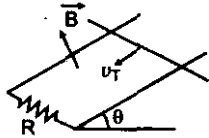
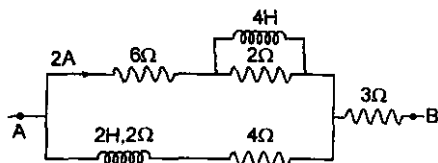


PHYSICS

1. A copper rod of mass m slides under gravity on two smooth parallel rails l distance apart and set at an angle θ to the horizontal. At the bottom, the rails are joined by a resistance R . There is a uniform magnetic field perpendicular to the plane of the rails. The terminal velocity of the rod is:

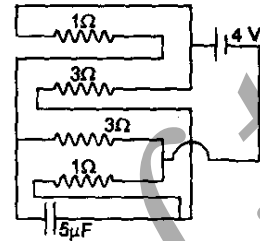


- (a) $\frac{mgR \cos \theta}{B^2 l^2}$ (b) $\frac{mgR \sin \theta}{B^2 l^2}$
 (c) $\frac{mgR \tan \theta \sec \theta}{B^2 l^2}$ (d) $\frac{mgR \cot \theta}{B^2 l^2}$
2. A photon collides with a stationary hydrogen atom in ground state inelastically. Energy of the colliding photon is 10.2 eV. After a time interval of the order of micro second another photon collides with same hydrogen atom inelastically with an energy of 15 eV. What will be observed by the detector?
- (a) 2 photons of energy 10.2 eV
 (b) 2 photons of energy 1.4 eV
 (c) One photon of energy 10.2 eV and an electron of energy 1.4 eV
 (d) One photon of energy 10.2 eV and another photon of energy 1.4 eV
3. Find $V_A - V_B$ in steady state :



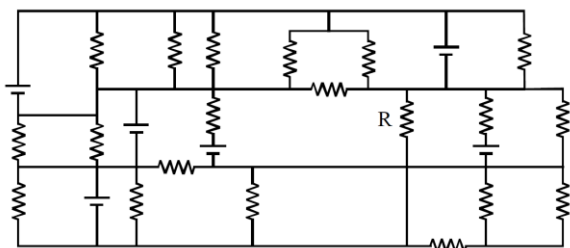
- (a) 8 V (b) 16 V
 (c) 24 V (d) data is insufficient
4. If an electron enters into a space between the plates of a parallel plate capacitor at an angle α with the plates and leaves at an angle β to the plates. The ratio of its kinetic energy while entering the capacitor to that while leaving will be:
- (a) $\left(\frac{\cos \alpha}{\cos \beta}\right)^2$ (b) $\left(\frac{\cos \beta}{\cos \alpha}\right)^2$
 (c) $\left(\frac{\sin \alpha}{\sin \beta}\right)^2$ (d) $\left(\frac{\sin \beta}{\sin \alpha}\right)^2$

5. Distance of an object from the first focus of an equiconvex lens is 10 cm and the distance of its real image from second focus is 40 cm. The focal length of the lens is:
- (a) 25 cm (b) 10 cm
 (c) 20 cm (d) 40 cm
6. Calculate the charge on the capacitor long time after the assembling of the circuit:

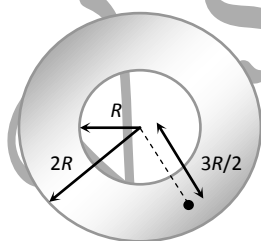


- (a) $5 \mu\text{C}$ (b) $10 \mu\text{C}$
 (c) $15 \mu\text{C}$ (d) zero
7. A neutron moving with a speed V makes a head on collision with a hydrogen atom in ground state kept at rest. The minimum kinetic energy of neutron for which inelastic collision will take place is : (assume that mass of proton is nearly equal to the mass of neutron)
- (a) 10.2 eV (b) 20.4 eV
 (c) 12.1 eV (d) 16.8 eV
8. One of the refracting surfaces of a prism of an angle 30° . is silvered. A ray of light incident at an angle of 60° . retraces its path. The refractive index of the material of prism is:
- (a) $\sqrt{2}$ (b) $\sqrt{3}$
 (c) $\frac{3}{2}$ (d) 2
9. When photon of energy 4.25 eV strike the surface of a metal A, the ejected photoelectrons have maximum kinetic energy T_A eV and de-Broglie wavelength λ_A . The maximum kinetic energy of photoelectrons liberated from another metal B by photon of energy 4.70 eV is $T_B = (T_A - 1.50)$ eV. If the de-Broglie wavelength of these photoelectrons is $\lambda_B = 2\lambda_A$, then
- (a) The work function of A is 3.25 eV
 (b) The work function of B is 6.20 eV
 (c) $T_A = 2.00$ eV
 (d) $T_B = 2.75$ eV

