VIDYAM CLASSES
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(A New Venture by Senior Teachers of Janakpuri-Delhi)
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**TEST BOOKLET NO.105**

**TEST BOOKLET CODE**

**ROLL NUMBER**

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# Test Series - NEET

## TEST - 5

### NEET(UG)-2026

**T-5**

**Do not open this Test Booklet until you are asked to do so.**

**Syllabus**

**PHYSICS :** Complete Syllabus of Class-XI; **CHEMISTRY :** Complete Syllabus of Class-XI;
**BIOLOGY :** Complete Syllabus of Class-XI

***Important Instructions :***

1. This test is of **3 Hours** duration.
2. The Test Booklet contains **180** multiple-choice questions [four options **(1), (2), (3) & (4)** with a single correct answer] from **Physics (45 Questions), Chemistry (45 Questions)** & **Biology (90 Questions).**
   **All questions are compulsory.**
3. Each question carries **4** marks. For each correct response, the candidate will get **4** marks. For each incorrect response, **1** mark will be deducted from the total score. No mark will be deducted for the questions which have not been answered. The maximum marks is **720**.
4. Use **Blue/Black Ball Point Pen only** for writing particulars on this page/special Answer Sheet (OMR).
5. Do not encode or darken more than one circle for answering a particular question for it will be treated as a wrong answer.
6. Rough work is to be done on the space provided for this purpose in the Test Booklet only.
7. Calculators, Slide Rules, Log Tables, Geometry Box, Electronic Digital Watches with facilities of calculators, cellular phones, pagers or any other electronic gadget are not allowed inside the Examination Hall.

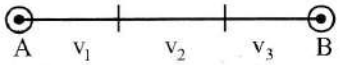
Name of the Candidate (in Capital) : _____

Centre Name (in Capital) : _____ Date : _____

Candidate's Signature : _____ Invigilator's Signature : _____

## PART-I: PHYSICS

**1.** A car covers *AB* distance with first one–third at velocity $v_1$ ms$^{-1}$, second one–third at $v_2$ ms$^{-1}$ and last one–third at $v_3$ ms$^{-1}$. If $v_3 = 3v_1$, $v_2 = 2v_1$ and $v_1 = 11$ ms$^{-1}$ then the average velocity of the car is. **[NCERT Page 15]**




(1) 12 m/s (2) 14 m/s (3) 16 m/s (4) 18 m/s

**2.** A rigid diatomic ideal gas undergoes an adiabatic process at room temperature. The relation between temperature and volume for this process is $TV^x$ = constant, then x is: **[NCERT Page 235]**

(1) $\frac{3}{5}$ (2) $\frac{2}{5}$

(3) $\frac{2}{3}$ (4) $\frac{5}{3}$

**3.** Pressure-temperature relationship for an ideal gas undergoing adiabatic change is ($\gamma = C_p/C_v$) **[NCERT Page 235]**

(1) $PT^{\gamma}$ = constant (2) $PT^{-1+\gamma}$ = constant

(3) $P^{\alpha\gamma\varepsilon-1}T^{\gamma}$ = sonstant (4) $P^{1-\gamma}T^{\gamma}$ = constant

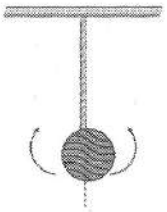
**4.** A simple pendulum is made of a body which is a hollow sphere containing mercury suspended by means of a wire. If a little mercury is drained off, the period of pendulum will **[NCERT Page 271]**

(1) remain unchanged

(2) increase

(3) decrease

(4) become erratic



**5.** In a vernier callipers, (N + 1) divisions of vernier scale coincide with N divisions of main scale. If 1 MSD represents 0.1 mm, the vernier constant (in cm) is: **[Practical]**

(1) $\frac{1}{10N}$ (2) $\frac{1}{100(N+1)}$

(3) 100 N (4) 10 (N + 1)

**6.** A motor engine pumps 1800 L of water per minute from a well of depth 30 m and allows to pass through a pipe of cross-sectional area 30 cm$^2$. Then the power of the engine is (Acceleration due to gravity, $g = 10$ ms$^{-2}$) **[NCERT Page 83]**

(1) 20.5 kW (2) 15.5 kW

(3) 10.5 kW (4) 9.5 kW

**7.** The ratio of orbital velocity of a body near to the surface of a planet and escape velocity of a body from the surface of the same planet is **[NCERT Page 136, 137]**

(1) $\sqrt{2}:1$ (2) $\sqrt{5}:1$

(3) $1:\sqrt{2}$ (4) $1:\sqrt{5}$

**8.** Three particles P, Q and R are moving along the vectors $\vec{A} = \hat{i}+\hat{j}$, $\vec{B} = \hat{j}+\hat{k}$ and $\vec{C} = -\hat{i}+\hat{j}$ respectively. They strike on a point and start to move in different directions. Now particle P is moving normal to the plane which contains vector $\vec{A}$ and $\vec{B}$. Similarly particle Q is moving normal to the plane which contains vector $\vec{A}$ and $\vec{C}$. The angle between the direction of motion of P and Q is $\cos^{-1}\left(\frac{1}{\sqrt{x}}\right)$. Then the value of x is. **[NCERT Page 32, 74]**

(1) 3 (2) 6

(3) 12 (4) 15

**9.** Two vessels A and B are of the same size and are at same temperature. A contains 1 g of hydrogen and B contains 1 g of oxygen. $P_A$ and $P_B$ are the pressures of the gases in A and B respectively, then $\frac{P_A}{P_B}$ is: **[NCERT Page 246]**

