tissues.
(B) Acts as a reserve during muscular exercise.
(C) Raises the pCO_2 of blood to 75 mm of Hg.
(D) Is enough to keep oxyhaemoglobin saturation at 96%.

171. **Assertion:** During inspiration, pressure of air falls in the thorax.
Reason: There is a rise in volume of thorax during inspiration.
(A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) If the assertion is true but the reason is false.
(D) If both the assertion and reason are false.

172. **Assertion:** 70 per cent of CO2 is carried as bicarbonate ion in plasma.
Reason: If it is transported directly then pH of blood becomes acidic.
(A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) If the assertion is true but the reason is false.
(D) If both the assertion and reason are false.

173. **Assertion:** Oxygen dissociation curve is sigmoid.
Reason: Affinity of oxygen for Hb increases with addition of each molecule of oxygen one after another.
(A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) If the assertion is true but the reason is false.
(D) If both the assertion and reason are false.

174. Which one of the following is the correct statement for respiration in humans?
(A) Cigarette smoking may lead to inflammation of bronchi.
(B) Neural signals form pneumotoxic centre in pons region of brain can increase the duration of inspiration.
(C) Workers in grinding and stone-breaking industries may suffer from lung fibrosis.
(D) About 90 per cent of carbon dioxide CO2 is carried out by haemoglobin as carbamino haemoglobin.

175. Lungs do not collapse between breaths and some air always remains in the lungs which can never be expelled because
(A) There is a negative intrapleural pressure pulling a the lung walls
(B) There is a positive intrapleural pressure
(C) Pressure in the lungs is higher than the atmospheric pressure
(D) There is a negative pressure in the lungs

176. The mode of respiration in rabbit is
(A) Cutaneous (B) Mucosal
(C) Tracheal (D) Pulmonary

177. Partial pressures (in mmHg) of O_2 in atmospheric air, alveoli, deoxygenated blood, oxygenated blood and tissues are
(A) 159,104,40,95,40
(B) 104,40,40,95,159
(C) 0.3,40,45,40,45
(D) 159,104,45,95,40

178. Oxygen is transported in blood mainly by
(A) Blood plasma (B) Leucocytes
(C) Thrombocytes (D) Erythrocytes

179. The amount of O_2 normally carried by 100 ml of pure blood is
(A) 10 ml (B) 20 ml
(C) 5 ml (D) 4 ml

180. Wheezing sound is produced in
(A) Asthma (B) Emphysema
(C) Silicosis (D) Pneumonia

181. Major cause of emphysema is
(A) Cigarette smoking
(B) Allergy
(C) Wine consumption
(D) Viral infection

182. Which one of the following is a possibility for most of us in regard to breathing, by making a conscious effort?
(A) One can breathe out air totally without oxygen.
(B) One can breathe out air through Eustachian tubes by closing both the nose and the mouth.
(C) One can consciously breathe out by moving the diaphragm alone without moving the ribs at all.
(D) The lungs can be made fully empty by forcefully breathing out all air from them.

183. Mark the correct statement from the following:
(A) Tracheal rings are of hyaline cartilage.
(B) Dorsal side of thoracic chamber is formed by sternum.
(C) Expiration occurs when there is negative pressure in lungs.
(D) All the above

184. **Assertion:** In mollusca, the circulatory system is of closed type.
Reason: The blood of mollusca contains haemoglobin.
(A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) If the assertion is true but the reason is false.
(D) If both the assertion and reason are false.

185. **Assertion:** Every 100 ml of oxygenated blood can deliver around 5 ml of O2 to the tissues.
Reason: Every 100 ml of deoxygenated blood delivers approx 4 ml of CO2 to the alveoli.
(A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) If the assertion is true but the reason is false.
(D) If both the assertion and reason are false.

(SECTION-B)

186. **Assertion:** Fishes respire through lungs
Reason: Amphibians respire through gills
(A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) If the assertion is true but the reason is false.
(D) If both the assertion and reason are false.

187. **Assertion:** Larynx is called sound box.
Reason: Larynx helps in production of sound.
(A) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) If both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) If the assertion is true but the reason is false.
(D) If both the assertion and reason are false.

188. What is true about RBCs in humans?
(A) They carry about 20 to 25 per cent of CO_2.
(B) They transport 99.5 per cent of O_2.
(C) They transport about 80 per cent oxygen only and the rest 20 per cent of it is transported in dissolved state in blood plasma.
(D) They do not carry O_2 at all.

189. A large proportion of oxygen is left unused in the human blood even after its uptake by the body tissues. This O_2
(A) Raises the pCO_2 of blood to 75 mm of Hg.
(B) Is enough to keep oxyhaemoglobin.
(C) Helps in releasing more O2 to the epithelial tissues.
(D) Acts as a reserve during muscular exercise.

190. When you hold your breath, which of the following gas changes in blood would first lead to the urge in breathe?
(A) Falling O_2 concentration
(B) Rising CO_2 concentration
(C) Falling CO_2 concentration
(D) Rising CO_2 and falling O_2 concentration

191. Name the pulmonary disease in which alveolar surface area involved in gas exchange is drastically reduced due to damage in the alveolar walls
(A) Emphysema (B) Pneumonia
(C) Asthma (D) Pleurisy

192. Name the chronic respiratory disorder caused mainly by cigarette smoking
(A) Emphysema
(B) Asthma
(C) Respiratory acidosis
(D) Respiratory alkalosis

193. Reduction in pH of blood will:
(A) Reduce the rate of heart beat
(B) Reduce the blood supply to the brain
(C) Decrease the affinity of hemoglobin with oxygen
(D) None of these

194. The partial pressure of oxygen in the alveoli of the lungs is
(A) More than that in the blood
(B) Less than that in the blood
(C) Les than that of carbon dioxide
(D) Equal to that in the blood

195. A person suffers punctures in his chest cavity in an accident, without any damage to the lungs. Its effect could be
(A) Reduced breathing rate
(B) Rapid increase in breathing rate
(C) No change in respiration
(D) Cessation of breathing

196. A person breathes in some volume of air by forced inspiration after having a forced expiration.
This quantity of air taken in is
(A) Total lung capacity
(B) Tidal volume
(C) Vital capacity
(D) Inspiratory capacity

197. The partial pressures (in mm Hg) of oxygen (O_2) and carbon dioxide (CO_2) at alveoli (the site of diffusion) are :
(A) pO_2 = 104 and pCO_2 = 40
(B) pO_2 = 40 and pCO_2 = 45
(C) pO_2 = 95 and pCO_2 = 40
(D) pO_2 = 159 and pCO_2 = 0.3

198. Select the favourable conditions required for the formation of oxyhaemoglobin at the alveoli.
(A) High pO_2, low pCO_2, less H^+, lower temperature
(B) Low pO_2, high pCO_2, more H^+, higher temperature
(C) High pO_2, high pCO_2, less H^+, higher temperature
(D) Low pO_2, low pCO_2, more H^+, higher temperature

199. Under normal physiological conditions in human being every of oxygenated blood can deliver _____ of to the tissues.
(A) 5 ml (B) 4 ml
(C) 10 ml (D) 2 ml

200. Which of the following is not the function of conducting part of respiratory system?
(A) Inhaled air is humidified
(B) Temperature of inhaled air is brought to body temperature
(C) Provides surface for diffusion of O_2 and CO_2
(D) It clears inhaled air from foreign particles