TECHNO INDIA GROUP OF PUBLIC SCHOOLS

Dt. 13-12-2025

NEET (XI)

Monthly Mock Test - 6 (December-2025)

Time Allowed: **3 hours**   Maximum Marks: **720**

General Instructions:

1. This test will be a 3 hours Test, Maximum Marks 720.

2. This test consists of 180 questions of Physics, Chemistry and Biology. All questions are COMPULSORY to attempt. MCQ (one correct answer).

3. Each question is of 4 marks.

4. There are three parts in the question paper, consisting Part-I Physics (Q. No. 1 to 45), Part-II Chemistry (Q. no. 46 to 90), Part-III Biology (Q. no. 91 to 180).

5. There will be only one correct choice in the given four choices for each question. For each question 4 marks will be awarded for correct choice, 1 mark will be deducted for incorrect choice and zero mark will be awarded for unattempted question.

6. Any textual, printed or written material, mobile phones, calculator, etc. is not allowed for the students appearing for the test.

7. All calculations / written work should be done in the rough sheet provided.

PHYSICS

1. The opposite faces of a metal plate of 0.2 cm thickness are at a difference of temperature of 100°C and the area of the plate is 200 cm^2. Find the quantity of heat that will flow through the plate in one minute if thermal conductivity k = 0.2 C. G. S. unit.

   ① 12×10^5 cal ② 24×10^5 cal ③ 36×10^5 cal ④ 48×10^5 cal

2. 300 gm of water at 25°C is added to 100 gm of ice at 0°C. The final temperature of the mixture is

   ① $\frac{-5}{3}$ °C ② $\frac{-5}{2}$ °C ③ 5°C ④ 0°C

3. An ideal gas is initially at temperature T and volume V. Its volume is increased by ΔV due to an increase in temperature ΔT, pressure remaining constant. The quantity $\delta = \dfrac{\Delta V}{(V \, \Delta T)}$ varies with temperature following which graph.
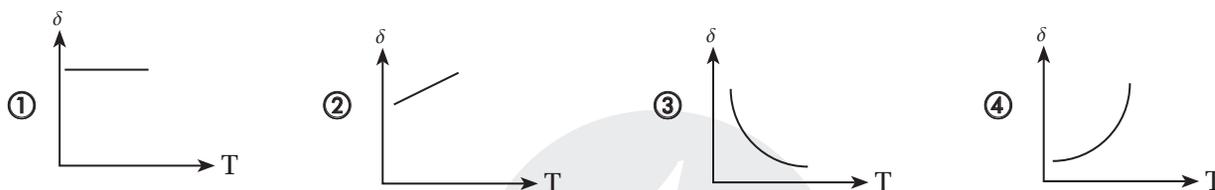

4. A gas whose γ = 4/3 is heated at constant pressure. How much percent of given heat is used in external work done.

   ① 30% ② 25% ③ 50% ④ 55%

5. An ideal gas mixture is filled inside a ballon expands according to the relation $PV^{\frac{2}{3}}$ = constant. The temperature inside the ballon is

   ① increasing ② decreasing ③ constant ④ cannot be defined

6. Six identical conducting rods are joined as shown in figure. Points A and D are maintained at 200°C and 20°C respectively. The temperature of junction B will be
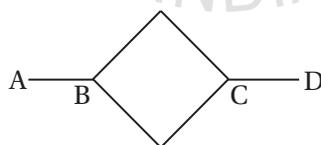
   ① 120° C ② 100° C ③ 140° C ④ 80° C

7. Match List I with List II

	List - I		List - II
A.	Isothermal process	I.	Work done by the gas decreases internal energy.
B.	Adiabatic process	II.	No change in internal energy.
C.	Isochoric process	III.	The heat absorbed goes partly to increase internal energy and partly to do work.
D.	Isobaric process	IV.	No work is done on or by the gas.

   ① A - II ; B - I ; C - III, D - IV ② A - II ; B - I ; C - IV, D - III
   ③ A - I ; B - II ; C - IV, D - III ④ A - I ; B - II ; C - III, D - IV

8. If the amount of heat given to a system is 35 J and the amount of work done on the system is 15 J, then the change in internal energy of the system is

① – 50 J ② 20 J ③ 30 J ④ 50 J

9. The relation between U, P and V for an ideal gas in an adiabatic process is given by relation U = a + bPV. Find the value of adiabatic exponent (γ) of this gas

① $\dfrac{b+1}{b}$ ② $\dfrac{b+1}{a}$ ③ $\dfrac{a+1}{b}$ ④ $\dfrac{a}{a+b}$

10. Relation between pressure (P) and energy (E) of an ideal gas is

① $P = \dfrac{2}{3}E$ ② $P = \dfrac{1}{3}E$ ③ $P = \dfrac{1}{2}E$ ④ $P = 3E$

11. A block of ice at –10°C is slowly heated and converted to steam at 100°C. Which of the following curves represents the phenomenon qualitatively.