(1) 8 (2) 16

(3) 32 (4) 4

**10.** A projectile moves from the ground such that its horizontal displacement is x = Kt and vertical displacement is $y = Kt(1-\alpha t)$, where K and $\alpha$ are constants and t is time. Find out total time of flight (T) and maximum height attained ($Y_{max}$) is **[NCERT Page 38, 39]**

(1) $T = \alpha$, $Y_{max} = \frac{K}{2\alpha}$

(2) $T = \frac{1}{\alpha}$, $Y_{max} = \frac{2K}{\alpha}$

(3) $T = \frac{1}{\alpha}$, $Y_{max} = \frac{K}{6\alpha}$

(4) $T = \frac{1}{\alpha}$, $Y_{max} = \frac{K}{4\alpha}$

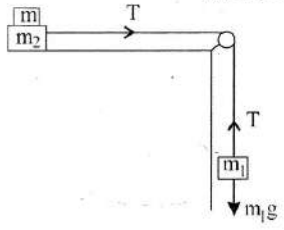
**11.** Two masses $m_1 = 5$ kg and $m_2 = 10$ kg, connected by an inextensible string over a frictionless pulley, are moving as shown in the figure. The coefficient of friction of horizontal surface is 0.15. The minimum weight m that should be put on top of $m_2$ to stop the motion is: **[NCERT Page 60, 61]**

(1) 18.3 kg

(2) 23.3 kg

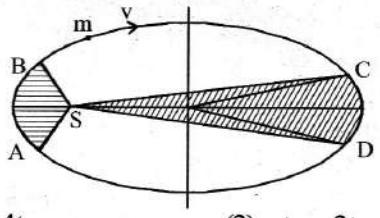
(3) 43.3 kg

(4) 10.3 kg



**12.** The figure shows elliptical orbit of a planet m about the sun S. The shaded area SCD is twice the shaded area SAB. If $t_1$ is the time for the planet to move from C to D and $t_2$ is the time to move from A to B then

**[NCERT Page 128, 129]**




(1) $t_1 = 4t_2$ (2) $t_1 = 2t_2$
(3) $t_1 = t_2$ (4) $t_1 > t_2$

**13.** An amount of ice of mass $10^{-3}$ kg and temperature $-10°C$ is transformed to vapour of temperature 110°C by applying heat. The total amount of work required for this conversion is, (Take, specific heat of ice = 2100 $Jkg^{-1}K^{-1}$, specific heat of water = 4180 $Jkg^{-1}K^{-1}$, specific heat of steam = 1920 $Jkg^{-1}K^{-1}$, Latent heat of ice = $3.35 \times 10^5$ $Jkg^{-1}$ and Latent heat of steam = $2.25 \times 10^6$ $Jkg^{-1}$)

**[NCERT Page 208, 209]**

(1) 3022 J (2) 3043 J
(3) 3003 J (4) 3024 J

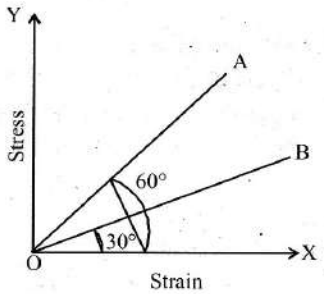
**14.** A body of mass '$m$' connected to a massless and unstretchable string goes in verticle circle of radius '$R$' under gravity $g$. The other end of the string is fixed at the center of circle. If velocity at top of circular path is $n\sqrt{gR}$, where, $n \geq 1$, then ratio of kinetic energy of the body at bottom to that at top of the circle is **[NCERT Page 79]**

(1) $\frac{n}{n+4}$ (2) $\frac{n+4}{n}$
(3) $\frac{n^2}{n^2+4}$ (4) $\frac{n^2+4}{n^2}$

**15.** A balloon and its content having mass M is moving up with an acceleration '$a$'. The mass that must be released from the content so that the balloon starts moving up with an acceleration '$3a$' will be : (Take 'g' as acceleration due to gravity) **[NCERT Page 65]**

(1) $\frac{3Ma}{2a-g}$ (2) $\frac{3Ma}{2a+g}$ (3) $\frac{2Ma}{3a+g}$ (4) $\frac{2Ma}{3a-g}$

**16.** The stress versus strain graphs for wires of two materials A and B are as shown in the figure. If $Y_A$ and $Y_B$ are the Young's modulus of the materials, then **[NCERT Page 170]**




(1) $Y_B = 2Y_A$ (2) $Y_A = Y_B$
(3) $Y_B = 3Y_A$ (4) $Y_A = 3Y_B$

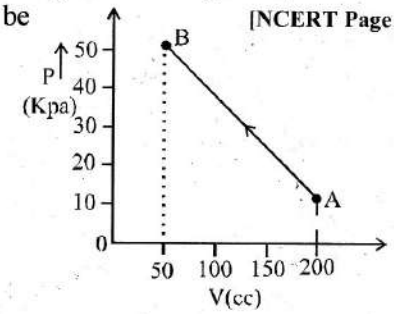
**17.** The ranges and heights for two projectiles projected with the same initial velocity at angles 42° and 48° with the horizontal are $R_1$, $R_2$ and $H_1$, $H_2$ respectively. Choose the correct option : **[NCERT Page 39, 40]**

(1) $R_1 > R_2$ and $H_1 = H_2$
(2) $R_1 = R_2$ and $H_1 < H_2$
(3) $R_1 < R_2$ and $H_1 < H_2$
(4) $R_1 = R_2$ and $H_1 = H_2$

**18.** An air bubble of radius 0.1 cm lies at a depth of 20 cm below the free surface of a liquid of density 1000 $kg/m^3$. If the pressure inside the bubble is 2100 $N/m^2$ greater than the atmospheric pressure, then the surface tension of the liquid in SI unit is (use $g = 10\ m/s^2$) **[NCERT Page 196]**

