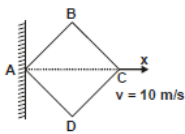


NEET MNS MODAL TEST Paper

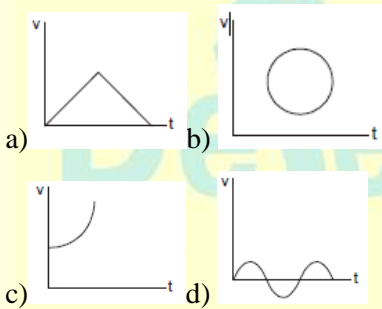
INSTRUCTION : Read questions carefully. Each question contains 4 marks. For every wrong answer 1 mark will be deducted. All questions are compulsory.

1. Four rods each of length 'l' have been hinged to form a rhombus. Vertex 'C' is being moved along the x-axis with constant velocity 10 m/s as shown in the figure. The rate at which vertex B is approaching the z-axis at the moment the rhombus is in the form of a square is (let the plane of rhombus is in x-z plane) :



- a) 5 m/s b) 10 m/s
c) 2.5 m/s d) 5 2 m/s

2. Which of the following curve does not represent in one dimension :



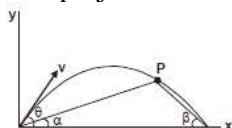
3. The relative error in the determination of the surface area of a sphere is α , then the relative error in the determination of its volume is :

- a) $\frac{3}{2} \alpha$ b) $\frac{2}{3} \alpha$
c) α d) $\frac{5}{2} \alpha$

4. A conveyor belt is moving at constant speed of 2m/s. A box is gently dropped on it. The coefficient of friction between them is $\mu = 0.5$. The distance that the box will move relative to belt before coming to rest on it, taking $g = 10 \text{ m/s}^2$, is :

- a) 0.4 meter b) 1.2 meter
c) 0.6 meter d) Zero

5. A point P on the trajectory of a projectile projected at an angle θ with horizontal subtends angle α and β at the point of projection and point of landing then :



- a) $\tan \theta + \tan \alpha = \tan \beta$

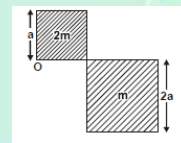
- b) $\tan \alpha + \tan \beta = \tan \theta$
c) $\tan \theta + \tan \beta = \tan \alpha$
d) $\tan \theta + \tan \alpha = 2 \tan \beta$

6. Two particles A and B execute simple harmonic

motion of period T and $\frac{5T}{4}$. They start from mean position. The phase difference between them when the particle A completes one oscillation will be :

- a) $\frac{\pi}{2}$ b) zero
c) $\frac{2\pi}{2}$ d) $\frac{\pi}{4}$

7. The distance of centre of mass from point O of two square plates system as shown, if masses of plates are 2m and m is (their edges are a and 2a respectively) :

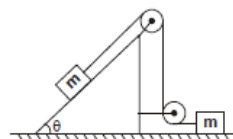


- a) $\frac{a}{2}$ b) a
c) $\frac{3a}{2}$ d) $\frac{2a}{3}$

8. Assuming that the potential energy of spring is zero when it is stretched by x_0 , then its potential energy when it is compressed by $\frac{x_0}{2}$ is.

- a) $\frac{3}{8} kx_0^2$ b) $-\frac{3}{4} kx_0^2$
c) $-\frac{3}{8} kx_0^2$ d) $\frac{1}{8} kx_0^2$

9. For the system shown in the figure the inclined plane is fixed, all the pulleys are light and friction is absent everywhere. The tension in the string will be :



- a) $\frac{2}{3} mg \sin \theta$ b) $\frac{3}{2} mg \sin \theta$
c) $\frac{1}{2} mg \sin \theta$ d) $2mg \sin \theta$

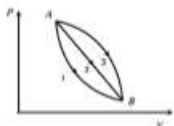
10. A man goes to a height equal to the radius of earth from its surface. The weight of the person at that height relative to his weight on the surface of earth is :

- a) $\frac{1}{2}$ b) $\frac{1}{3}$
c) $\frac{1}{4}$ d) $\frac{1}{5}$

11. A particle of mass 'm' collides head on with another stationary particle of mass M such that the second particle starts moving and the collision. Which of the following condition is valid if the coefficient of restitution is 'e' :

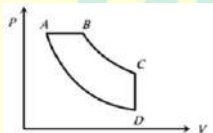
- a) $e = 0$ b) $e = \frac{m}{M} \leq 1$
c) $e = \frac{m}{M} \geq 1$ d) $e = \frac{M}{m} \leq 1$

12. An ideal gas of mass m in a state A goes to another state B via three different processes as shown in figure. If Q1, Q2 and Q3 denote the heat absorbed by the gas along the three paths, then :



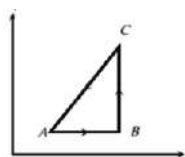
- a) $Q_1 < Q_2 < Q_3$ b) $Q_1 < Q_2 = Q_3$
c) $Q_1 = Q_2 > Q_3$ d) $Q_1 > Q_2 > Q_3$

13. In pressure-volume diagram given below, the isochoric, isothermal, and isobaric parts respectively, are :



- a) BA, AD, DC b) DC, BA, CB
c) AB, BC, CD d) CD, DA, AB

14. The P-V diagram of a system undergoing thermodynamic transformation is shown in figure. The work done on the system in going from A \rightarrow B \rightarrow C is 50 J and 20 cal heat is given to the system. The change in internal energy between A and C is :



- a) 34 J b) 70 J
c) 84 J d) 134 J

15. If earth suddenly stops rotating about its own axis, the increase in it's temperature will be :

- a) $\frac{R^2 \omega^2}{5Js}$ b) $\frac{R^2 \omega^2}{Js}$
c) $\frac{Rm\omega^2}{5Js}$ d) None of these

16. A faulty thermometer has its lower fixed point

marked as -10°C and upper fixed point marked as 110° and upper fixed point marked as 110° . If the temperature of the body shown in this scale is 62° , the temperature shown on the Celsius scale is :

- a) 72°C b) 82°C
c) 60°C d) 42°C

17. Two identical stringed instruments have frequency 100 Hz. If tension in one of them is increased by 4% and they are sounded together then the number of beats in one second is :

- a) 1 b) 8
c) 4 d) 2

18. A source producing sound of frequency 170 Hz is approaching a stationary observer with a velocity 17 ms^{-1} . The apparent change in the wavelength of sound heard by the observer is (speed of sound in air = 340 ms^{-1})

- a) 0.1 m b) 0.2 m
c) 0.4 m d) 0.5 m

19. Oxygen is 16 times heavier than hydrogen.

Equalvolumes of hydrogen and oxygen are mixed.