①   ②   ③   ④
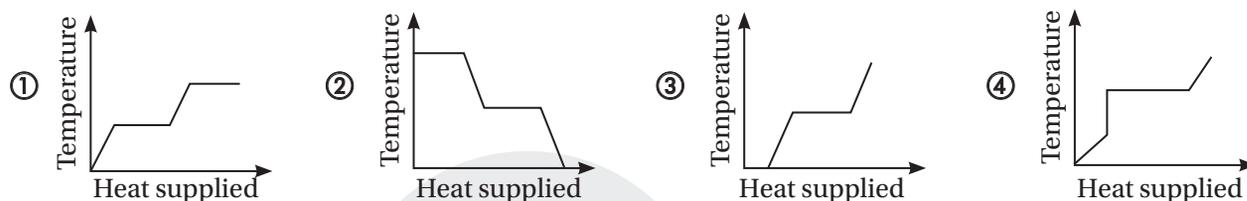
12. Two metal wires of identical dimension and of thermal conductivities K_1 and K_2 respectively are connected in series. The effective thermal conductivity of the combination is

① $\dfrac{2K_1K_2}{K_1+K_2}$ ② $\dfrac{K_1K_2}{2K_1K_2}$ ③ $\dfrac{K_1+K_2}{K_1K_2}$ ④ $\dfrac{K_1K_2}{K_1+K_2}$

13. Equation of a progressive wave is given by

$$y = 4\sin\left[\pi\left(\frac{t}{5} - \frac{x}{9}\right) + \frac{\pi}{6}\right]$$

Where the unit of x and y are in 'm' and that of t is in second. Then which of the following is incorrect?

① wave velocity = 1.8 m/s ② wave length = 18 m
③ amplitude = 4 m ④ frequency = 100 Hz

14. Heat energy absorbed per cycle by a system is going through a cyclic process shown in the given figure is
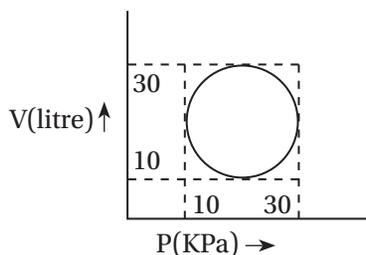
① $10^7 \pi$ J ② $10^4 \pi$ J ③ $10^2 \pi$ J ④ $10^{-3} \pi$ J

15. The radius of a ball is (2.5 ± 0.2) cm. The percentage error in the volume of the ball is

① 11% ② 24% ③ 7% ④ 9%

16. The dimensional formula of force is

① $[ML^{-2}]$ ② $[MLT^{-2}]$ ③ $[MLT^{-1}]$ ④ $[LT^{-2}]$

17. Choose incorrect statements.

① A dimensionaly correct equation may be correct

② A dimensionally correct equation may be incorrect.

③ A dimensionally incorrect equation may be correct.

④ A dimensionally incorrect equation may be incorrect.

18. An object of weight W and density p is submerged in a fluid of density p_1. Its apparent weight will be

① $W(p - p_1)$
② $\dfrac{(p - p_1)}{W}$
③ $W\left(1 - \dfrac{p_1}{p}\right)$
④ $W(p_1 - p)$

19. If two capillary tubes of radii r_1 and r_2 in the ratio $1:2$ are dipped vertically in water, then the ratio of capillary rises in the respective tubes is

① $1:4$
② $4:1$
③ $1:2$
④ $2:1$

20. A mass M is moving with a constant velocity parallel to the x-axis. Its angular momentum w.r.t. origin

① is zero
② remains constant
③ goes on increasing
④ goes on decreasing

21. A fly wheel rotates with a uniform angular acceleration. Its angular velocity increase from $20a$ rad s^{-1} to $40a$ rad s^{-1} in 10s. How many rotations did it make in this period?

① 80
② 100
③ 120
④ 150

22. For the adjoining diagram, ABC is a triangular lamina. The correct relation between I_1, I_2 and I_3 is (I = moment of inertia).
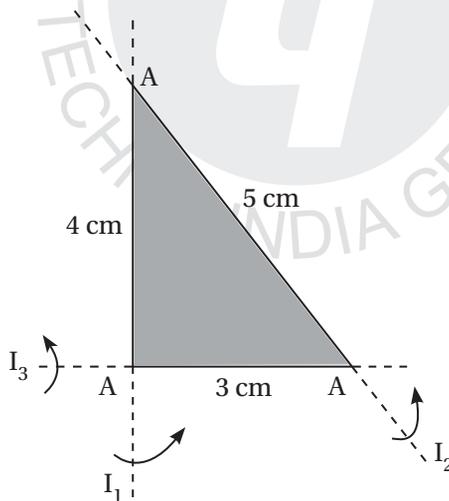
① $I_1 > I_2 > I_3$
② $I_2 < I_1 < I_3$
③ $I_2 > I_1 > I_3$
④ $I_3 > I_2 > I_1$

23. A particle of mass M is situated at the centre of a spherical shell having mass M and radius a. The gravitational potential at a point situated at $\dfrac{a}{2}$ distance from the centre, will be