10. An astronomical telescope has an angular magnification of magnitude 5 for distant objects. The separation between the objective and the eye piece is 36 cm and the final image is formed at infinity. The focal length f_o of the objective and the focal length f_e of the eye piece are
- (a) $f_o = 45$ cm and $f_e = -9$ cm
 (b) $f_o = 7.2$ cm and $f_e = 5$ cm
 (c) $f_o = 50$ cm and $f_e = 10$ cm
 (d) $f_o = 30$ cm and $f_e = 6$ cm
11. All the resistors have a resistance of 4.0Ω and all the (ideal) batteries have an emf of 12.0 V. What is the current through resistance R (R is also 4Ω) –

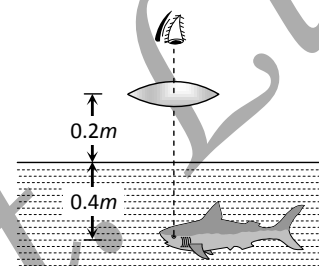


- (a) $\frac{25}{3}$ A
 (b) 6A
 (c) 2A
 (d) zero
12. Figure shows the cross-sectional view of the hollow cylindrical conductor with inner radius 'R' and outer radius '2R', cylinder carrying uniformly distributed current along its axis. The magnetic induction at point 'P' at a distance $\frac{3R}{2}$ from the axis of the cylinder will be

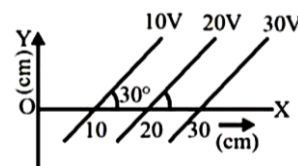


- (a) Zero
 (b) $\frac{5\mu_0 i}{72\pi R}$
 (c) $\frac{7\mu_0 i}{18\pi R}$
 (d) $\frac{5\mu_0 i}{36\pi R}$
13. An ac source of angular frequency ω is fed across a resistor r and a capacitor C in series. The current registered is I . If now the frequency of source is changed to $\omega/3$ (but maintaining the same voltage), the current in then circuit is found to be halved. Calculate the ratio of reactance to resistance at the original frequency ω

- (a) $\sqrt{\frac{3}{5}}$
 (b) $\sqrt{\frac{2}{5}}$
 (c) $\sqrt{\frac{1}{5}}$
 (d) $\sqrt{\frac{4}{5}}$
14. A small fish 0.4 m below the surface of a lake, is viewed through a simple converging lens of focal length 3 m. The lens is kept at 0.2 m above the water surface such that fish lies on the optical axis of the lens. The image of the fish seen by observer will be at ($\mu_{\text{water}} = \frac{4}{3}$)



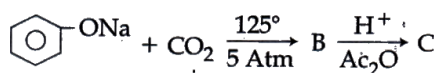
- (a) A distance of 0.2 m from the water surface
 (b) A distance of 0.6 m from the water surface
 (c) A distance of 0.3 m from the water surface
 (d) The same location of fish
15. Equipotential surfaces are shown in figure. Then the electric field strength will be :-



- (a) 100 Vm^{-1} along X-axis
 (b) 100 Vm^{-1} along Y-axis
 (c) 200 Vm^{-1} at an angle 120° with X-axis
 (d) 50 Vm^{-1} at an angle 120° with X-axis

CHEMISTRY

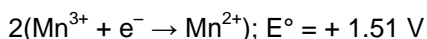
16. Sodium phenoxide when heated with CO_2 under pressure at 125°C yields a product which on acetylation produces C.