The ratio of speed of sound in the mixture to that in hydrogen is :

- a) $\sqrt{\frac{1}{8}}$ b) $\sqrt{\frac{32}{17}}$
c) $\sqrt{8}$ d) $\sqrt{\frac{1}{8}}$

20. The equation of displacement of two waves are given as

$$y_1 = 10 \sin\left(3\pi t + \frac{\pi}{3}\right); y_2 = 5(\sin 3\pi t + \sqrt{3} \cos 3\pi t)$$

Then what is the ratio of their amplitudes :

- a) 1 : 2 b) 2 : 1
c) 1 : 1 d) None of these

21. Four identical rods of same material are joined

end to end to form a square. If the temperature difference between the ends of a diagonal is 100°C , then the temperature difference between the ends of other diagonal will be :

- a) 0°C
b) $\frac{100}{1} \circ C$; where is the length of each rod
c) $\frac{100}{1} \circ C$
d) $100 \circ C$

22. Two light rays having the same wavelength λ in vacuum are in phase initially. Then the first ray travels a path L_1 through a medium of refractive index n_1 while the second ray travels a path of length L_2 through a medium of refractive index n_2 . The two waves are then combined to produce interference. The phase difference between the two waves is :

a) $\frac{2\pi}{\lambda}(L_2 - L_1)$

b) $\frac{2\pi}{\lambda}(n_1L_1 - n_2L_2)$

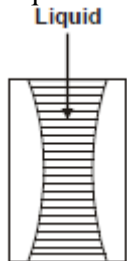
c) $\frac{2\pi}{\lambda}(n_2L_1 - n_1L_2)$

d) $\frac{2\pi}{\lambda}\left(\frac{L_1}{n_1} - \frac{L_2}{n_2}\right)$

23. In Young's experiment when sodium light of wavelength 5893 \AA is used, then 62 fringes are seen in the field of view. Instead, if violet light of wavelength 4358 \AA is used then the number of fringes that will be seen in the field of view will be:

- a) 54 b) 64
c) 74 d) 84

24. The effective focal length of the lens combination shown in the figure is -60 cm . The radii of curvature of the curved surface of the planoconvex lenses are 12 cm each and refractive index of the material of the lens is 1.5 . The refractive index of the liquid is :

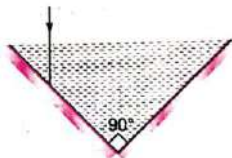


- a) 1.33 b) 1.42
c) 1.53 d) 1.60

25. Refractive index of glass with respect to medium is $4/3$. If the difference between velocities of light in medium and glass is $6.25 \times 10^7 \text{ m/s}$, then velocity of light in medium is :

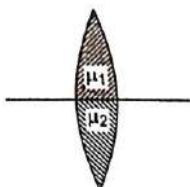
- a) $2.5 \times 10^8 \text{ m/s}$ b) $0.125 \times 10^8 \text{ m/s}$
c) $1.5 \times 10^7 \text{ m/s}$ d) $3 \times 10^7 \text{ m/s}$

26. A vessel consists of two plane mirrors at right angles (as shown in figure). The vessel is filled with water. The total deviation in incident ray is:



- a) 0° b) 90°
c) 180° d) None of these

27. Which of the following is true for rays coming from infinity for the lens shown in figure :



- a) Two images are formed

- b) Continuous image is formed between focal points of upper and lower lens
c) One image is formed
d) None of the above.

28. In a radioactive material the activity at time t_1 is R_1 and at a later time t_2 , it is R_2 . If the decay constant of the material is λ , then :

$R_1 = R_2 e^{-\lambda(t_1 - t_2)}$

a)

$R_1 = R_2 e^{\lambda(t_1 - t_2)}$

b)

$R_1 = R_2(t_2 / t_1)$

c)

$R_1 = R_2$

d)

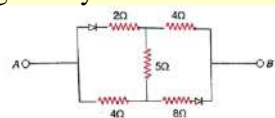
29. When photons of energy $h\nu$ fall on an aluminium plate (of work function E_0), photoelectrons of maximum kinetic energy K are ejected. If the frequency of the radiation is doubled, the maximum kinetic energy of the ejected photoelectrons will be :

- a) $K + E_0$ b) $2K$
c) K d) $K + h\nu$

30. The light rays having photons of energy 1.8 eV are falling on a metal surface having a work function 1.2 eV . What is the stopping potential to be applied to stop the emitting electrons :

- a) 3 eV b) 1.2 eV
c) 0.6 V d) 1 .

31. The equivalent resistance of the circuit across AB is given by : 4 V



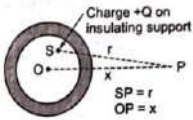
- a) 4Ω b) 13Ω
c) 4Ω or 13Ω d) 4Ω or 0Ω

32. A solid sphere of radius R_1 and volume charge density $\rho = \frac{\rho_0}{r}$ is enclosed by a hollow sphere of radius R_2 with negative surface charge density σ , such that the total charge in the system is zero, ρ_0 is a positive constant and r is the distance from the centre of the sphere. The ratio $\frac{R_2}{R_1}$ is:

- a) $\frac{\sigma}{\rho_0}$ b) $\sqrt{2\sigma / \rho_0}$
c) $\sqrt{\rho_0 / (2\sigma)}$ d) $\frac{\rho_0}{\sigma}$

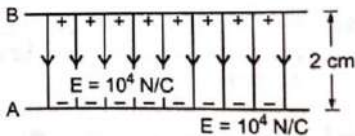
33. The figure given below shows a charge $+Q$ held on an insulating support S and enclosed by a hollow spherical conductor. O represents the centre of the

spherical conductor and P is a point such that $OP = x$ and $SP = r$. The electric field at point P will be :



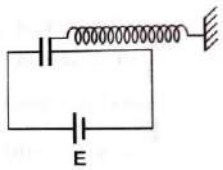
- a) $\frac{Q}{4\pi\epsilon_0 x^2}$ b) $\frac{Q}{4\pi\epsilon_0 r^2}$
 c) 0 d) None of these

34. An electron is released from the bottom plate A as shown in the figure ($E = 10^4 \text{ N/C}$). The velocity of the electron when it reaches plate B will be nearly equal to :



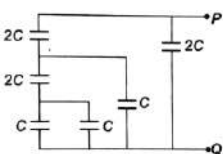
- a) $0.85 \times 10^7 \text{ m/s}$ b) $1.0 \times 10^7 \text{ m/s}$
 c) $1.25 \times 10^7 \text{ m/s}$ d) $1.65 \times 10^7 \text{ m/s}$

35. One plate of a capacitor is connected to a spring as shown in the figure. Area of both the plates is A. In steady state separation between the plates is $0.8d$ (spring was unstretched and the distance between the plates was d when the capacitor was uncharged). The force constant of the spring is approximately :



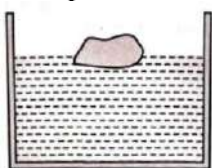
- a) $\frac{4\epsilon_0 AE^2}{d^3}$ b) $\frac{2\epsilon_0 AE}{d^2}$
 c) $\frac{6\epsilon_0 AE^2}{Ad^3}$ d) $\frac{\epsilon_0 AE^2}{2d^3}$

36. The resultant capacitance of given circuit is :



- a) $3C$ b) $2C$
 c) C d) $C/3$

37. A body floats in a liquid contained in a beaker. The whole system as shown falls freely under gravity. The upthrust on the body due to the liquid is :



- a) zero
 b) equal to the weight of the liquid displaced
 c) equal to the weight of the body in air

d) equal to the weight of the immersed portion of the body.

38. A liquid is kept in a cylindrical vessel which is being rotated about a vertical axis through the centre of the circular base. If the radius of the vessel is r and angular velocity of rotation is ω , then the difference in the heights of the liquid at the centre of the vessel and the edge is :

- a) $\frac{r\omega}{2g}$ b) $\frac{r^2\omega^2}{2g}$
 c) $\sqrt{2gr\omega}$ d) $\frac{\omega^2}{2gr^2}$

39. A large open tank has two holes in the wall. One is a square hole of side L at a depth y from the top and the other is a circular hole of radius R at a depth $4y$ from the top. When the tank is completely filled with water the quantities of water flowing out per second from both the holes are the same.