① $\dfrac{3GM}{a}$
② $\dfrac{2GM}{a}$
③ $\dfrac{GM}{a}$
④ $-\dfrac{3GM}{a}$

24. A wire of length L and radius r is clamped at one end. On sttretching 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 2L and radius 2r is stretched with a force 2F, the increase in its length will be

① $\dfrac{1}{4}$
② $\dfrac{1}{2}$
③ l
④ $2l$

25. Which of the following is not the property of an ideal fluid ?

① Fluid is incompressible ② Fluid is viscous

③ Fluid flow is irrrotational ④ Fluid flow is streamline

26. The level of water in a tank is 5 m high. A hole of area 10 cm^2 is made in the bottom of the tank. The rate of leakage of water from the hole is (g = 10 m/s^2)

① $10^{-2}m^3s^{-1}$ ② $10^{-3}m^3s^{-1}$ ③ $10^{-4}m^3s^{-1}$ ④ $10^3m^3s^{-1}$

27. Two satellites of earth S_1 and S_2 are moving in the same orbit. The mass of S_1 is 4 times the mass of S_2. Which one of the following statements is true ?

① The potential energies of earth and satellite in the two cases are equal

② S_1 and S_2 are moving with the same speed.

③ The kinetic energies of the two satellits are equal

④ The time period of S_1 is 4 times that of S_2

28. A uniform thin bar of mass 6m and length 12 L is bent to make a regular hexagon. Its moment of inertia about an axis passing through the centre of mass and perpendicular to the plane of hexagon is

① 20 mL^2 ② 6 mL^2 ③ $\frac{12}{5}$mL^2 ④ 30 mL^2

29. At what height h above the earth's surface the value of g becomes $\frac{g}{2}$? [g = gravitational acceleration at the surface of the earth, R = radius of the earth]

① $\left(\sqrt{2}-1\right)R$ ② $\sqrt{2}R$ ③ $\left(\sqrt{2}+1\right)R$ ④ 2R

30. A water barrel having water up to a depth d is placed on a table of height h. A small hole is made on the wall of the barrel at its bottom. If the stream of water coming out of the hole falls on the ground at a horizontal distance R from the barrel, then the value of d is

① $\frac{4h}{R^2}$ ② $4hR^2$ ③ $\frac{R^2}{4h}$ ④ $\frac{h}{4R^2}$

31. Which of the following graphs represents the motion of a planet moving about the sun? (T = Time period, R = Distance between the centres of the sun and planet)

32. The escape velocity from the earth's surface is 11 km/s. the escape velocity from a planet having twice the radius and same mean density as that of earth is

① 5.5 km/s ② 11 klm/s ③ a22 km/s ④ None of these

33. A small spherical ball falling through a viscous medium of negligible densit has terminal velocity v. Anoher vall of the same mass but of radius twice that of earlier falling through the same viscous medius will have terminal velocity.

① v ② $\frac{v}{4}$ ③ $\frac{v}{2}$ ④ None of these

34. When a force is applied on a wire of uniform cross-sectional area 3×10^{-6} m^2 and length 4 m, the increase in length is 1 mm. Energy strored in it will be ($Y = 2 \times 10^{11}$ N/m^2)

① 6250 J ② 0.177 J ③ 0.075 J ④ 150 J

35. Two particles each of mass m are kept at a separation d. Under the actiion of their mutual gravitational attraction, the particles are rotating in a circular path about the centre of mass of the system. Then the speed

of each particle.

① $\sqrt{\dfrac{Gm}{2d}}$ ② $\sqrt{\dfrac{Gm}{d}}$ ③ $\sqrt{\dfrac{2Gm}{d}}$ ④ $\sqrt{\dfrac{Gm}{4d}}$

36. If 100 N force acts on a surface of area 25 m2 making an angle 30 with the surface, the pressure exerted on the surface is

① 1 Pa   ② 2 Pa   ③ 3 Pa   ④ 4 Pa

37. N division on a main scale of a vernier callipers coincides with (N + 1) divisions on its vernier scale. If each division of main scale is of 'a' unit, then the least count of vernier callipers is

① $\dfrac{a}{N}$ ② $\dfrac{a}{N+1}$ ③ $\dfrac{a}{N-1}$ ④ None of these

38. From a circular disc of radius R and mass 9M, a small disc of radius R/3 is removed as shown in figure. The moment of inertia of the remaining disc about an axis perpendicular to the plane of the disc and passing through O is
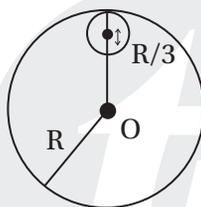
① $4MR^2$ ② $\dfrac{40}{9}MR^2$ ③ $40MR^2$ ④ $\dfrac{37}{9}MR^2$

39. A rope is wound around a hollow cylinder of mass 3 kg and radius 40 cm. If the rope is pulled with a force of 30 N, angular acceleration of the cylinder will be

① $10\ \text{rad s}^{-2}$ ② $15\ \text{rad s}^{-2}$ ③ $20\ \text{rad s}^{-2}$ ④ $25\ \text{rad s}^{-2}$