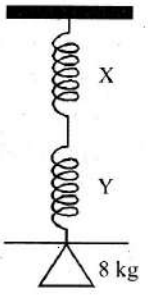
(1) 0.02 (2) 0.1
(3) 0.25 (4) 0.05

**19.** The pressure of a gas changes linearly with volume from A to B as shown in figure. If no heat is supplied to or extracted from the gas then change in the internal energy of the gas will be **[NCERT Page 230, 235]**




(1) 6 J
(2) Zero
(3) –4.5 J
(4) 4.5 J

**20.** A body of mass 8 kg is suspended through two light springs $X$ and $Y$ connected in series as shown in figure. The readings in $X$ and $Y$ respectively are **[NCERT Page 65]**



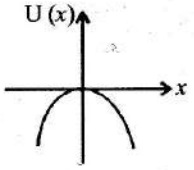

(1) 8 $kg$, zero
(2) Zero, 8 $kg$
(3) 8 $kg$, 8 $kg$
(4) 2 $kg$, 6 $kg$

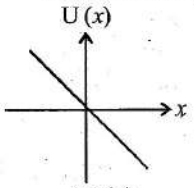
**21.** An expression of energy density is given by $u = \frac{\alpha}{\beta}\sin\left(\frac{\alpha x}{kt}\right)$. where $\alpha$, $\beta$ are constants, x is displacement, k is Boltzmann constant and t is the temperature. The dimensions of $\beta$ will be :

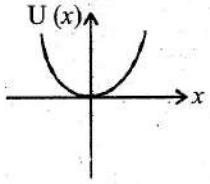
**[NCERT Page 7, 8]**

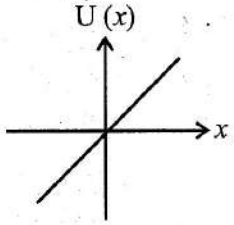
(1) $[ML^2T^{-2}\theta^{-1}]$ (2) $[M^0L^2T^{-2}]$
(3) $[M^0L^0T^0]$ (4) $[M^0L^2T^0]$

**22.** A particle is placed at the origin and a force $F = kx$ is acting on it (where $k$ is positive constant). If $U(0) = 0$, the graph of $U(x)$ versus $x$ will be (where $U$ is the potential energy function) : [NCERT Page 80, 81]

(1) 


(2) 


(3) 


(4) 


**23.** A small ball of mass M and density $\rho$ is dropped in a viscous liquid of density $\rho_0$. After some time, the ball falls with a constant velocity. What is the viscous force on the ball? [NCERT Page 192]

(1) $F = Mg\left(1-\frac{\rho_0}{\rho}\right)$ (2) $F = Mg\left(1+\frac{\rho}{\rho_0}\right)$

(3) $F = Mg\left(1+\frac{\rho_0}{\rho}\right)$ (4) $F = Mg(1\pm\rho\rho_0)$

**24.** The equation of wave is given by

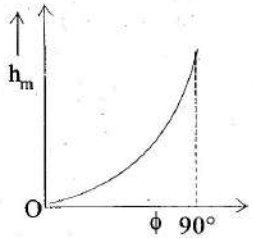
$Y = 10^{-2}\sin 2\pi\left(160t - 0.5x + \frac{\pi}{4}\right)$

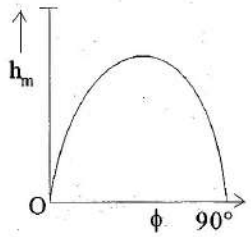
Where x and Y are in m and t in s. The speed of the wave is [NCERT Page 284]

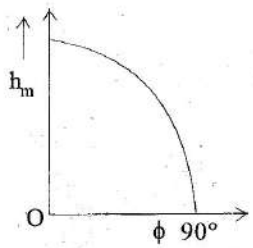
(1) 1152 km h$^{-1}$ (2) 1095 km h$^{-1}$

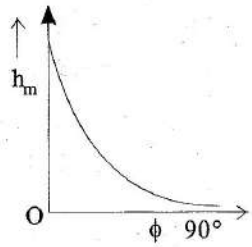
(3) 1250 km h$^{-1}$ (4) 1400 km h$^{-1}$

**25.** The angle of projection of a particle is measured from the vertical axis as $\phi$ and the maximum height reached by the particle is $h_m$. Here $h_m$ as function of $\phi$ can be presented as [NCERT Page 39]

(1) 


(2) 


(3) 


(4) 


**26.** The length of the side of a cube is $1.2 \times 10^{-2}$ m. Its volume up to correct significant figures is [NCERT Page 4, 5]

(1) $1.732 \times 10^{-6}$ m$^3$ (2) $1.73 \times 10^{-6}$ m$^3$

(3) $1.70 \times 10^{-6}$ m$^3$ (4) $1.7 \times 10^{-6}$ m$^3$

**27.** $\gamma_1$ be the ratio of molar specific heat at constant pressure and molar specific heat at constant volume of a monoatomic gas and $\gamma_2$ be the similar ratio of diatomic gas. Considering the diatomic gas molecule as a rigid rotator, the ratio, $\frac{\gamma_1}{\gamma_2}$ is [NCERT Page 253]

(1) $\frac{27}{35}$ (2) $\frac{35}{27}$ (3) $\frac{25}{21}$ (4) $\frac{21}{25}$

**28.** Turpentine oil is flowing through a tube of length $\ell$ and radius r. The pressure difference between the two ends of the tube is p. The viscosity of oil is given by

$$\eta = \frac{p\left(r^2 - x^2\right)}{4vl}$$

where v is the velocity of oil at a distance x from the axis of the tube. The dimensions of $\eta$ are [NCERT Page 7, 8]