Then, R is equal to :

- a) $2\pi L$ b) $\frac{L}{\sqrt{2\pi}}$
 c) L d) $\frac{L}{2\pi}$

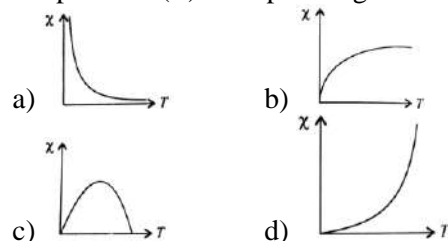
40. The magnetic force per unit length on a wire carrying a current of 10 A and making an angle of 45° with the direction of a uniform magnetic field of 0.20 T is :

- a) $2\sqrt{2} \text{ Nm}^{-1}$ b) $\frac{2}{\sqrt{2}} \text{ Nm}^{-1}$
 c) $\frac{\sqrt{2}}{2} \text{ Nm}^{-1}$ d) $4\sqrt{2} \text{ Nm}^{-1}$

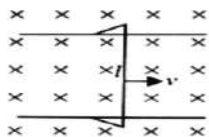
41. A galvanometer of resistance 50Ω is connected to a battery of 3 V along with a resistance of 2950Ω in series. A full scale deflection of 30 divisions is obtained in the galvanometer. In order to reduce this deflection to 20 divisions, the resistance in series should be :

- a) 6050Ω b) 4450Ω
 c) 5050Ω d) 5550Ω

42. Point out the best representation of relation between magnetic susceptibility (χ) and temperature (T) for a paramagnetic material :



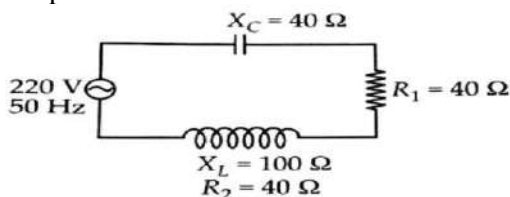
43. The figure shows a wire sliding on two parallel conducting rails placed at a separation l . A magnetic field B exists in a direction perpendicular to the plane of the rails. The force required to keep the wire moving at a constant velocity v will be :



- a) evB b) $\frac{\mu_0 Bv}{4\pi l}$
 c) Blv d) zero

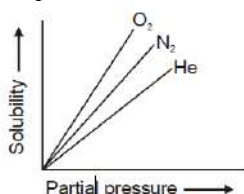
44. The equivalent inductance of two inductors is 2.4 H when connected in parallel and 10H when connected in series. What is the value of inductances of the individual inductors :
 a) 8H, 2H b) 6H, 4H
 c) 5H, 5H d) 7H, 3H

45. The power factor of the circuit as shown in figure is :



- a) 0.2 b) 0.4
 c) 0.8 d) 0.6
46. Hydrolysis of an ester gives acid A and alcohol B. The acid reduces Fehling's solution. Oxidation of alcohol B gives acid A. The ester is :
 a) methylformate b) ethyl formate
 c) methyl acetate d) ethyl acetate
47. Which acid is an optically active :
 a) Propanoic acid
 b) 2-chloropropanoic acid
 c) 3-chloropropanoic acid
 d) acetic acid
48. The temperature at which 5 moles of SO₂ will occupy a volume of 10 litres at a pressure of 15 atm. using Vander Waal's constants $a = 6.71 \text{ litre}^2 \text{ atm mole}^{-1}$, $b = 0.0564 \text{ litre mole}^{-1}$
 a) 305.3 K b) 39.53 K
 c) 3953 K d) 394.6 K

49. Molar solubility of Helium, nitrogen and oxygen are plotted against partial pressure of the gas at constant temperature :



Henry's law constant for these gases will lie in following sequence :

- a) $O_2 > N_2 > He$ b) $O_2 < N_2 < He$
 c) $O_2 = N_2 = He$ d) $O_2 > N_2 < He$
50. Select the correct stability sequence :
 a) $H_2 > H_2^+ > H_2^-$ b) $CO > N_2^+$
 c) $N_2 > N_2^+ > N_2^-$ d) All of the above
51. How many chiral carbon atoms are present in open chain and cyclic glucose molecule respectively :
 a) 4 & 4 b) 4 & 6

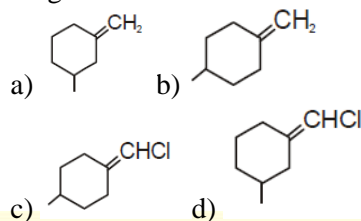
- c) 5 & 4 d) 4 & 5
52. Order of second ionisation potential in following element C, O, N, F :
 a) $C < O < F < N$ b) $C < N < F < O$
 c) $C < O < N < F$ d) $C > N > F > O$

53. Equal masses of H₂, O₂ and methane have been taken in a container of volume V at temperature 27°C in identical conditions. The ratio of the volumes of gases H₂:O₂: methane would be :
 a) 8 : 16 : 1 b) 16 : 8 : 1
 c) 16 : 1 : 2 d) 8 : 1 : 2

54. The example of positive deviation of :

- a) Benzene-toluene
 b) Chloroform and acetone
 c) Ethyl alcohol & water
 d) Nitric acid and water

55. The geometrical isomers are shown by:



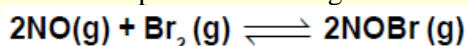
56. The volume of oxygen at S.T.P. used when x gms of Zn is converted to ZnO is

- a) $\frac{x \times 2}{65} \times 5.6 \text{ litres}$ b) $\frac{x}{65} \times 5.6 \text{ litres}$
 c) $\frac{4x}{65} \times 5.6 \text{ litres}$ d) None of these

57. If a solute undergoes dimerisation and trimerisation, in the aq. solution difference between Vant Hoff factors is : ($\alpha = 1$)

- a) 0.33 b) 0.5
 c) 0.17 d) 0.83

58. Nitric oxide reacts with bromine and givenitrosyl bromide as per the reaction given below



when 0.087 mol of NO and 0.0437 mol of Br₂ are mixed in a closed container at constant temperature, 0.0518 mol of NOBr is obtained at equilibrium. Calculate the equilibrium amount of nitric oxide :

- a) 0.087 mol b) 0.0352 mol
 c) 0.0518 mol d) 0.0480 mol

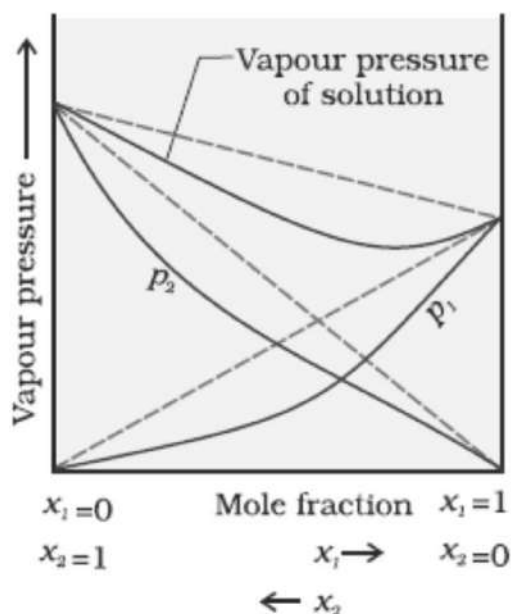
59. The pK_a value of weak acid HA is 4.80 . The pK_b of a weak base, BOH is 4.78. The pH of an aqueous solution at the corresponding salt, BA, will be :

- a) 5.22 b) 9.07
 c) 7.01 d) 13.90

60. Which molecule is most reactive :

- a) F₂ b) ICl
 c) BrCl₃ d) IF₇

61. Vapour phase diagram of a solution is given below :



The solution is :