40. The change in potential energy when a body of mass m is raised to a height nR from the earth's surface is (R = Radius of Earth)

① $mgR\left(\dfrac{n}{n-1}\right)$ ② mgR ③ $mgR\dfrac{n}{n+1}$ ④ $\dfrac{mgR}{n}$

41. Three uniform spheres of mass M and radius R each are kept in such a way that each touches the other two. The nagnitude of gravitational force on any of the spheres due to other two is

① $\dfrac{\sqrt{3}GM^2}{2R^2}$ ② $\dfrac{3GM^2}{2R^2}$ ③ $\dfrac{\sqrt{3}GM^2}{R^2}$ ④ $\dfrac{3GM^2}{4R^2}$

42. The cylindrical tube of a spray pump has radius R. One end of which has n fine holes, each of radius r. If the speed of the liquid in the tube is V, the speed of the ejection of the liquid through the hole is

① $\dfrac{VR^2}{n^3r^2}$ ② $\dfrac{V^2R}{nr}$ ③ $\dfrac{VR^2}{n^2r^2}$ ④ $\dfrac{VR^2}{nr^2}$

43. An object floats in water with 10% of its volume outside and in oil 30% of its volume outside. The specific gravity of the oil is

① 1.3   ② 0.8   ③ 2   ④ 7

44. A square plate of side 0.1 m moves parallel to an identical second plate with a relative velociy of 0.1 ms–1.

Both plates immersed in water. If the viscous force is 0.002 N and the coefficient of viscosity 0.001 poise, then distance between the plates is

① 5×10^{-5} m ② 1×10^{-5} m ③ 5×10^{-6} m ④ 5×10^{-4} m

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

① 16 : 1 ② 4 : 1 ③ 2 : 1 ④ 1 : 1

CHEMISTRY

46. The energies E_1 and E_2 of two radiation are 25ev and 50ev respectively. The relation between their wavelengths ie λ_1 and λ_2 will be

① $\lambda_1 = \lambda_2$ ② $\lambda_1 = 2\lambda_2$ ③ $\lambda_1 = 4\lambda_2$ ④ $\lambda_1 = \frac{1}{2}\lambda_2$

47. The total number of atomic orbitals in fourth energy level of an atom is:

① 8 ② 16 ③ 32 ④ 4

48. Which of the following is not permissible arrangement of electrons in an atom?

① $n = 5, l = 3, m = 0, s = +\frac{1}{2}$ ② $m = 3, l = 2, m = -2, s = -\frac{1}{2}$

③ $n = 3, l = 2, m = -2, s = -\frac{1}{2}$ ④ $n = 4, l = 0, m = 0, S = -\frac{1}{2}$

49. A 0.66 kg ball is moving with a speed of 100 m/s. The associated wavelength will be ($h = 6.6 \times 10^{-34}$ Js):

① 1×10^{-32} m ② 6.6×10^{-32} m ③ 6.6×10^{-34} m ④ 1×10^{-35} m

50. The pairs of species of oxygen and their magnetic behaviours are noted below. Which of the following presents the correct description?

① O_2^-, O_2^{2-} — Both diamagnetic ② O_2^+, O_2^{2-} — Both paramagnetic

③ O_2^+, O_2 — Both paramagnetic ④ O, O_2^{2-} — Both paramagnetic

51. According to M.O theory which of the following lists ranks the nitrogen species in terms of increasing bond order?

① $N_2^{2-} < N_2^- < N_2$ ② $N_2 < N_2^{-2} < N_2^-$ ③ $N_2^- < N_2^{2-} < N_2$ ④ $N_2^- < N_2 < N_2^{2-}$

52. If electron has spin quantum number $+\frac{1}{2}$ and a magnetic quantum number –1, it cannot be present in

① d-orbital ② f-orbital ③ p-orbital ④ s-orbital

53. When an electron of charge 'e' and mass 'm' moves with a velocity 'v' about the nuclear charge Ze is circular orbit of radious r, the potential energy of the electron is given by:

① $\frac{Ze^2}{r}$ ② $\frac{-Ze^2}{r}$ ③ $\frac{Ze^2}{r^2}$ ④ $\frac{mv^2}{r}$

54. The number of moles of $KMnO_4$ that will be needed to react with one mole of sulphite ion in acidic solution is:

① $\frac{4}{5}$ ② $\frac{2}{5}$ ③ 1 ④ $\frac{3}{5}$

55. Number of moles of MnO_4^- required to oxidise one mole of ferrous oxalate completely in acidic medium will be:

① 0.6 moles ② 0.4 moles ③ 7.5 moles ④ 0.2 moles

56. How many moles of lead (II) chloride will be formed from a reaction between 6.5g of PbO and 3.2g of HCl?

① 0.044   ② 0.333   ③ 0.011   ④ 0.029

57. 10g of hydrogen and 64g of oxygen were filled in a steel vessel and exploded. Amount of water produced in this reaction will be:

① 3 mol   ② 4 mol   ③ 1 mol   ④ 2 mol

58. The stability of +1 oxidation state increases in the sequence:

① Tl < In < Ga < Al   ② In < Tl < Ga < Al   ③ Ga < In < Al < Tl   ④ Al < Ga < In < Tl

59. Which of the following represents the correct order of increasing electron gain enthalpy with negative sign for the elements O, S, F and Cl?