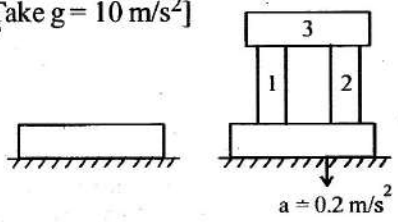
(1) $[M^0L^0T^0]$ (2) $[MLT^{-1}]$

(3) $[ML^2T^{-2}]$ (4) $[ML^{-1}T^{-1}]$

**29.** A particle executes simple harmonic motion with a time period of 16s. At time t = 2s, the particle crosses the mean position while at t = 4s, its velocity is 4 m/s$^{-1}$. The amplitude of motion in metre is [NCERT Page 266]

(1) $\sqrt{2}\pi$ (2) $16\sqrt{2}\pi$ (3) $24\sqrt{2}\pi$ (4) $\frac{32\sqrt{2}}{\pi}$

**30.** A steel block of 10 kg rests on a horizontal floor as shown. When three iron cylinders are placed on it as shown, the block and cylinders go down with an acceleration 0.2 m/s$^2$. The normal reaction $R_2$ by the floor if mass of the iron cylinders are equal and of 20 kg each, is [Take g = 10 m/s$^2$] [NCERT Page 65]




(1) 716 N (2) 686 N

(3) 714 N (4) 684 N

**31.** A heavy box of mass 50 kg is moving on a horizontal surface. If co-efficient of kinetic friction between the box and horizontal surface is 0.3 then force of kinetic friction is : [NCERT Page 60, 61]

(1) 14.7 N (2) 147 N

(3) 1.47 N (4) 1470 N

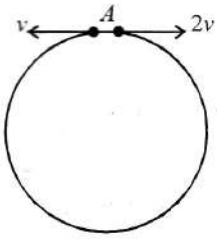
**32.** Two small particles of equal masses start moving in opposite directions from a point $A$ in a horizontal circular orbit. Their tangential velocities are $v$ and $2v$, respectively, as shown in the figure. Between collisions, the particles move with constant speeds. After making how many elastic collisions, other than that at A, these two particles will again reach the point $A$. [NCERT Page 84, 85]

(1) 4

(2) 3

(3) 2

(4) 1




**33.** A car of 800 kg is taking turn on a banked road of radius 300 m and angle of banking 30°. If coefficient of static friction is 0.2 then the maximum speed with which car can negotiate the turn safely : ($g = 10\ m/s^2$, $\sqrt{3} = 1.73$)

**[NCERT Page 63, 64]**

(1) 70.4 m/s (2) 51.4 m/s (3) 264 m/s (4) 102.8 m/s

**34.** Young's modules of materials of a wire of Length 'L' and cross-sectional area A is Y. If the length of the wire is doubled and cross-sectional area is halved then Young's modules will be: **[NCERT Page 170]**

(1) $\frac{Y}{4}$ (2) 4Y (3) Y (4) 2Y

**35.** Two particles P and Q start from origin and execute simple harmonic motion along X-axis with same amplitude but with periods 3 seconds and 6 seconds respectively. The ratio of the velocities of P and Q when they meet is

**[NCERT Page 266]**

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

**36.** If the length of a stretched string is shortened by 40% and the tension is increased by 44%, then the ratio of the final and initial fundamental frequencies is

**[NCERT Page 291]**

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

**37.** At what distance above and below the surface of the earth a body will have same weight (take radius of earth as R.) **[NCERT Page 133, 134]**

(1) $\frac{R}{2}$ (2) $\sqrt{5}\,R - R$

(3) $\frac{\sqrt{3}\,R - R}{2}$ (4) $\frac{\sqrt{5}\,R - R}{2}$

**38.** A block of mass $M$ is pulled along a horizontal frictionless surface by a rope of mass m. If a force $P$ is applied at the free end of the rope, the force exerted by the rope on the block is **[NCERT Page 65]**

(1) $\frac{Pm}{M+m}$ (2) $\frac{Pm}{M-m}$ (3) $P$ (4) $\frac{PM}{M+m}$

**39.** A physical quantity $Q$ is related to four observables $a$, $b$, $c$, $d$ as follows : $Q = \frac{ab^4}{cd}$ where, $a = (60 \pm 3)$Pa; $b = (20 \pm 0.1)$m; $c = (40 \pm 0.2)\ Nsm^{-2}$ and $d = (50 \pm 0.1)$m, then the percentage error in $Q$ is $\frac{x}{1000}$, where $x$ is

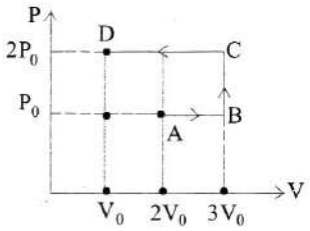
(1) 8500 (2) 7700

(3) 7.7 (4) 77

**40.** Consider a completely full cylindrical water tank of height 1.6 m and cross-sectional area 0.5 $m^2$. It has a small hole in its side at a height 90 cm from the bottom. Assume, the cross-sectional area of the hole to be negligibly small as compared to that of the water tank. If a load 50 kg is applied at the top surface of the water in the tank then the velocity of the water coming out at the instant when the hole is opened is : ($g = 10\ m/s^2$) **[NCERT Page 188]**

(1) 3 m/s (2) 5 m/s (3) 2 m/s (4) 4 m/s

**41.**




Using the given P-V diagram, the work done by an ideal gas along the path ABCD is **[NCERT Page 235]**

(1) $4P_0V_0$ (2) $3P_0V_0$

(3) $-4P_0V_0$ (4) $-3P_0V_0$

**42.** A lift is moving down with acceleration $a$. A man in the lift drops a ball inside the lift. The acceleration of the ball as observed by the man in the lift and a man standing stationary on the ground are respectively

**[NCERT Page 65]**

(1) $g, g$ (2) $g - a, g - a$

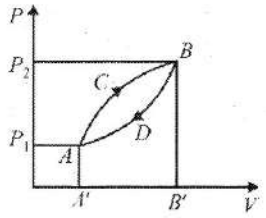
(3) $g - a, g$ (4) $a, g$

**43.** The fractional compression $\left(\frac{\Delta V}{V}\right)$ of water at the depth of 2.5 km below the sea level is _____%. Given, the Bulk modulus of water = $2 \times 10^9\ Nm^{-2}$, density of water = $10^3\ kg\ m^{-3}$, acceleration due to gravity = $g = 10\ ms^{-2}$.