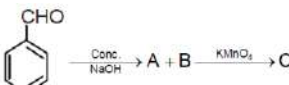
- a) Ethanol + cyclohexane
 b) Benzene + Toluene
 c) Ethanol + Water
 d) Chloroform + acetone
62. The value of K_c for the reaction $2A \rightleftharpoons B + C$ is 2×10^{-3} at a given time the composition of reaction mixture is $[A] = [B] = [C] = 3 \times 10^{-4} M$ in which direction the reaction will proceed.
 a) Forward
 b) Backward
 c) It is at equilibrium
 d) Direction can not predicted
63. A gaseous mixture of O_2 and N_2 are in the ratio of 1:4 by weight. The ratio of molecules of N_2 to O_2 is :
 a) 32 : 7
 b) 5 : 6
 c) 7 : 32
 d) 6 : 5
64. An ionic compound made up of atoms A and B has a face-centred cubic arrangement in which atoms A are at the corners and atoms B are at the face-centres. If one of the atoms is missing from the corner, what is the simplest formula of the compound :
 a) A_7B_{24}
 b) A_3B_2
 c) A_4B_{27}
 d) A_6B_7
65. If a is the length of the side of a cube, the distance between the body-centred atom and one corner atom in the cube will be :
 a) $\frac{2}{\sqrt{3}}a$
 b) $\frac{4}{\sqrt{3}}a$
 c) $\frac{\sqrt{3}}{4}a$
 d) $\frac{\sqrt{3}}{2}a$
66. Coating of medicinal capsules is made of polymer:
 a) Nylon-2-nylon-6
 b) PHBV

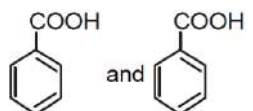
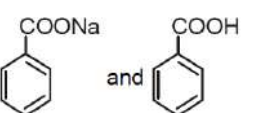
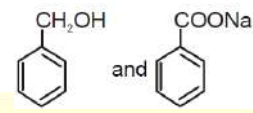
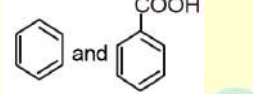
- (c) Nylon-6
 (d) Neoprene
67. The Tyndall effect is observed only when following conditions are satisfied :
 (A) The diameter of the dispersed particles is much smaller than the wavelength of the light used.
 (B) The diameter of the dispersed particles is not much smaller than the wavelength of the light used
 (C) The refractive indices of the dispersed phase and dispersion medium are almost similar in magnitude.
 (D) The refractive indices of the dispersed phase and dispersion medium differ greatly in magnitude
 a) (B) and (D)
 b) (A) and (C)
 c) (B) and (C)
 d) (A) and (D)
68. In the product of given reaction Zn goes with part respectively :
 (A) $ZnO + Na_2O \rightarrow$
 (B) $ZnO + CO_2 \rightarrow$
 (a) cation and cation
 (b) cation and anion
 (c) anion and cation
 (d) anion and anion
69. Which does not contain sigma bond :
 a) CO
 b) O_2
 c) B_2
 d) NO
70. Both lithium and magnesium display several similar properties due to the diagonal relationship; however, the one which is incorrect, is :
 (a) both form soluble bicarbonates
 (b) both form nitrides
 (c) nitrates of both Li and Mg yield NO_2 and O_2 on heating
 (d) both form basic carbonates
71. The products obtained when chlorine gas reacts with cold and dilute aqueous NaOH are :
 a) ClO_2^- and ClO_3^-
 b) Cl^- and ClO^-
 c) Cl^- and ClO_2^-
 d) ClO^- and ClO_3^-
72. CO molecule act as ligand it donates its lone pair from which molecular orbital :
 a) $\sigma 2pz$
 b) $\pi 2p_x$ or $\pi 2p_y$
 c) $\sigma^* 2s$
 d) $\pi^* 2px$
73. Which of the following is/are not incorrect statement :
 A. ICl is more reactive than Cl_2
 B. O_2F_2 is used to removing plutonium as PuF_6 from spent nuclear fuel.
 C. ClF_3 is used for the enrichment of U^{235} from its isotopic mixture.
 D. Si can not expand their octet.
 a) B and C
 b) B, C and D
 c) A, B and C
 d) A, B, C and D
74. Cr^{+3} make a complex $[Cr(NH_3)_xCl_y]^{+2}$. What are the value of x and y respectively :
 a) 1, 5
 b) 5, 1

- c) 4, 1 d) 1, 4

75. On treatment of 100 mL of 0.1 M solution of $\text{CoCl}_3 \cdot 6\text{H}_2\text{O}$ with excess AgNO_3 ; 1.2×10^{22} ions are precipitated. The complex is :

- a) $[\text{Co}(\text{H}_2\text{O})_3\text{Cl}_3] \cdot 3\text{H}_2\text{O}$
 b) $[\text{Co}(\text{H}_2\text{O})_6]\text{Cl}_3$
 c) $[\text{Co}(\text{H}_2\text{O})_5\text{Cl}]\text{Cl}_2 \cdot \text{H}_2\text{O}$
 d) $[\text{Co}(\text{H}_2\text{O})_4\text{Cl}_2]\text{Cl} \cdot 2\text{H}_2\text{O}$

76.  Identify A and C are respectively :

- a) 
 b) 
 c) 
 d) 

77. $\text{CH}_3\text{-CHO} + \text{HCN} \longrightarrow \text{A} \xrightarrow{\text{H}_3\text{O}^+}$

Choose correct statement about sequence :

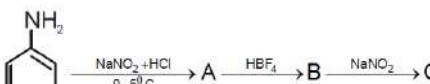
- a) Formation of A takes by nucleophilic addition
 b) Compound B is optically active
 c) Intermediate in step I is hydroxyalkoxide ion.
 d) All of the above

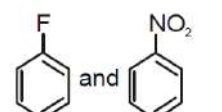
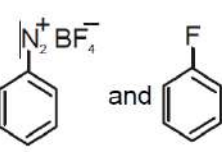
78. $\text{CH}_3\text{-CH}_2\text{-Cl} \xrightarrow{\text{KCN}} \text{A} \xrightarrow[\text{(ii) H}_2\text{O}]{\text{(i) SnCl}_2/\text{HCl}} \text{B}$ Compound B is :

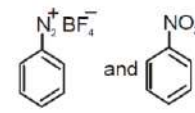
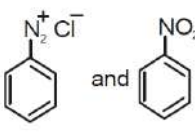
- a) $\text{CH}_3\text{-CH}_2\text{-CHO}$
 b) $\text{CH}_3\text{-CH}_2\text{-COOH}$
 c) $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-OH}$
 d) $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-NH}_2$

79. Compound C is :

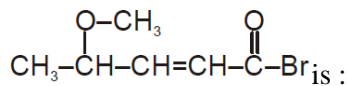
- a) $\text{CH}_3\text{-NC}$ (b) $\text{CH}_3\text{-NH}_2$
 c) $\text{CH}_3\text{-CN}$ (d) $\text{CH}_3\text{-CH}_2\text{-CN}$

80.  Compound B and C are respectively :

- a) 
 b) 

- c) 
 d) 

81. IUPAC name of the compound



- a) 2-methoxy pent-3-en-5-oyl bromide
 b) 4-methoxy pent-2-en-1-oyl bromide
 c) 4-methoxy pentanoyl bromide
 d) 4-methyl pent-2-en-1-oyl bromide

82. Glucose and cane sugar can be distinguished by :

- a) Fehling's solution
 b) Baeyer's reagent
 c) Iodine solution
 d) None of these

83. Ethylene glycol and Terephthalic acid are monomer of :

- a) Decron b) Nylon
 c) PVCd) Styrene

84. Ibuprofen is

- a) Antiseptic b) Analgesics
 c) Disinfectantsd) None of these

85. $\text{C}_6\text{H}_5\text{NH}_2 \xrightarrow[\text{HCl}]{\text{NaNO}_2} \text{A} \xrightarrow{\text{CuCN}} \text{B} \xrightarrow[\text{Ni}]{\text{H}_2} \text{C} \xrightarrow{\text{HNO}_2} \text{D}$

the structure of product 'D' is :