① Cl < F < O < S   ② O < S < F < Cl   ③ F < S < O < Cl   ④ S < O < Cl < F

60. Among the elements Ca, Mg, P and Cl the order of increasing atomic radii is:

① Ca < Mg < P < Cl   ② Mg < Ca < Cl < P   ③ Cl < P < Mg < Ca   ④ P < Cl < Ca < Mg

61. What is the value of electron gain enthalpy of Na^+ of IE, of Wa = 5.1 ev?

① – 5.1 ev   ② – 10.2 ev   ③ + 2.55 ev   ④ + 10.2 ev

62. In an octahedral structure, the pair if 'd' orbitals involved in d^2sp^3 hy-bridization is

① $dx^2 - y^2, dz^2$ ② $dxz, dx^2 - y^2$ ③ dz^2, dxz ④ dxy, dyz

63. In BrF_3 molecule, the lone pair's occupy equitorial positions to minimize:

① Lone pair—bond pair repulsion only

② bond pair—bond pair repulsion only

③ lone pair — lone pair repulsion and lone pair — bond pair repulsion

④ lone pair — lone pair repulsion only

64. The number of unpaired electrons in a paramagnetic diatomic molecule of and element with atomic number 16 is

① 3   ② 4   ③ 1   ④ 2

65. The correct order of increasing bond angles in the following triatomic species is:

① $NO_2^- < NO_2^+ < NO_2$ ② $NO_2^- < NO_2 < NO_2^+$ ③ $NO_2^+ < NO_2 < NO_2^-$ ④ $NO_2^+ < NO_2^- < NO$

66. Four diatomic species are listed below is different sequences. Which of these presents the correct order of their increasing bond order?

① $O_2^- < NO < C_2^{2-} < He_2^+$ ② $NO < C_2^{2-} < O_2^- < H_2^+$

③ $C_2^{2-} < He_2^+ < NO < O_2^-$ ④ $He_2^+ < O_2^- < NO < C_2^{2-}$

67. In vanderwall's equation of state for a non-ideal gas, the term that accounts for intermolecular forces is:

① V – b   ② $(RT)^{-1}$ ③ $\left(P + \dfrac{a}{V^2}\right)$ ④ RT

68. The root mean square speeds at STP for the gas H_2, N_2, O_2 and HBr are in the order:

① $H_2 < N_2 < O_2 < HBr$ ② $HBr < O_2 < N_2 < H_2$

③ $H_2 < N_2 = O_2 < HBr$ ④ $HBr < O_2 < H_2 < N_2$

69. Given that $C + O_2 \longrightarrow CO_2$; $\Delta H° = - xKJ$, $2CO + O_2 \longrightarrow 2CO_2$; $\Delta H° = - yKJ$

The enthalpy of formation of carbon monoxide will be:

① $\dfrac{2x - y}{2}$ ② $\dfrac{y - 2x}{2}$ ③ $2x - y$ ④ $y - 2x$

70. Heat of combustion $\Delta H°$ for $C(S)$, $H_2(g)$, and $CH_4(g)$ are -94, -68 and -213 KCal/mole, then $\Delta H°$ for $C(s) + 2H_2(g) \rightarrow CH_4(g)$ is:

① -17 KCal ② -111 KCal ③ -170 KCal ④ -8 KCal

71. The enthalpy of hydrogenation of cyclohexene is -119.5 KJ $(mol)^{-1}$. If resonance energy of benzene is -150.4 KJ $(mol)^{-1}$, its enthalpy of hydrogenation would be:

① -208.1 KJ $(mol)^{-1}$ ② -269.9 KJ $(mole)^{-1}$ ③ -358.5 KJ $(mole)^{-1}$ ④ -508.9 KJ $(mole)^{-1}$

72. The enthalpy and entropy change for the reaction : $Br_2(l) + Cl_2(g) \rightarrow 2BrCl(g)$ are 30 KJ $(mole)^{-1}$ and 105 J$(K)^{-1}$ $(mol)^{-1}$ respectively. The temperature at which the reaction will be in equilibrium is:

① 273 K ② 450 K ③ 300 K ④ 285.7 K

73. Given that bond energies of H–H and Cl – Cl are 430 KJ $(mol)^{-1}$ and 240 KJ $(mol)^{-1}$, bond enthalpy of HCl is:

① 380 KJ $(mol)^{-1}$ ② 425 KJ $(mol)^{-1}$ ③ 245 KJ $(mol)^{-1}$ ④ 290 KJ $(mol)^{-1}$