**[NCERT Page 173]**

(1) 1.75 (2) 1.0 (3) 1.5 (4) 1.25

**44.** A thermodynamic system is taken from state A to B along $ACB$ and is brought back to A along $BDA$ as shown in the $PV$ diagram. The net work done during the complete cycle is given by the area **[NCERT Page 235]**




(1) $P_1ACBP_2P_1$ (2) $ACBB'A'A$

(3) $ACBDA$ (4) $ADBB'A'A$

**45.** The ratio of fundamental frequency of an organ pipe opened at both ends to that of the organ pipe closed at one end is **[NCERT Page 292, 293]**

(1) 1 : 1 (2) 1.5 : 1 (3) 2 : 1 (4) 3 : 1

## PART-II: CHEMISTRY

**46.** Match the columns [NCERT, Page 288]

| Column-I | Column-II |
|---|---|
| (A) Dumas method | (p) Ionisation of organic compound |
| (B) Carius method | (q) Estimation of Br |
| (C) Lassaigne test | (r) Estimation of N |
| (D) Liebig method | (s) Estimation of H |

(1) A – (p), B – (r), C – (q), D – (s)
(2) A – (r), B – (q), C – (p), D – (s)
(3) A – (s), B – (p), C – (q), D – (r)
(4) A – (q), B – (s), C – (r), D – (p)

**47.** When propene is treated with HBr in presence of peroxide, the product is [NCERT, Page 312]
(1) 2-Bromopropane (2) 1-Bromopropane
(3) 3-Bromopropane (4) None of these

**48.** Which of the following sets of quantum numbers is possible for an electron in 5d orbital? [NCERT, Page 55]
(1) $n = 5, \ell = 2, m_l = -2, m_s = 0$
(2) $n = 5, \ell = 2, m_l = +1, m_s = +½$
(3) $n = 4, \ell = 3, m_l = +4, m_s = +½$
(4) $n = 5, \ell = 2, m_l = 0, m_s = -½$

**49.** **Statement-I :** $\Delta H$ for an exothermic reaction is negative and for an endothermic reaction is positive.
**Statement-II :** Enthalpy is an extensive property. [NCERT, Page 149]
(1) Both statement I and II are correct.
(2) Both statement I and II are incorrect.
(3) Statement I is correct but statement II is incorrect.
(4) Statement II is correct but statement I is incorrect.

**50.** Which of the following sets of quantum numbers is not possible? [NCERT, Page 55]
(1) $n = 7 \quad \ell = 6 \quad m = +5 \quad s = -\frac{1}{2}$
(2) $n = 6 \quad \ell = 5 \quad m = -4 \quad s = -\frac{1}{2}$
(3) $n = 5 \quad \ell = 4 \quad m = +5 \quad s = -\frac{1}{2}$
(4) $n = 4 \quad \ell = 3 \quad m = -2 \quad s = +\frac{1}{2}$

**51.** Two elements A and B combine to form two compounds $A_2B$ and $A_2B_5$. If 0.2 mol of $A_2B$ weights 8.8g and 0.1 mol of $A_2B_5$ weights 10.8g, then the atomic weights of A and B respectively are [NCERT, Page 19]
(1) 12 u and 16 u (2) 14 u and 16 u
(3) 14 u and 12 u (4) 16 u and 14 u

**52.** Consider the following statements. [NCERT, Page 160]
(A) Addition of heat to the system increases its randomness.
(B) Heat added to a system at lower temperature causes equal randomness than when the same quantity of heat is added to it at higher temperature.
(C) A spontaneous process is an irreversible process.
In light of above statements choose the correct option.
(1) A and B only (2) B and C only
(3) A and C only (4) A, B and C

**53.** 11.0 L of an ideal gas at a constant external pressure of 5 atm is compressed isothermally to a final volume of one liter. The heat absorbed and work done respectively, during this compression (in L atm) are [NCERT, Page 143]
(1) –50, –50 (2) 50, –50
(3) –50, 50 (4) 50, 50

**54.** At 1000 K, the equilibrium constant. $K_c$ for the reaction $2NOCl(g) \rightleftharpoons 2NO(g) + Cl_2(g)$ is $4.0 \times 10^{-6}$ mol $L^{-1}$. The $K_p$ (in bar) at the same temperature is
($R = 0.083$ L bar $K^{-1}mol^{-1}$) [NCERT, Page 176]
(1) $3.32 \times 10^{-6}$ (2) $3.32 \times 10^{4}$
(3) $3.32 \times 10^{-4}$ (4) $3.32 \times 10^{-3}$

**55.** The conjugate base of $H_2PO_4^-$ is: [NCERT, Page 193]
(1) $HPO_4^{2-}$ (2) $P_2O_5$
(3) $H_3PO_4$ (4) $PO_4^{3-}$

**56.** The radii of the stationary states of hydrogen atom are expressed as: [NCERT, Page 47]
(1) $r_n = na_0$ (2) $r_n = n^2a_0$
(3) $r_n = \frac{n^2}{a_0}$ (4) $r_n = n^2a_0^2$

**57.** **Statement I:** $N_2^+$ is more stable than $N_2^-$.
**Statement II:** $N_2^+$ has less electrons in antibonding orbitals. [NCERT, Page 125]
(1) Both statement I and II are correct.
(2) Both statement I and II are incorrect.
(3) Statement I is correct but statement II is incorrect.
(4) Statement II is correct but statement I is incorrect.