- a) $\text{C}_6\text{H}_5\text{NHCH}_2\text{CH}_3$ b) $\text{C}_6\text{H}_5\text{CH}_2\text{OH}$
 (c) $\text{C}_6\text{H}_5\text{CH}_2\text{NH}_2$ d) $\text{C}_6\text{H}_5\text{NHOH}$

86. Reduction of an unsaturated hydrocarbon in the presence of nickel alloy with NaOH gives mainly :

- a) Saturated hydrocarbons
 b) Unsaturated ether
 c) Organometallic compound
 d) Saturated alcohol

87. $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ on heating liberates a gas. The same gas will be obtained by :

- a) Heating NH_4NO_2
 b) Heating NH_4NO_3
 c) Treating H_2O_2 with NaNO_2
 d) Treating Mg_2N_2 with H_2O

88. Match the catalyst to the correct processes :

- a. TiCl_3 i. Wacker process
 b. PdCl_2 ii. Ziegler - Natta polymerization
 c. CuCl_2 iii. Contact process
 d. V_2O_5 iv. Deacon's process

- a) a-iii, b-ii, c-iv, d-i
 b) a-ii, b-i, c-iv, d-iii
 c) a-ii, b-iii, c-iv, d-i
 d) a-iii, b-i, c-ii, d-iv

89. Third ionization enthalpy is maximum for :
 a) O b) C c)
 Ne d) N
90. In the sequence of reactions :

$$\text{CH}_3\text{Cl} \xrightarrow{\text{KCN}} \text{CH}_3\text{C} \equiv \text{N} \xrightarrow[\text{Na/alcohol}]{[4\text{H}]} \text{C} \xrightarrow{\text{NOCl}} \text{D}$$
 (A) (B) 'C'
- and 'D' are respectively :
 a) 1^o amine, same alkyl halide as (A)
 b) 2^o amine, higher homologue of (A)
 c) 1^o amine, higher homologue of (A)
 d) 2^o amine, same alkyl halide as (A)
91. Which of the following are true about basidiomycetes
 a) Also called sac fungi
 b) Sex organs absent, but plasmogamy is brought about by fusion of two vegetative cells of different genotypes
 c) Karyogamy and meiosis takes place outside the basidium
 d) Basidiospores are produced exogenously
 a) a and b are correct b) b and c are correct
 c) b and d are correct d) a, b, c and d all are correct
92. Which of the following are characteristic features of Euglenoids
 a) Have well defined cell wall
 b) Have a protein rich layer called pellicle
 c) Photosynthetic in presence of sun light, when deprived sun light, behave like heterotrophs
 d) Predating (heterotrophic) on other smaller organism
 a) a and b are correct
 b) a, and d are correct
 c) b, c and d are correct
 d) a, b, c, d all are correct
93. Death of tissues, particularly leaf tissue, is due to the deficiency of Ca, Mg, Cu and K is known as :
 a) Chlorosis b) Necrosis
 c) Stunted plant growth d) Etiolation
94. Water splitting complex is associated with the PS II, which itself is physically located on
 a) Inner side of thylakoid membrane
 b) Lumen of thylakoid
 c) Photosystem-I
 d) Both 1 and 2
95. RQ is less than one in :
 a) Carbohydrate and fat
 b) Fat and proteins
 c) Carbohydrate and proteins
 d) Only in fat not in proteins
96. In the immune system, interferons are a part of :
 a) Physiological barriers b) Cellular barriers
 c) Physical barriers d) None of these
97. Antihistamine drug is effective in :
 a) Bacterial infection b) AIDS
 c) Bradycardia d) Allergy
98. Cancer can be detected by :
 a) Biopsy b) CT
 c) MRI d) All
99. Which of the following is not fresh water fish :
 a) Catla b) Rohu c)
 Common Carp d) Pomfrets
100. Match the column :
 Match-I Match-II
 1. PusaSwarnim a. Black rot
 2. PusaKomal b. White rust
 3. Pusasadbahar c. Bacterial blight
 4. PusaShubhra d. Tobacco mosaic virus
 a) 1-b, 2-c, 3-a, 4-d (b) 1-c, 2-b, 3-d, 4-a
 c) 1-b, 2-c, 3-d, 4-a (d) 1-c, 2-b, 3-a, 4-d
101. Match the column :
 Match -A Match -B
 1- CyclosporinAa. Yeast
 2- Statin b. Fungi
 3- Lady bird c. Trichoderma
 4- Roquefort cheese d. Aphids
 a) 1-c, 2-a, 3-d, 4-b b) 1-c, 2-d, 3-b, 4-a
 c) 1-b, 2-c, 3-d, 4-a d) 1-c, 2-b, 3-d, 4-a
102. Which of the following helps in identification :
 a) Manuals b) Monograph
 c) Catalogue d) All of these
103. Fungi imperfect are included in :
 (a) Ascomycetes (b) Basidiomycetes
 (c) Deuteromycetes (d) Phycomycetes
104. Which is a correct matching :
 Column - I Column - II
 (a) Ustilago(i) Phycomycetes
 (b) Alternaria(ii) Ascomycetes
 (c) Claviceps(iii) Basidiomycetes
 (d) Albugo (iv) Deuteromycetes
 a) a-iv, b-iii, c-ii, d-i b) a-iii, b-iv, c-ii, d-i
 c) a-iii, b-i, c-iv, d-ii d) a-iv, b-i, c-ii, d-iii
105. Mismatched pair among the following is :
 (a) Water channels made up of eight different types of water proteins (aquaproteins)—Aquaporins.
 (b) Two types of molecules cross the membrane in the same direction – Uniport.
 (c) Two types of molecules cross the membrane in the opposite direction – Antiport
 (d) When a molecule moves across a membrane independent of other molecules – Uniport
106. The main components that determine water potential :
 a) Only solute
 b) Only pressure potential
 c) Solute potential as well as pressure potential
 d) Only matric potential
107. All the reactions from the reduction of CO₂ to the formation of sugar is included in :
 a) Photolysis b) Hill reaction
 c) Light reaction d) Dark reaction
108. Aerobic respiration take place within the

mitochondria, the final product of glycolysis is transported from cytoplasm to mitochondria is :

- a) BPGA
- b) PGAL
- c) Pyruvate
- d) All of the above

109. Which stage of malaria parasite is infectious to primary host :

- a) Sporozoite
- b) Gametocyte
- c) Merozoited)
- Both 1 and 2

110. In our stomach, the Lactic acid bacteria (LAB) play very beneficial role in :

- a) Production of curd from milk
- b) Checking disease causing microbes.
- c) Digestion of casein of milk
- d) Neutrilsation of HCl of gastric juice

111. N₆ furfurylamino purine is :

- a) Sporozoite
- b) Gametocyte
- (c) Merozoited)
- Both 1 and 2

112. Holdfast, stipe and frond constitute the plant body in case of :

- a) Rhodophyceae
- b) Chlorophyceae
- c) Phaeophyceae
- d) All of these

113. Angiospermic plants are characterised by :

- I. Double fertilisation
- II. Triploid endosperm
- III. Diploid endosperm

Choose the correct option from the following regarding above statements.