The major product C would be: **Ans. (b)**

- (a)
- (b)
- (c)
- (d)

17. Given below are the half – cell reactions:



The E° for $3\text{Mn}^{2+} \rightarrow \text{Mn} + 2\text{Mn}^{3+}$ will be:

- (a) -0.33 V ; the reaction will occur
 (b) -2.69 V ; the reaction will not occur
 (c) -2.69 V ; the reaction will occur
 (d) -0.33 V ; the reaction will not occur

18. The major organic compound formed by the reaction of 1, 1, 1 – trichloroethane with silver powder is:

- (a) 2 – Butane (b) Acetylene
 (c) Ethene (d) 2 – Butyne

19. Consider separate solutions of 0.500 M $\text{C}_2\text{H}_5\text{OH}(\text{aq})$, 0.100 M $\text{Mg}_3(\text{PO}_4)_2(\text{aq})$, 0.250 M $\text{KBr}(\text{aq})$ and 0.125 M $\text{Na}_3\text{PO}_4(\text{aq})$ at 25°C . Which statement is true about these solutions, assuming all salts to be strong electrolytes?

- (a) 0.500 M $\text{C}_2\text{H}_5\text{OH}(\text{aq})$ has the highest osmotic pressure
 (b) They all have the same osmotic pressure
 (c) 0.100 M $\text{Mg}_3(\text{PO}_4)_2(\text{aq})$ has the highest osmotic pressure
 (d) 0.125 M $\text{Na}_3\text{PO}_4(\text{aq})$ has the highest osmotic pressure

20. In $\text{S}_{\text{N}}2$ reactions, the correct order of reactivity for the following compounds:

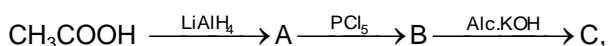
CH_3Cl , $\text{CH}_3\text{CH}_2\text{Cl}$, $(\text{CH}_3)_2\text{CHCl}$ and $(\text{CH}_3)_3\text{CCl}$ is:

- (a) $(\text{CH}_3)_2\text{CHCl} > \text{CH}_3\text{CH}_2\text{Cl} > \text{CH}_3\text{Cl} > (\text{CH}_3)_3\text{CCl}$
 (b) $\text{CH}_3\text{Cl} > (\text{CH}_3)_2\text{CHCl} > \text{CH}_3\text{CH}_2\text{Cl} > (\text{CH}_3)_3\text{CCl}$
 (c) $\text{CH}_3\text{Cl} > \text{CH}_3\text{CH}_2\text{Cl} > (\text{CH}_3)_2\text{CHCl} > (\text{CH}_3)_3\text{CCl}$
 (d) $\text{CH}_3\text{CH}_2\text{Cl} > \text{CH}_3\text{Cl} > (\text{CH}_3)_2\text{CHCl} > (\text{CH}_3)_3\text{CCl}$

21. The octahedral complex of a metal ion M^{3+} with four monodentate ligands L_1 , L_2 , L_3 and L_4 absorb wavelengths in the region of red, green, yellow and blue respectively. The increasing order of ligand strength of the four ligands is:

- (a) $\text{L}_1 < \text{L}_2 < \text{L}_4 < \text{L}_3$ (b) $\text{L}_4 < \text{L}_3 < \text{L}_2 < \text{L}_1$
 (c) $\text{L}_1 < \text{L}_3 < \text{L}_2 < \text{L}_4$ (d) $\text{L}_3 < \text{L}_2 < \text{L}_4 < \text{L}_1$

22. In the reaction,



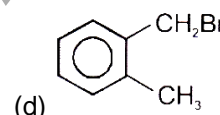
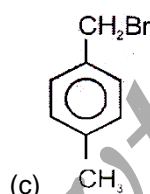
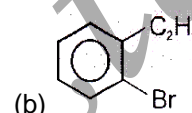
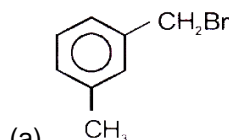
The product C is:

- (a) Acetyl chloride (b) Acetaldehyde
 (c) Acetylene (d) Ethylene

23. Among the following oxoacids, the correct decreasing order of acid strength is:

- (a) $\text{HClO}_2 > \text{HClO}_4 > \text{HClO}_3 > \text{HOCl}$
 (b) $\text{HOCl} > \text{HClO}_2 > \text{HClO}_3 > \text{HClO}_4$
 (c) $\text{HClO}_4 > \text{HOCl} > \text{HClO}_2 > \text{HClO}_3$
 (d) $\text{HClO}_4 > \text{HClO}_3 > \text{HClO}_2 > \text{HOCl}$

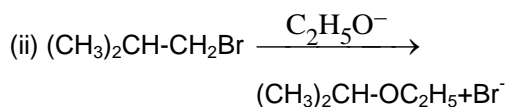
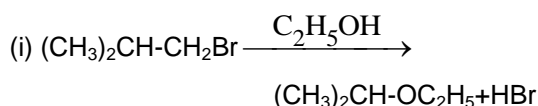
24. Compound (a), $\text{C}_8\text{H}_8\text{Br}$, gives a white precipitate when warmed with alcoholic AgNO_3 . Oxidation of (a) gives an acid (B), $\text{C}_8\text{H}_8\text{O}_4$. (B) easily forms anhydride on heating. Identify the compound (a).



25. Experimentally it was found that a metal oxide has formula $\text{M}_{0.98}\text{O}$. Metal M, present as M^{2+} and M^{3+} in its oxide. Fraction of the metal which exists as M^{3+} would be:

- (a) 7.01% (b) 4.08%
 (c) 6.05% (d) 5.08%

26. Consider the reactions.



The mechanisms of reactions (i) and (ii) are respectively

- (a) $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$ (b) $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}1$
 (c) $\text{S}_{\text{N}}2$ and $\text{S}_{\text{N}}2$ (d) $\text{S}_{\text{N}}2$ and $\text{S}_{\text{N}}1$

27. Match List – I (substances) with List – II (processes) employed in the manufacture of the substances and select the correct option.

List – I Substances	List – II Processes
a. Sulphuric acid	i. Haber's process
b. Steel	ii. Bessemer's process
c. Sodium hydroxide	iii. Leblanc process
d. Ammonia	iv. Contact process

	a	b	c	d
(a)	iv	ii	iii	i
(b)	i	iv	ii	iii
(c)	i	ii	iii	iv
(d)	iv	iii	ii	i

28. 25.3 g of sodium carbonate, Na_2CO_3 is dissolved in enough water to make 250 mL of solution. If sodium carbonate dissociates completely, molar concentration of sodium ions, Na^+ and carbonate ions, CO_3^{2-} are respectively (Molar mass of $Na_2CO_3 = 106 \text{ g mol}^{-1}$)
- (a) 0.955 M and 1.910 M
 (b) 1.910 M AND 0.955 M
 (c) 1.90 M and 1.910 M
 (d) 0.477 m and 0.477 M
29. Which of the following compounds is not colored yellow?
- (a) $Zn_2[Fe(CN)_6]$ (b) $K_3[Co(NO_2)_6]$
 (c) $(NH_4)_3[As(NO_3O_{10})_4]$ (d) $BaCrO_4$
30. If a is the length of the side of cube, the distance between the body centered atom and on 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) $\frac{\sqrt{3}}{2}a$