74. The solubility product of a sparingly soluble salt BA_2 is 4×10^{-12}. The solubility of BA_2 is:

① 4×10^{-4} ② 4×10^{-12} ③ 4×10^{-3} ④ 1×10^{-4}

75. Which of the following molecules acts as a Lewis acid?

① $(CH_3)_2O$ ② $(CH_3)_3P$ ③ $(CH_3)_3N$ ④ $(CH_3)_3B$

76. The ionization constant of ammonium hydroxide is 1.77×10^{-5} at 298K. Hydrolysis constant of ammonium chloride is:

① 6.5×10^{-12} ② 5.65×10^{-13} ③ 5.65×10^{-14} ④ 5.65×10^{-10}

77. If pH of a saturated solution of $Ba(OH)_2$ is 12, the value of its $K(sp)$ is:

① $4 \times 10^{-16}\,M^3$ ② $4 \times 10^{-7}\,M^3$ ③ $5 \times 10^{-6}\,M^3$ ④ $5.0 \times 10^{-7}\,M^3$

78. What is $[H^+]$ in mol/L of a solution that is 0.20 (M) in CH_3COONa and $0.10M$ in CH_3COOH? (Ka for CH_3COOH $= 1.8 \times 10^{-5}$)

① 3.5×10^{-4} ② 1.1×10^{-5} ③ 1.8×10^{-5} ④ 9×10^{-5}

79. In a buffer solution containing equal concentration of B^- and HB, the K_b for $B^\ominus$ is 10^{-10}. The pH of buffer solution is:

① 10 ② 7 ③ 6 ④ 4

80. The oxidation number of phosphorous in pyrophosphoric acid is:

① $+3$ ② $+1$ ③ $+4$ ④ $+5$

81. Find the oxidation number of carbon in carbon suboxide (C_3O_2):

① $-2, +2, 0$ ② $0, +2, -2$ ③ $+2, 0, +2$ ④ $+2, +2, 0$

82. The number of possible isomers of the compound with molecular formula C_7H_8O is:

① 3 ② 5 ③ 7 ④ 9

83. Number of chiral carbons in β–D–(+) glucose is:

① 5 ② 6 ③ 3 ④ 4

84. The chirality of the compound:
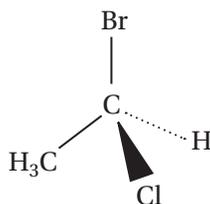
① R ② S ③ E ④ Z

85. The correct order regarding the electro negativity of hybrid orbitals of carbon is:

① $sp > sp^2 > sp^3$ ② $sp < sp^2 > sp^3$ ③ $sp < sp^2 < sp^3$ ④ $sp > sp^2 < sp^3$

86. Which of the following is the most acidic

87. The I.U.P.A.C name of

is:

① 1–Chloro–1–oxo–2, 3–dimethyl pentane ② 2–ethyl–3–methylbutanoyl chloride

③ 2, 3–dimethylpentanoyl chloride ④ 3, 4–dimethyl pentanyl chloride

88. $CH_3 - CHCl - CH_2 - CH_3$ has a chiral centre. Which one of the following represents its R–configuration?

89. How many stereoisomers does this molecule have?

$CH_3 - CH = CHCH_2CH.BrCH_3$

① 4 ② 6 ③ 8 ④ 2

90. In duma's method of estimation of nitrogen 0.35 g of an organic compound gave 55 ml of nitrogen collected at 300 K temperature and 715 mm pressure. The percentage composition of nitrogen in the compound would be: (Aqueous tension at 300 K = 75 mm)

① 15.45 ② 16.45 ③ 17.45 ④ 14.45

Biology

91. Which enzyme converts fibrinogen to fibrin?

① Trypsin ② Prothrombin ③ Thrombin ④ Plasmin

92. The oxygen dissociation curve shifts right in:

① Low H^+ ② High temperature   ③ High pH   ④ Low CO_2

93. The precursor of auxin is:

① Alanine   ② Serine   ③ Tryptophan   ④ Glycine

94. Which enzyme catalyses the formation of OAA from PEP?

① Aldolase   ② Pyruvate kinase   ③ PEP Case   ④ RuBisCO

95. Cyanide inhibits:

① Ferredoxin   ② ATP synthase   ③ Cytochrome C oxidase   ④ RuBisCO

96. Chloride shift occurs during transport of:

① Carbon monoxide   ② Nitrogen   ③ CO_2 as bicarbonate   ④ O_2

97. Glycolysis occurs in:

① ER   ② Cytosol   ③ Stroma   ④ Mitochondria

98. Photorespiration is minimum in:

① CAM (night)   ② CAM (day)   ③ C_4 plants   ④ C_3 plants

99. Surfactant is secreted by:

① Endothelium   ② Macrophages   ③ Type II pneumocytes   ④ Type I pneumocytes

100. RQ of carbohydrates is:

① 1.2   ② 0.9   ③ 1.0   ④ 0.7

101. Ethylene causes:

① Inhibits abscission   ② No change in respiration   ③ Ripening   ④ Delay in senescence