- a) I and II are correct
- b) I and III are correct.
- c) II and III are correct
- d) I, II and III are correct

114. Consider the following statements about the gametophytic stage :

- I. Generation that produces the gametes
- II. Generation that produces the spores
- III. Generation that produces vascular tissue
- IV. The haploid generation

Choose the correct statements given above

- a) Only I & IV
- b) I and II
- c) II and III
- d) I, II, III and IV

115. Which plant amongs followings bears fibrous root system :

- a) Mustard plant
- b) Wheat plant
- c) Monstera)
- d) Banyan tree

116. Which floral family has 3 + 3, epiphyllous arrangement of stamens :

- a) Malvaceae)
- b) Rutaceae
- c) Liliaceae
- d) Solanaceae

117. In leaves, the ground tissues consist of :

- a) Epidermis
- b) Vascular tissue
- c) Mesophyll cells
- d) Medullary rays

118. I. Monocot root

- II. Dicot stem
- III. Monocot stem and dicot root
- IV. Dicot stem and dicot root
- V. Dicot root

Which of the above have well-developed pith :

- a) I and II
- b) III and IV
- c) IV and V
- d) II and III

119. Non membranous cell organelles are :

- a) Mitochondria
- b) Ribosomes and chloroplast
- c) ER and nucleolus
- d) Ribosomes and centrioles

120. Leucoplasts for storing oil are called :

- a) Chromoplast
- b) Aleuroplast
- c) Elaioplast
- d) Amyloplast

121. The inner membrane of mitochondria bears foldings/finger like projections called cristae. These cristae :

- a) Increase the thickness of wall
- b) Increase surface area
- c) Decrease ATP supply
- d) Keep external substances away

122. Which statement regarding lipid is correct :

- a) These are generally water soluble
- b) Lecithin is a sulpholipid
- c) Glycerol is a simple lipid
- d) Phospholipid are found in cell membrane
- a) a, b, c
- b) a, c, and d
- c) c, b, d
- d) c, d

123. What will be the chromosome number in S-phase of cell cycle if in G₁-phase it is 46 :

- a) 92
- b) 23
- c) 46
- d) 138

124. What is the percentage of oxygen in Earth's crust and human body respectively :

- a) 46.6 % and 65.0%
- b) 27.7% and 46.6%
- c) 46.6 % and 27.7%
- d) 56.6% and 65 %

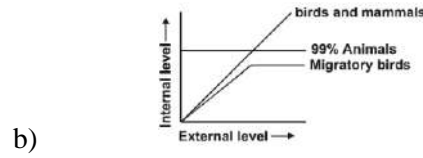
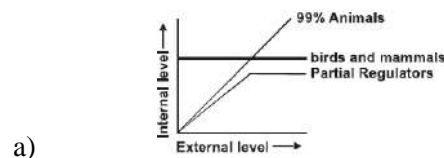
125. _____ involves pairing of homologous chromosomes and recombination between them :

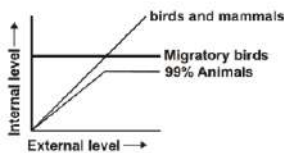
- a) Mitosis
- b) Meiosis
- c) Cytokinesis
- d) Dinomitosis

126. Match the Columns :

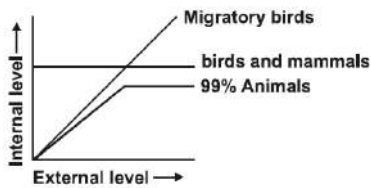
- | Column-I | Column-II |
|---------------------------|----------------------------|
| (a) Ovary | (i) Fruit |
| (b) Triple fusion | (ii) Endosperm |
| (c) Persistent nucellus | (iii) Perisperm |
| (d) Removal of anther | (iv) Emasculation |
| a) a-i, b-ii, c-iii, d-iv | b) a-ii, b-i, c-iii, d-iv |
| c) a-i, b-iii, c-ii, d-iv | d) a-ii, b-iii, c-i, d-iv. |

127. Regarding given figures which one is true





c)



d)

128. If the leaf tip cell posses 14 chromosome then how many chromosomes will be present in the endosperm of Pisumsativum :

- a) 14 b) 7
c) 21 d) 28

129. The term clone is used to describe such as :

- a) Only morphologically similar individuals
b) Only physiologically similar individuals
c) Morphologically as well as genetically similar individuals
d) Morphologically similar but genetically dissimilar individuals

130. Which is a correct statement :

- (a) Echinodermata has organ grade of body organisation
(b) Capillaries are absent in open vascular system
(c) Ctenophores show bilateral symmetry
(d) All chordates are triploblastic with some exception
a) a& b b) b & c
c) Only b d) Only d

131. Which is a correct match :

Column - I Column - II

- (a) Jointed appendages (i) Saccoglossus
(b) Visceral hump (ii) Ancylostoma
(c) Muscular pharynx (iii) Pila
(d) Proboscis gland (iv) Limulus
a) a-iv, b-iii, c-ii, d-I b) a-iv, b-iii, c-i, d-ii
c) a-iv, b-ii, c-iii, d-I d) a-iii, b-iv, c-ii, d-i

132. Which epithelium is responsible to move particles or mucus in a specific direction :

- a) Cuboidal epithelium b) Transitional epithelium
c) Ciliated epithelium d) None

133. Which is an incorrect statement :

- (a) Gonapophysis are the external genital organ of frog
(b) Malpighian tubules are both excretory and respiratory
(c) 10 pairs of spiracles are present on the ventral side of cockroach
(d) Areolar tissue has macrophage
(e) Intercalated disc are present in cardiac muscle
a) Only a and b b) Only b and c
c) a, b and c d) b, c and d

134. GnRH acts on -----to stimulate secretion of LH andFSH:

- a) Posterior pituitary b) Anterior pituitary
c) Testis d) Placenta

135. Just before 1-2 days before ovulation which hormones are at peak level :

- a) Only LH and FSH
b) Only LH and estrogen
c) LH, FSH, estrogen
d) LH, progesterone, estrogen

136. Inner cell mass of blastocyst gets differentiated into :

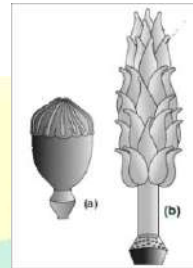
- a) Placenta b) Embryo
c) Morula d) Umbilical cord

137. How many method in the list given below included inin vitro fertilisation

GIFT, AI, ZIFT, IUT, ICSI

- a) 2 b) 3
c) 4 d) 1

138. Which is correct about following figures



- a) a-Multicarpellary, syncarpous, b- Multicarpellary apocarpous
b) a - Multicarpellary, syncarpous, b - Multicarpellary, syncarpous
c) a - Multicarpellary, apocarpous, b - Monocarpellary, Apocarpous
d) a - Monocarpellary, apocarpous, b - Monocarpellary, syncarpous

139. The abnormal frequency of bowel movement and increased liquidity of the faecal discharge is known as:

- a) Diarrhoea b) Vomiting
c) Constipation d) Indigestion

140. Difficulty in breathing causing wheezing due to inflammation of bronchi and bronchioles is called:

- a) Emphysema
b) Asthma
c) Occupational Respiratory Disorders
d) Constipation

141. A chronic disorder in which alveolar walls are damaged due to which respiratory surface is decreased, this condition is called:

- a) Asthma b) Emphysema
c) Angina d) Heart Failure

142. State of heart when it is not pumping blood effectively enough to meet the needs of the body,

- this condition is called :
- Angina
 - Heart failure
 - Coronary artery Disease
 - Hypertension
- Inflammation of glomeruli of kidney is called:
 - Glomerulonephritis
 - Renal Failures
 - Uremia
 - Angina
 - Each kidney has nearly one million complex tubular structures called:
 - Neurons
 - Fascia
 - Nephrons
 - Actin
 - Auto immune disorder affecting neuromuscular junction leading to fatigue, weakening and paralysis of skeletal muscle called :
 - Muscular dystrophy
 - Myasthenia gravis:
 - Arthritis
 - Gout
 - The hypothalamus is the basal part of diencephalon, forebrain and it regulates a wide spectrum of body functions. It contains several groups of neurosecretory cells called :
 - Nucleus
 - Nucleolus
 - Ribosomes
 - Nuclei
 - Thyroid gland is composed of two lobes which are located on either side of the trachea. Both the lobes are interconnected with a thin flap of connective tissue called :
 - Cardiac
 - Fundic
 - Isthmus
 - Pyloric
 - Forelimbs of whale, bat and human show which type of evolution :
 - Divergent
 - Convergent
 - Analogy
 - Both 2 and 3
 - Which is a correct match