33. Let $f : [1/2, \infty) \rightarrow [3/4, \infty)$, where $f(x) = x^2 - x + 1$. No. of real solutions of the equation $x^2 - x + 1 = \frac{1}{2} + \sqrt{x - \frac{3}{4}}$?
- (a) 1 (b) 2
 (c) 3 (d) 4
34. Consider $f(x) = \left[\frac{2(\sin x - \sin^3 x) + |\sin x - \sin^3 x|}{2(\sin x - \sin^3 x) - |\sin x - \sin^3 x|} \right], x \neq \pi/2$, for $x \in (0, \pi)$ and $f(\pi/2) = 3$. Where $[.]$ denotes greatest integral function, then
- (a) f is continuous and differentiable at $x = \pi/2$
 (b) f is continuous but not differentiable at $x = \pi/2$
 (c) f is neither continuous nor differentiable at $x = \pi/2$
 (d) none of these
35. A curve with equation of the form $y = ax^4 + bx^3 + cx + d$ has zero gradient at the point (0, 1) and also touches the x-axis at the point (-1, 0). Then the values of x for which the curve has negative gradient are
- (a) $x > -1$ (b) $x < 1$
 (c) $x < -1$ (d) $-1 \leq x \leq 1$
36. Let $f'(\sin x) < 0$ and $f''(\sin x) > 0, \forall x \in \left(0, \frac{\pi}{2}\right)$, and $g(x) = f(\sin x) + f(\cos x)$, then find the interval in which g(x) is increasing and decreasing respectively.
- (a) $x \in \left(\frac{\pi}{4}, \frac{\pi}{2}\right), x \in \left(0, \frac{\pi}{4}\right)$
 (b) $x \in \left(0, \frac{\pi}{6}\right), x \in \left(\frac{\pi}{6}, \frac{\pi}{2}\right)$
 (c) $x \in \left(0, \frac{\pi}{4}\right), x \in \left(\frac{\pi}{4}, \frac{\pi}{2}\right)$
 (d) $x \in \left(\frac{\pi}{6}, \frac{\pi}{3}\right), x \in \left(\frac{\pi}{3}, \frac{\pi}{2}\right)$

MATHEMATICS

31. Let $f(x) = \begin{vmatrix} \sec x & \cos x & \sec^2 x + \cot x \operatorname{cosec} x \\ \cos^2 x & \cos^2 x & \operatorname{cosec}^2 x \\ 1 & \cos^2 x & \operatorname{cosec}^2 x \end{vmatrix}$

then value of $\int_{\pi/4}^{\pi/2} f(x) dx$ is

- (a) 0 (b) $\pi/48$
 (c) $\frac{\pi}{2} - \frac{\pi}{15\sqrt{2}}$ (d) none of these

32. The system of homogeneous equations

$$\begin{aligned} tx + (t+1)y + (t-1)z &= 0 \\ (t+1)x + ty + (t+2)z &= 0 \\ (t-1)x + (t+2)y + tz &= 0 \end{aligned}$$

has non-trivial solutions for

- (a) exactly three real values of t
 (b) exactly two real values of t
 (c) exactly one real value of t
 (d) infinite number of values of t

37. $\int \frac{\sin x}{\sin 4x} dx = A \log \left| \frac{1 + \sin x}{1 - \sin x} \right| + B \log \left| \frac{1 + \sqrt{2} \sin x}{1 - \sqrt{2} \sin x} \right| + C$

- (a) $A = \frac{1}{8}, B = \frac{1}{4\sqrt{2}}$ (b) $A = -\frac{1}{8}, B = -\frac{1}{4\sqrt{2}}$
 (c) $A = -\frac{1}{8}, B = \frac{1}{4\sqrt{2}}$ (d) $A = \frac{1}{8}, B = -\frac{1}{4\sqrt{2}}$

38. If $I = \int \frac{5x^8 + 7x^6}{(x^2 + 1 + 2x^7)^2} dx$ then I is equal to

- (a) $\frac{x^7}{2x^7 + x^2 + 1} + C$ (b) $\frac{x^5}{x^2 + 1 + 2x^7} + C$
 (c) $\frac{-1}{2x^7 + x^2 + 1} + C$ (d) $\frac{p(x)}{q(x)}$, deg p(x) =

39. The value of $\int_{-1}^2 [x] - \{x\} dx$, where $[x]$ is the greatest integer less than or equal to x and $\{x\}$ is the fractional part of x is

- (a) 7/2 (b) 5/2
 (c) 1/2 (d) 3/2

40. The number of solutions of the equation

$$\sin^{-1}\left(\frac{1+x^2}{2x}\right) = \frac{\pi}{2} (\sec(x-1)) \text{ is/are}$$

- (a) 0 (b) 1
 (c) 2 (d) 3

41. Let $f(x) = \sin^{-1} \frac{x-3}{2} = \log_{10}(4-x)$

Statement-1 : The domain of $f(x)$ is $[1, 3]$

Statement-2 : $\sin^{-1} x$ is defined for $|x| \leq 1$ and $\log_{10} x$ is defined for $x > 0$.