102. ATP formation in ETS occurs at:

① Complex I   ② Cytochrome c   ③ Only complex V   ④ Complex I, III, IV V

103. Which hormone promotes seed dormancy?

① Ethylene   ② ABA   ③ Cytokinin   ④ GA

104. The heart's pacemaker is:

① Bundle of His   ② Purkinje fibres   ③ SA node   ④ AV node

105. Which pigment acts as P700?

① Xanthophyll   ② Carotene   ③ Chlorophyll a   ④ Chlorophyll b

106. RQ > 1 indicates respiration of:

① Proteins + Carbohydrates   ② Organic acids   ③ Carbohydrates   ④ Fats

107. Type of curve seen in plant growth:

① Linear   ② Sigmoid   ③ Exponential only   ④ Bell-shaped

108. Final electron acceptor in aerobic respiration:

① ATP   ② O_2 ③ Pyruvate   ④ NAD^+

109. The step producing GTP is in:

① Calvin cycle ② ETS ③ Krebs cycle ④ Glycolysis

110. Oxygen binding to Hb is favoured by:

① Low pH ② High H^+ ③ Low temperature ④ High CO_2

111. Fibrin is essential for:

① Lymph flow ② Oxygen transport ③ Blood clot ④ Immunity

112. Which ion is required for clotting?

① K^+ ② Mg^{2+} ③ Ca^{2+} ④ Na^+

113. Bohr effect relates to:

① CO_2 effect on O_2 binding ② O_2 effect on CO_2 binding

③ O_2 binding to myoglobin ④ CO effect on O_2 dissociation

114. In C_4 plants, bundle sheath cells have:

① Only PSII ② No chloroplasts ③ Kranz anatomy ④ No Calvin cycle

115. Alcoholic fermentation produces:

① Ethanol and CO_2 ② Lactic acid ③ Succinate ④ Malate

116. Aortic valve is located between:

① RA–RV ② RV–Pulmonary artery

③ LV–Aorta ④ LA–LV

117. Glycolysis can occur without oxygen because:

① ETS is active ② NADH is oxidized anaerobically

③ Pyruvate forms malate ④ ATP is produced only in mitochondria

118. Tidal volume is about:

① 1 L ② 2000 ml ③ 500 ml ④ 100 ml

119. Ethylene shows triple response in:

① Roots ② Leaves ③ Seedlings ④ Mature fruits

120. Calvin cycle occurs in:

① Cytosol ② Grana ③ Stroma ④ Matrix

121. ETC in plants during photosynthesis occurs in:

① Cell wall ② Cytosol

③ Matrix ④ Thylakoid membrane

122. Transport of CO_2 is mainly as:

① Carbon monoxide ② Bicarbonate ions

③ Dissolved gas ④ Carbamino haemoglobin

123. At high altitudes, the RBCs in human blood will:

① Increase in size ② Decrease in size ③ Increase in number ④ Decrease in number

124. Chlorophyll is found in:

① Nucleus ② Thylakoid membrane

③ Stroma ④ Cytoplasm

125. Which valve prevents backflow into RA?
① Aortic   ② Tricuspid   ③ Semilunar   ④ Mitral

126. Surfactant prevents:
① Lung inflation   ② CO_2 exchange   ③ Alveolar collapse   ④ Oxygen diffusion

127. Cytokinins are synthesized in:
① Stem tips   ② Branches   ③ Roots   ④ Leaves

128. Pentose phosphate pathway produces mainly:
① GTP   ② NADPH   ③ $FADH_2$ ④ ATP

129. ETS is located in:
① Thylakoid lumen   ② Cytosol
③ Inner mitochondrial membrane   ④ Outer membrane

130. The SA node is located in:
① RV   ② LA   ③ RA   ④ LV

131. The Bohr shift moves oxygen dissociation curve to
① Flattening   ② No shift   ③ Right   ④ Left

132. Gaseous plant hormone
① Auxin   ② Gytokinin
③ Ethalene   ④ None of the above

133. Chlorophyll a absorbs:
① Infrared   ② Yellow   ③ Green only   ④ Red and blue

134. Expansin functions in:
① DNA replication   ② Protein synthesis   ③ Respiration   ④ Cell wall loosening

135. Hyperventilation causes:
① Low pH   ② Pancreatic secretion   ③ Low CO_2 ④ High CO_2

136. Apical dominance is due to:
① Cytokinin   ② ABA   ③ GA   ④ Auxin

137. The first heart sound is due to:
① Semilunar valves closing   ② AV valves closing
③ AV valves opening   ④ SL valves opening

138. QRS complex represents:
① Atrial depolarization   ② Rapid Ventricular depolarization
③ Ventricular repolarization   ④ Atrial repolarization

139. ATP in cyclic photophosphorylation is formed without:
① NADPH formation   ② ETC   ③ PSI   ④ Electrons

140. Photolysis occurs at:
① Stroma   ② NADP reductase   ③ PSII   ④ PSI

141. Malate is produced first in:
① ETS   ② Photorespiration   ③ C_4 cycle   ④ C_3 cycle

142. Critical night length determines flowering in:
① Both LDP and SDP   ② SDP only SDP only   ③ LDP only   ④ Day-neutral plants