**58.** In the reaction [NCERT, Page 20]

$$4NH_3(g) + 5O_2(g) \rightarrow 4NO(g) + 6H_2O(l)$$

When 1 mole of ammonia and 1 mole of $O_2$ are made to react to completion,

(1) 1.0 mole of $H_2O$ is produced

(2) 1.0 mole of NO will be produced

(3) all the oxygen will be consumed

(4) all the ammonia will be consumed

**59.** The number of radial nodes present in $3p$ orbital is [NCERT, Page 59]

(1) 0 (2) 1

(3) 2 (4) 3

**60.** In which of the following ionic pairs, second ion is smaller in size than the first ion? [NCERT, Page 87]

(1) $Al^{3+}, Mg^{2+}$

(2) $F^-, Na^+$

(3) $O^{2-}, N^{3-}$

(4) $Mg^{2+}, Na^+$

**61.** In the Kjeldahl's method for estimation of nitrogen present in a soil sample, ammonia evolved from 0.33 g of sample neutralized 50 mL of 0.1 M $H_2SO_4$. The percentage of nitrogen in the soil is [NCERT, Page 287]

(1) 14% (2) 28%

(3) 42.42% (4) 56.56%

**62.** The pH of the solution containing 500 mL of 0.1 M $CH_3COOH$ and 250 mL of 0.1 M NaOH is

[Given $pK_a$ of $CH_3COOH = 4.74$] [NCERT, Page 202]

(1) 5.74 (2) 5.04

(3) 4.74 (4) 11.74

**63.** Consider the following statements concerning the quantum numbers. [NCERT, Page 55]

(A) Angular quantum number determines the three dimensional shape of the orbital.

(B) The principal quantum number determines the orientation and energy of the orbital.

(C) Magnetic quantum number determines the size of the orbital.

(D) Spin quantum number of an electron determines the orientation of the spin of electron relative to the chosen axis.

The correct set of statements are

(1) A and B

(2) A and D

(3) C and D

(4) B, C and D

**64.** Match the stoichiometrics coefficients of reactants and products of the following reaction. [NCERT, Page 246]

$$wS_2O_3^{2-} + xBr_2 + yH_2O \longrightarrow zSO_4^{2-} + 8Br^- + 10H^+$$

| | Column-I | | Column-II |
|---|---|---|---|
| (A) | w | (p) | 2 |
| (B) | x | (q) | 5 |
| (C) | y | (r) | 4 |
| (D) | z | (s) | 1 |

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

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

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

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

**65.** **Assertion:** The empirical mass of ethene is half of its molecular mass.

**Reason:** The empirical formula represents the simplest whole number ratio of various atoms present in a compound. [NCERT, Page 19]

(1) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.

(2) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.

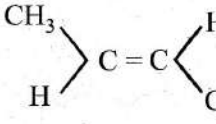
(3) If the Assertion is correct but Reason is incorrect.

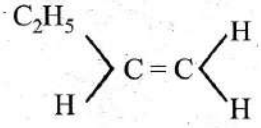
(4) If the Assertion is incorrect and Reason is correct.

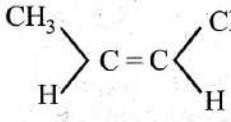
**66.** Consider the following reaction sequence

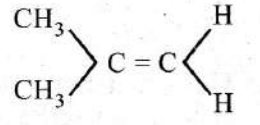
$$1,1\text{-dibromopropane} \xrightarrow[1\text{ equiv}]{\text{alc. KOH}/\Delta} A \xrightarrow[2\text{ equiv}]{NaNH_2} B \xrightarrow{CH_3Cl} C \xrightarrow[\text{liq, } NH_2]{\text{Na in}} (\text{Major})\,D$$

Product D is [NCERT, Page 317]

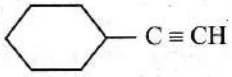
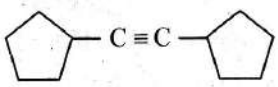
(1) 

(2) 

(3) 

(4) 

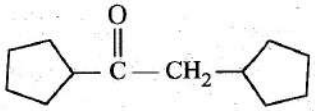
**67.** [NCERT, Page 317]

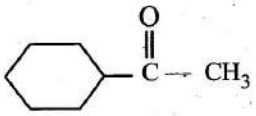
| Column -I (Alkyne) | |
|---|---|
| (A) |  |
| (B) |  |
| (C) | $CH_3CH_2C \equiv CCH_2CH_3$ |
| (D) | $Me_2CHC \equiv CH$ |

**Column -II**
**(Product of ozonolysis)**

(p) $Me_2CH-\overset{\overset{O}{\|}}{C}-CH_3$

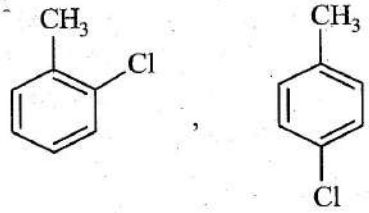
(q) $CH_3CH_2-\overset{\overset{O}{\|}}{C}-CH_2CH_2CH_3$

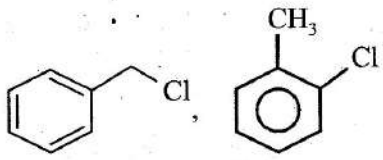
(r) 