- (a) Statement-1 is true, Statement-2 is false
 (b) Statement-1 is true, Statement-2 is true and Statement-2 is the correct explanation of Statement-1
 (c) Statement-1 is true, Statement-2 is true and Statement-2 is not the correct explanation of Statement-1
 (d) Statement-1 is false, Statement-2 is true

42. Let $I = \int \frac{e^x}{e^{4x} + e^{2x} + 1} dx$, $J = \int \frac{e^{-x}}{e^{-4x} + e^{-2x} + 1} dx$

Then, for an arbitrary constant C, the value of

$J - I$ equal

- (a) $\frac{1}{2} \log \left(\frac{e^{4x} - e^{2x} + 1}{e^{4x} + e^{2x} + 1} \right) + C$
 (b) $\frac{1}{2} \log \left(\frac{e^{2x} + e^x + 1}{e^{2x} - e^x + 1} \right) + C$
 (c) $\frac{1}{2} \log \left(\frac{e^{2x} - e^x + 1}{e^{2x} + e^x + 1} \right) + C$
 (d) $\frac{1}{2} \log \left(\frac{e^{4x} + e^{2x} + 1}{e^{4x} - e^{2x} + 1} \right) + C$

43. The value of

$$\lim_{x \rightarrow 0} \frac{(1+x)^{1/x} - e + \frac{1}{2}ex}{x^2} \text{ is}$$

- (a) $\frac{11}{24}e$ (b) $\frac{-11}{24}e$
 (c) $\frac{e}{24}$ (d) None of these

44. If $f(x) = \left| \frac{1}{2x} \quad \frac{x}{x(x-1)} \quad \frac{x+1}{(x+1)x} \right|$
 $\left| \frac{1}{3x(x-1)} \quad \frac{x}{x(x-1)(x-2)} \quad \frac{x+1}{(x+1)x(x-1)} \right|$

then $f(500)$ is equal to

- (a) 0 (b) 1
 (c) 500 (d) -500

45. The coordinates of the point on the parabola $y^2 = 8x$ which is at minimum distance from the

$$\text{circle } (x^2 + (y+6)^2) = 1 \text{ are}$$

- (a) (2, -4) (b) (18, -12)
 (c) (2, 4) (d) None of these

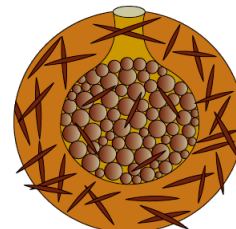
BIOLOGY

46. Match the column-I (Organism) with column-II (reproductive structure)

Column-I	Column-II
(A) Penicillium	(1) Conidia
(B) Hydra	(2) Exogenous bud
(C) Sponge	(3) Gemmules (Endogenous buds)
(D) Paramecium	(4) Binary fission

- (a) A:1, B:2, C:3, D:4 (b) A:4, B:1, C:3, D:2
 (c) A:1, B:3, C:4, D:2 (d) A:2, B:1, C:4, D:3

47. False about below diagram:



- (a) It represents asexual reproductive structure of hydra
 (b) It contains archeocyte cells
 (c) It represents asexual reproductive structure of sponges
 (d) Gemmules in sponges

48. The levels of biological organisation in ecology are—
 (a) Cell, Organism, Community, Biosphere
 (b) Organisms, Family, Communities, Biomes
 (c) Species, Populations, Communities, biomes
 (d) Organisms, Populations, Communities, biomes

49. **Assertion:** Photosynthesis is an essential life process of plants

Reason: Small plants growing in forest are adapted to other process than photosynthesis because they are over shadowed by tall canopied trees.