Column - I	Column - II
(a) Salivary gland	(i) Accumulation of uric acid crystal in joints
(b) Hydrolysis of starch of haemoglobin	(ii) Breakdown product
(c) Bilirubin	(iii) Amylase
(d) Gout	(iv) Paratid

 - a-iv, b-iii, c-ii, d-I
 - a-iv, b-iii, c-i, d-ii
 - a-iv, b-ii, c-iii, d-I
 - a-ii, b-i, c-iv, d-iii
 - Which leucocytes are 2-3 percent of the total WBCs:
 - Neutrophils
 - Basophils
 - Eosinophils
 - Monocytes
 - Which is a correct match

Column - I	Column - II
(a) Fibrous joint	(i) Little movement
(b) Pivot joint	(ii) Between carpals
(c) Gliding Joint	(iii) No movement
(d) Cartilaginous joint	(iv) Between atlas & axis

 - a-iii, b-iv, c-ii, d-I
 - a-iii, b-iv, c-i, d-ii
 - a-iii, b-ii, c-iv, d-I
 - a-iv, b-iii, c-ii, d-i
 - The optic nerves leave the eye and the retinal blood vessels enter it at a point medial to and slightly above the posterior pole of the eye ball that region is called
 - Blind spot
 - Yellow spot
 - Macula lutea
 - Fovea centralis
- Which is a correct match of hormone and its targetorgan :

Column - I	Column - II
(a) LH	(i) Thyroid
(b) MSH	(ii) Pituitary
(c) Hypothalamic releasing factor	(iii) Skin
(d) TSH	(iv) Testes

 - a-iv, b-iii, c-ii, d-I
 - a-iv, b-iii, c-i, d-ii
 - a-iv, b-ii, c-iii, d-I
 - a-iii, b-iv, c-ii, d-i
 - No organic compounds are synthesized in direction of origin of life now-a-days due to :
 - High conc. of SO₂
 - High temperature
 - Oxidising atmosphere
 - High conc. of N₂
 - Which is a correct statement :
 - Louis Pasteur discarded theory of spontaneous generation
 - Stanley-Miller confirmed Pasteur's theory
 - First nucleic acid is RNA
 - H.M.S. Beagle was a geneticist
 - a& b
 - a & c
 - c& d
 - b & d
 - In recombinant DNA technology, the term vector refers to :
 - the enzyme that cuts DNA into restriction fragments
 - the sticky end of a DNA fragment
 - a plasmid used to transfer DNA into a living cell
 - a DNA fragment which carries only ori gene.
 - The correct sequence of making a cell competent is :
 - treatment with divalent cations→ incubation of cells with recombinant DNA on ice → heat shock (42°C) → placing on ice
 - heat shock (42°C) → incubation of cells with recombinant DNA on ice → treatment with divalent cations→ placing on ice
 - treatment with divalent cations→ placing on ice →incubation of cells with recombinant DNA on ice → heat shock (42°C)
 - incubation of cells with recombinant DNA on ice → heat shock (42°C) → treatment with divalentcations→placing on ice
 - Which of the following statements are correct :
 - Restriction enzymes cut the strand of DNA a little away from the centre of the palindrome site, but between the same two bases on the opposite strands.
 - Hind II always cuts DNA molecules at a particularpoint by recognizing a specific sequence of five base pairs.
 - Separated DNA fragments cannot be visualized

without staining on an agarose gel electrophoresis.
(iv) 'Ori' is the sequence responsible for controlling the copy number.

(v) DNA is positively charged molecule.

- a) (i), (iii) and (v) b) (i), (iii) and (iv)
c) (iii), (iv) and (v) d) (i), (ii), (iii), (iv) and (v)

159. How many fragments will be generated if you digest a linear DNA molecule with a restriction enzyme having 7 recognition sites on the DNA:

- a) 3 b) 6
c) 8 d) 14

160. Match the column - I with column - II and select the correct option from the codes given below :

- | | |
|-------------------------------|-----------------------------|
| Column - I | Column - II |
| A. Tidal volume | (i) 2500 - 3000 mL of air |
| B. Inspiratory reserve volume | (ii) 1000 mL of air |
| C. Expiratory reserve volume | (iii) 500 mL of air |
| D. Residual volume | (iv) 4000 - 4600 mL of air |
| E. Vital capacity | (v) 1100 - 1200 mL - of air |

- a) A-(iii), B-(iv), C-(ii), D-(i), E-(v)
b) A-(iii), B-(i), C-(ii), D-(v), E-(iv)
c) A-(iii), B-(i), C-(iv), D-(v), E-(ii)
d) A-(v), B-(i), C-(ii), D-(iii), E-(iv)

161. Match the following columns :

- | | |
|---------------------------|---------------------------|
| Column-I | Column-II |
| (a) Mutualism | (i) Orchid |
| (b) Commensalism | (ii) Mycorrhizae |
| (c) Parasitism | (iii) Copepode |
| (d) Brood parasitism | (iv) Koel |
| a) a-ii, b-i, c-iii, d-iv | b) a-iv, b-iii, c-ii, d-i |
| c) a-i, b-ii, c-iii, d-iv | d) a-i, b-iii, c-iv, d-ii |

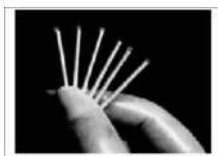
162. What kind of toilets are Ecosantoilets :

- a) Dry composting b) Dry and liquid composting
c) Liquid composting d) All of these

163. Ecology is basically concerned with four levels of biological organisations, namely - organism, populations, communities and

- a) Ecosystem b) Environment
c) Biomes d) All of these

164. Which of the following statement are not correct with reference to given diagram :



- a) It is a kind of barrier method for contraception
b) It is a kind of IUDs
c) Only progesterone used
d) All of these

165. Which population growth model is more realistic:

- a) Exponential growth with J-shaped curve
b) Logistic growth with J-shaped curve
c) Logistic growth with sigmoid curve
d) Both 2 and 3

166. Measurement of biomass in terms of _____ is

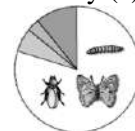
more accurate

- a) Fresh weight
b) Dry weight
c) Both 1 and 2
d) Both fresh and dry weight is not more accurate

167. Global species diversity has been put as 7 million by:

- a) Robert May b) Paul Ehrlich
c) Tilman d) None

168. Identify (a), (b), (c) and (d) in the given figure



The pie-chart for number of species of major taxa of invertebrates represent respectively

- a) (a) - Insects; (b) Crustaceans (c) - Molluscs (d) Other animal groups
b) (a) - Other animal groups (b) Molluscs (c) Crustaceans (d) Insects
c) (a) Molluscs (b) Insects (c) Other animal groups (d) Crustaceans
d) (a) - Insects (b) Molluscs (c) - Crustaceans (d) Other animal groups

169. Due to nondisjunction of chromosomes during spermatogenesis some sperms carry both sex chromosomes (22A + XY) while others do not carry any sex chromosome (22A + O). If these sperms fertilize normal eggs (22A + X), then what type of genetic disorders appear among the offsprings :

- a) Down's syndrome and Edward's syndrome
b) Down's syndrome and Klinefelter's syndrome
c) Klinefelter's syndrome and turner's syndrome
d) Down's syndrome and Cri-du-chat syndrome

170. Which one of the following is incorrect among the salient features of the double-helix structure of DNA :

- a) It is made of two polynucleotide chains, where the backbone is constituted by sugar-phosphate, and the bases project inside.
b) The two chains have anti-parallel polarity. It means, if one chain has the polarity 5'→3', the other has 3'→5' .
c) The bases in two strands are paired through hydrogen bond (H-bonds) forming base pairs (bp).
d) The two chains are coiled in a right-handed fashion, the pitch of the helix is 3.4 mm and there are roughly 10 bp in each turn.