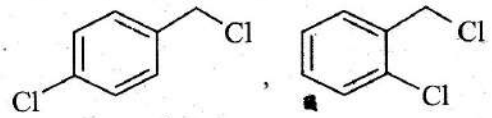
(s) 

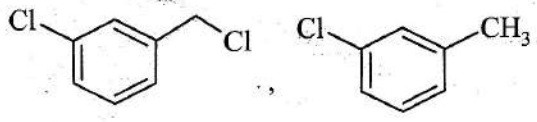
(1) A – (p), B – (r), C – (q), D – (s)
(2) A – (p), B – (r), C – (s), D – (q)
(3) A – (s), B – (r), C – (q), D – (p)
(4) A – (s), B – (r), C – (p), D – (q)

**68.** The product(s) formed when toluene is reacted with $Cl_2$ in presence of Fe in dark is/are **[NCERT, Page 322]**

(1) 

(2) 

(3) 

(4) 

**69.** The wave number for the shortest wavelength transition in the Lyman series of atomic hydrogen is (R is the Rydberg constant for H-atom) **[NCERT, Page 45]**

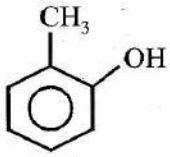
(1) $\frac{1}{R}$ (2) R (3) $\frac{R}{2}$ (4) $\frac{3R}{4}$

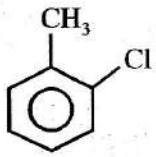
**70.** **Statement I:** Electromagnetic waves consist of oscillating electric and magnetic fields. **[NCERT, Page 37, 39]**
**Statement II:** Matter waves are radiated into the space.
(1) Both statement I and II are correct.
(2) Both statement I and II are incorrect.
(3) Statement I is correct but statement II is incorrect.
(4) Statement II is correct but statement I is incorrect.

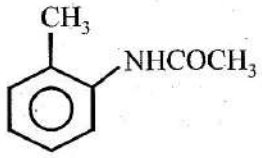
**71.** Among the oxides $SiO_2$, $SO_2$, $Al_2O_3$ and $P_2O_3$, the correct order of acidic strength is **[NCERT, Page 94]**
(1) $SiO_2 < SO_2 < Al_2O_3 < P_2O_3$
(2) $SO_2 < P_2O_3 < Al_2O_3 < SiO_2$
(3) $Al_2O_3 < SiO_2 < P_2O_3 < SO_2$
(4) $Al_2O_3 < P_2O_3 < SiO_2 < SO_2$

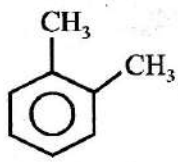
**72.** $O_2^+$ has same bond order as of **[NCERT, Page 125]**
(1) $N_2$ (2) $N_2^+$
(3) CO (4) $O_2^-$

**73.** Which one is most reactive towards electrophilic reagent? **[NCERT, Page 322]**

(1) 

(2) 

(3) 

(4) 

**74.** A mixture of $N_2$ and Ar gases in a cylinder contains 7g of $N_2$ and 8g of Ar. If the total pressure of the mixture of the gases in the cylinder is 27 bar, the partial pressure of $N_2$ is:
(Use atomic masses (in g $mol^{-1}$): N = 14, Ar = 40. **[NCERT, Page 178]**
(1) 9 bar (2) 12 bar
(3) 15 bar (4) 18 bar

**75.** Which of the following set of molecules will have zero dipole moment? **[NCERT, Page 111]**
(1) Ammonia, beryllium difluoride, water, 1, 4-dichlorobenzene
(2) Boron trifluoride, hydrogen fluoride, carbon dioxide, 1, 3-dichlorobenzene
(3) Nitrogen trifluoride, beryllium difluoride, water, 1, 3-dichlorobenzene
(4) Boron trifluoride, beryllium difluoride, carbon dioxide, 1, 4-dichlorobenzene

**76.** The number of moles in 7 g of $N_2$ gas will be **[NCERT, Page 18]**
(1) 0.25 (2) 0.5
(3) 0.4 (4) 1

**77.** For a salt of a weak acid with $pK_a$ 4.80 and weak base with $pK_b$ 4.78, the solution will be: **[NCERT, Page 202]**
(1) Basic (2) Highyly basic
(3) Almost neutral (4) Highly acidic

**78.** **Statement I:** $SO_3$ is a nucleophile. **[NCERT, Page 70]**

**Statement II:** $RNH_2$ is an electrophile.

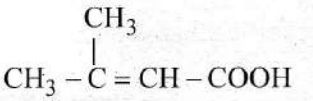
(1) Both statement I and II are correct.

(2) Both statement I and II are incorrect.

(3) Statement I is correct but statement II is incorrect.

(4) Statement II is correct but statement I is incorrect.