143. Lymph lacks:

① Proteins entirely   ② Water   ③ WBCs   ④ RBCs

144. Cardiac output =

① SV - HR   ② HR ÷ SV   ③ BP × SV   ④ HR × SV

145. Bundle sheath cells contain:

① PSII only   ② No chloroplasts   ③ Agranal chloroplasts   ④ Granal chloroplasts

146. Lung Surfactant composition includes:

① Fibres   ② Carbohydrates   ③ Lipoproteins   ④ Proteins only

147. Normal RBC count:

① $500,000/mm^3$ ② 10 million/mm^3 ③ 5 million/mm^3 ④ 1 million/mm^3

148. Which triggers stomatal closure?

① Ethylene   ② ABA   ③ Cytokinin   ④ GA

149. Photorespiration occurs in:

① Chloroplasts only   ② Chloroplasts, peroxisomes, mitochondria

③ Cytosol only   ④ Vacuole

150. Which enzyme links glycolysis & Krebs cycle?

① Malate transporter   ② Isomerase

③ Pyruvate dehydrogenase   ④ PFK-1

151. A person at high altitude breathes rapidly due to:

① High humidity   ② High amounts of CO_2 in air

③ Low atmospheric pressure   ④ High O_2 in air

152. Increased RBC count at high altitude is called:

① Erythropenia   ② Lymphocytosis

③ Polycythemia   ④ Leukocytosis

153. Ethylene's precursor is:

① GA   ② Methionine   ③ SAM   ④ Tryptophan

154. Ribulose bisphosphate reacts with:

① O_2 & CO_2 ② PGA   ③ Only O_2 ④ Only CO_2

155. Light reaction produces:

① ATP & NADPH   ② Glucose   ③ PEP   ④ PGA

156. Which has fastest depolarization?

① Bundle branches   ② Purkinje   ③ AV node   ④ SA node

157. Hemoglobin contains:

① Nickel   ② Cobalt   ③ Copper   ④ Iron

158. Vital capacity =

① IRV + RV   ② RV + TV   ③ RV + ERV   ④ TV + IRV + ERV

159. Deficiency of platelets leads to:

① Polycythemia   ② Thrombocytopenia   ③ Leukemia   ④ Anemia

160. Calvin cycle needs ATP for:

① None   ② Regeneration   ③ Reduction   ④ Carboxylation

161. RuBisCO is present in:

① Inner membrane   ② Cytoplasm

③ Thylakoid lumen   ④ Stroma

162. Increased temperature decreases photosynthesis due to:

① Enzyme denaturation   ② Light shortage   ③ More ATP   ④ More NADPH

163. GA causes:

① Seed dormancy   ② Bolting   ③ Senescence   ④ Stomatal closure

164. Main transporter of organic solutes:

① Tracheids   ② Vessel elements   ③ Phloem   ④ Xylem fibres

165. Bicarbonate enters RBC in exchange for:

① H^+ ② Potassium   ③ Chloride   ④ Sodium

166. During fermentation, pyruvate converts to:

① GAP   ② Lactate   ③ Acetyl-CoA   ④ Ethanol

167. At high light + low CO_2, which increases?

① ETS   ② C_4 cycle   ③ C_3 cycle   ④ Photorespiration

168. RuBisCO binds mainly to ___ under photorespiration.

① Water   ② RuBPase   ③ O_2 ④ CO_2

169. The immediate product in photorespiration:

① Malate   ② PGA   ③ Glycolate   ④ OAA

170. A plant with rapid shoot elongation under dark is influenced by:

① Ethylene   ② GA   ③ Cytokinin   ④ ABA

171. SAmylase production during germination is stimulated by:

① Auxin   ② Ethylene   ③ ABA   ④ GA

172. Decreased plasma proteins cause:

① Hypertension   ② Anemia

③ Dehydration   ④ Edema

173. Normal inspiration ends when:

① Lung collapse

② Intrapulmonary pressure = atmospheric pressure

③ CO_2 rises

④ Surfactant stops working

174. Which of the following is not concerned with generation or continuity of impulse in the heart?

① Atria   ② Purkinje fibre   ③ SA node   ④ AV node

175. Photorespiration wastes:

① CO_2 ② PGA   ③ ATP   ④ O_2

176. Malate to pyruvate occurs in:

   ① CAM tissues   ② Peroxisomes

   ③ C_3 mesophyll   ④ None of the above

177. Severe bleeding time increase suggests deficiency of:

   ① Albumin   ② Platelets   ③ WBCs   ④ Haemoglobin

178. Injection of thrombin leads to:

   ① More prothrombin   ② Fibrin formation   ③ Clot dissolution   ④ No effect

179. Chlorophyll b is a:

   ① Carotenoid   ② Enzyme   ③ Reaction centre   ④ Accessory pigment

180. High respiration peak during ripening occurs in:

   ① Non-climacteric fruits   ② Climacteric fruits

   ③ Unripe leaves   ④ Dormant seeds