171. Tallness (T-) is dominant over dwarfness (tt) while red flower colour (R-) is dominant over white colour(rr). A plant with genotype TtRr is crossed with plant of genotype ttrr. Percentage of progeny having tall plants with red flowers is :

- a) 25% b) 50%
c) 75% d) 100%

172. Match the following columns :

Column – I Column – II

- (a) Grasshopper (i) ZW type
 (b) Bird (ii) XY type
 (c) Drosophila (iii) XO type
 (d) Human female (iv) XX type

- a) a-iii, b-i, c-iv, d-ii b) a-i, b-ii, c-iii, d-iv
 c) a-iii, b-i, c-ii, d-iv d) a-i, b-iii, c-ii, d-iv

173. A sex linked recessive gene c produces red green colour blindness in humans. A normal woman whose father was colour blind marries a colour blind man. Of all the girls born to these parents, what percentage is expected to be colour blind :

- a) 25 % b) 50 %
 c) 75 % d) 100 %

174. Regarding to the criteria of a genetic material which one of the following is incorrect :

- a) It should be able to generate its replica (Replication)
 b) It should chemically and structurally be stable
 c) It should provide the scope for rapid changes (mutation) that are required for evolution
 d) It should be able to express itself in the form of 'Mendelian Characters'

175. A template strand is given as below :

3'–ATGCATGCATGCAT–5' then what is the sequence of RNA transcribed from above DNA

- a) 5'–TACGTACGTACGTA–3'
 b) 3'–UACGUACGUACGUA–5'
 c) 5'–UACGUACGUACGUA–3'
 d) Both 1 and 2

176. Which is correct :

- (i) Cistron is a segment of DNA coding for polypeptide.
 (ii) Structural gene in transcription unit could be monocistronic in prokaryote.
 (iii) Exons are interrupted by introns in eukaryotes
 (iv) Exons appear in mature and processed RNA.
 a) (i), (ii) and (iii) b) (ii), (iii) and (iv)
 c) (i), (iii) and (iv) d) (i), (ii), (iii) and (iv) all

177. Which one of the following is not salient feature of genetic code :

- a) The codon is triplet
 b) Genetic codes are ambiguous
 c) Degenerate
 d) Both (B) and (C)

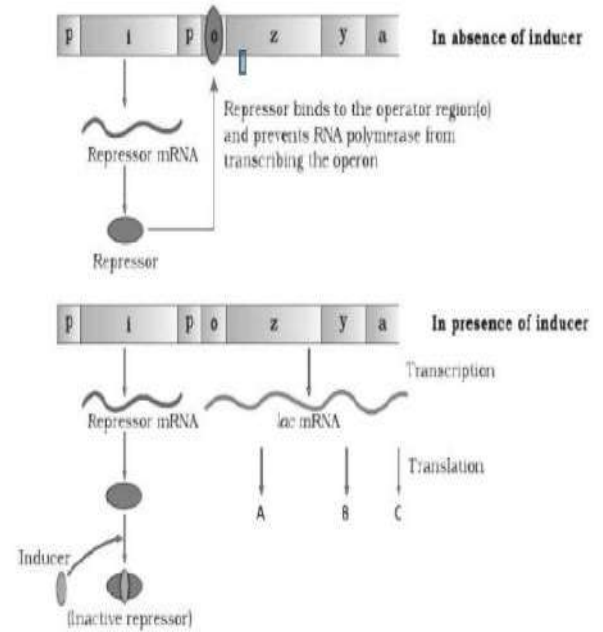
178. Match the following columns :

- Column –I Column –II
 (a) Monohybrid phenotypic ratio (i) 1 : 1 : 1 : 1
 (b) Dihybrid test cross ratio (ii) 9 : 3 : 3 : 1
 (c) Incomplete dominance (iii) 1 : 1
 (d) Dihybrid phenotypic ratio (iv) 3 : 1
 (e) Monohybrid test cross ratio (v) 1 : 2 : 1

- a) a-iv, b-i, c-v, d-ii, e-iii
 b) a-iv, b-i, c-v, d-iii, e-ii
 c) a-v, b-i, c-iv, d-ii, e-iii

d) a-v, b-ii, c-iii, d-iv, e-i

179. In given figure indicate A, B, C respectively :



- a) Transacetylase, permease, β -galactosidase,
 b) Permease, β --galactosidase, transacetylase
 c) β --galactosidase, permease, transacetylase
 d) None of these

180. Plant capture approximately _____ of the sun's energy while other trophics levels capture about _____ of the energy available to them in their food.

- a) 1%, 10% b) 10%, 60%
 c) 10%, 1% d) 60%, 10%

MNS MODAL TEST

1.	A	31.	C	61.	D	91.	C	121.	B	151.	A
2.	B	32.	C	62.	B	92.	C	122.	D	152.	A
3.	A	33.	A	63.	A	93.	B	123.	C	153.	A
4.	A	34.	A	64.	A	94.	A	124.	A	154.	C
5.	B	35.	A	65.	D	95.	B	125.	B	155.	B
6.	C	36.	A	66.	B	96.	D	126.	A	156.	C
7.	B	37.	A	67.	A	97.	D	127.	A	157.	A
8.	C	38.	B	68.	C	98.	D	128.	C	158.	B
9.	C	39.	B	69.	C	99.	D	129.	C	159.	C
10.	C	40.	B	70.	D	100.	C	130.	C	160.	B
11.	B	41.	B	71.	B	101.	A	131.	A	161.	A
12.	A	42.	A	72.	C	102.	D	132.	C	162.	A
13.	D	43.	D	73.	C	103.	C	133.	C	163.	C
14.	D	44.	B	74.	B	104.	B	134.	B	164.	D
15.	A	45.	C	75.	C	105.	B	135.	C	165.	C
16.	C	46.	A	76.	B	106.	C	136.	B	166.	B
17.	D	47.	B	77.	D	107.	D	137.	B	167.	A
18.	A	48.	D	78.	A	108.	C	138.	A	168.	B
19.	D	49.	B	79.	C	109.	A	139.	A	169.	C
20.	C	50.	D	80.	C	110.	B	140.	B	170.	D
21.	A	51.	D	81.	B	111.	B	141.	B	171.	A
22.	B	52.	B	82.	A	112.	C	142.	B	172.	C
23.	D	53.	C	83.	A	113.	A	143.	A	173.	B
24.	D	54.	C	84.	B	114.	A	144.	C	174.	C
25.	A	55.	D	85.	B	115.	B	145.	B	175.	C
26.	C	56.	A	86.	A	116.	C	146.	D	176.	C
27.	A	57.	C	87.	A	117.	C	147.	C	177.	B
28.	A	58.	B	88.	B	118.	A	148.	A	178.	A
29.	D	59.	C	89.	C	119.	D	149.	A	179.	C
30.	C	60.	A	90.	C	120.	C	150.	C	180.	A

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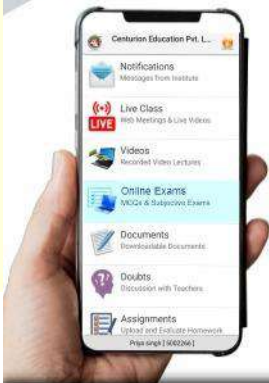
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