- (a) A is true and R is also true
 (b) R is true and A is false
 (c) A is true but R is false
 (d) Both A and R are false

50. Match the column

Column – I	Column – II
(1) Fragmentation	(A) Break down of detritus into smaller particles
(2) Leaching	(B) Precipitation of water soluble nutrients as unavailable salt
(3) Catabolism	(C) Degradation of detritus by bacterial & fungal enzymes

- (a) 1 – A, 2 – B, 3 – C (b) 1 – B, 2 – C, 3 – A
 (c) 1 – C, 2 – B, 3 – A (d) 1 – C, 2 – A, 3 – B

51. Find out total number of incorrect statement from the following

- (a) Decomposition is largely an anaerobic process
 (B) Fragmentation, leaching and catabolism occur simultaneously on detritus
 (C) Vertical distribution of different species occupying different level is called stratification
 (D) Pond is a deep water body
 (E) The rate of decomposition is controlled by chemical composition of detritus and climatic factors

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

52. Arrange following in their decreasing order of species:

Fishes, Birds, Reptiles, Amphibian

- (a) Fishes > Birds > Reptiles > Amphibian
 (b) Fishes > Reptiles > Birds > Amphibian
 (c) Reptiles > Fishes > Birds > Amphibian
 (d) Amphibian > Fishes > Birds > Reptiles

53. The largely tropical Amazonian rain forest in South America has the greatest biodiversity on earth. It is home for more than _____ species of plants. _____ of fishes, _____ of birds, _____ of mammals, _____ of amphibians, _____ of reptiles and of more than _____ invertebrates

- (a) 30,000, 4000, 1200, 427, 427, 387, 1,25,000
 (b) 40,000, 3000, 1200, 427, 427, 387, 1,25,000
 (c) 40,000, 3000, 1300, 427, 427, 378, 1,25,000
 (d) 40,000, 3000, 1200, 427, 427, 378, 1,25,000

54. Match the column

Column–I	Column–II
(A) Air (Prevention and control of pollution) Act	(1) 1987
(B) Water (Prevention and control of pollution) Act	(2) 1981
(C) Noise added as air pollutant	(3) 1974
(D) Environment (Protection) Act	(4) 1986

- (a) A:2, B:3, C:2, D:4 (b) A:2, B:3, C:2, D:4
 (c) A:4, B:3, C:2, D:1 (d) A:4, B:3, C:1, D:2

55. If the water contains 0.003ppb of DDT then fish eating birds contain what level DDT?

- (a) 0.04 ppm (b) 2 ppm
 (c) 0.5 ppm (d) 25 ppm

56. Select the true statement:

- (a) Presence of hymen is a reliable indicator of virginity
 (b) Absence of hymen is a reliable indicator of sexual experience
 (c) Presence of hymen is a reliable indicator of sexual experience
 (d) Presence or absence of hymen is not a reliable indicator of virginity

57. Correct path for secretion & transport of milk in mammary gland:

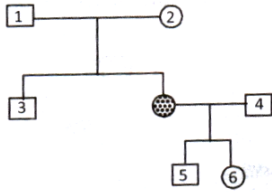
- (a) Alveoli → Cavity of alveoli → Mammary tubule → Mammary duct → Mammary ampulla → Lactiferous duct
 (b) Mammary duct → Mammary tubule → Alveoli → Lactiferous duct → Mammary ampulla → Cavity of alveoli
 (c) Mammary duct → Cavity of alveoli → Lactiferous duct → Mammary ampulla → Mammary tubule → Alveoli
 (d) Alveoli → Mammary tubule → Mammary ampulla → Cavity of alveoli → Mammary duct → Lactiferous duct

58. In a monohybrid cross, 120 plants are obtained.

The ratio of homozygous and heterozygous will be

- (a) 40 : 80 (b) 60 : 60
(c) 20 : 100 (d) 10 : 110

59. The pedigree shows the occurrence of albinism which is a recessive trait. If person 4 is homozygous, the carrier for the trait is



○ → female □ → male ● → albinism

- (a) 1,4,5 and 6 (b) 5 and 6
(c) 1,2 and 3 (d) 1,2,5 and 6

60. Correct sequence for depolarization and repolarization

- (a) Stimulus applied at a site on polarised membrane
(B) Increase permeability for Na⁺
(C) Generation of A.P.
(D) Increase permeability for K⁺
(E) Restoration of membrane potential
(a) A → B → C → D → E
(b) B → A → C → D → E
(c) A → D → C → B → E
(d) A → B → D → C → E

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