**79.** The IUPAC name for the formula **[NCERT, Page 265]**



(1) 2-Methyl-2-enoic acid

(2) 3-Methyl but-3-enoic acid

(3) 3-Methyl but-2-enoic acid

(4) 2-Methyl but-3-enoic acid

**80.** What is the change in oxidation number of carbon in the following reaction? **[NCERT, Page 242]**

$CH_4(g) + 4Cl_2(g) \rightarrow CCl_4(l) + 4HCl(g)$

(1) +4 to +4 (2) 0 to + 4

(3) –4 to +4 (4) 0 to – 4

**81.** Hydrolysis of sucrose is given by the following reaction.

Sucrose + $H_2O \rightleftharpoons$ Glucose + Fructose

If the equilibrium constant ($K_C$) is $2 \times 10^{13}$ at 300 K, the value of $\Delta_f G^{\ominus}$ at the same temperature will be:

**[NCERT, Page 162]**

(1) $-8.314\ J\ mol^{-1}\ K^{-1} \times 300K \times \ln(2 \times 10^{13})$

(2) $8.314\ J\ mol^{-1}\ K^{-1} \times 300K \times \ln(2 \times 10^{13})$

(3) $8.314\ J\ mol^{-1}\ K^{-1} \times 300K \times \ln(3 \times 10^{13})$

(4) $-8.314\ J\ mol^{-1}\ K^{-1} \times 300K \times \ln(4 \times 10^{13})$

**82.** Match the Column-I with Column-II and select the correct option from the codes given below. **[NCERT, Page 239]**

| **Column-I (Compounds)** | | **Column-II (Oxidation number of nitrogen)** |
|---|---|---|
| (A) $N_2O_3$ | (p) | – 3 |
| (B) $HNO_3$ | (q) | +5 |
| (C) NO | (r) | +3 |
| (D) $NH_4OH$ | (s) | +2 |

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

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

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

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

**83.** Standard enthalpy of vapourization $\Delta_{vap}H^{\circ}$ for water at 100° is 40.66 kJ $mol^{-1}$. The internal energy of vapourisation of water at 100°C (in kJ $mol^{-1}$) is **[NCERT, Page 143, 147]**

(1) + 37.56 (2) – 43.76

(3) +43.76 (4) +40.66

(Assume water vapour to behave like an ideal gas)

**84.** Match the following: **[NCERT, Page 194]**

| **Column-I** | | **Column-II** |
|---|---|---|
| (A) $10^{-4}$ M NaOH | (p) | –1 |
| (B) $10^{-4}$ M HCl | (q) | 10 |
| (C) 10 M HCl | (r) | 4 |
| (D) 1 M NaOH | (s) | 14 |

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

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

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

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

**85.** Identify the correct statements about the oxidation states of group 14 elements **[NCERT, Page 234]**

(A) Carbon and Silicon mostly exhibit +4 oxidation state

(B) Tin in +2 oxidation state is a reducing agent

(C) Lead in +2 oxidation state is a reducing agent

(D) The order of stability of +2 oxidation state follow the sequence Ge<Sn<Pb

(1) B and D (2) B, C and D

(3) A, B and D (4) C and D

**86.** The solubility product of $Mg(OH)_2$ is **[NCERT, Page 204]** $4 \times 10^{-12}$ (mol $lit^{-1})^3$. Solubility of $Mg(OH)_2$ is

(1) $4 \times 10^{-4}$ mol $lit^{-1}$ (2) $1 \times 10^{-12}$ mol $lit^{-1}$

(3) $1 \times 10^{-4}$ mol $lit^{-1}$ (4) $2 \times 10^{-6}$ mol $litre^{-1}$

**87.** Which of the following reactions is not a disproportionation reaction? **[NCERT, Page 242]**

(1) $CaCO_3 \longrightarrow CaO + CO_2$

(2) $P_4 + 3NaOH + 3H_2O \longrightarrow 3NaH_2PO_2 + PH_3$

(3) $2H_2O_2 \longrightarrow 2H_2O + O_2$

(4) $2Cu^{+} \longrightarrow Cu^{2+} + Cu$

**88.** Which of the following statements are incorrect ?

(A) The energy can be created. **[NCERT, Page 140]**

(B) According to first law of thermodynamics, the energy of an isolated system is not constant.

(C) In an isolated system, W = 0, q = 0, $\Delta U \neq 0$.

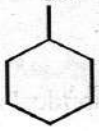
(D) $\Delta U = q + W$, will depend only on initial and final state.

(1) A, C and D (2) A, B and D

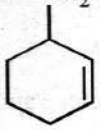
(3) A and B (4) A, B and C

**89.** An alkene on ozonolysis gives methanal as one of the product. Its structure is **[NCERT, Page 313]**

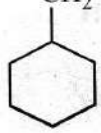
(1) $CH = CH - CH_3$



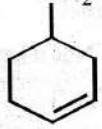
(2) $CH_2 - CH_2 - CH_3$



(3) $CH_2 - CH = CH_2$



(4) $CH_2CH_2CH_3$



**90.** Molar solubility of AgCl at 25°C is $1 \times 10^{-5}$ mol/L. Its solubility in 0.02 M NaCl solution is **[NCERT, Page 204]**

(1) $10^{-5}$ M

(2) $10^{-10}$ M

(3) $2 \times 10^{-9}$ M

(4) $5 \times 10^{-9}$ M

## PART-III: BIOLOGY

**91.** The pteridophytes are mostly – **[NCERT Page 32]**

(1) heterosporous (2) homosporous

(3) aquatic (4) trees

**92.** Well developed pith is seen in– **[NCERT Page 74, 75]**

(1) Monocot root and monocot stem

(2) Dicot root and dicot stem

(3) Monocot root and dicot stem

(4) Dicot root and monocot stem

**93.** Given below are two statement: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**:

**Assertion (A):** Ethylene accelerates the ripening of fruits.

**Reason (R):** Ethylene increases cell division in the apical meristem. **[NCERT Page 177]**

In the light of the above statements, choose the **correct** answer from the options given below:

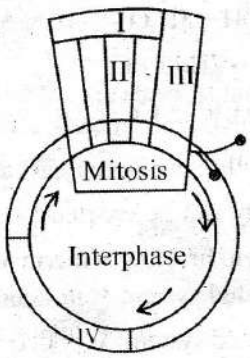
(1) Both **A** and **R** are true and **R** is the correct explanation of **A**.

(2) Both **A** and **R** are true but **R** is **NOT** the correct explanation of **A**.

(3) **A** is true but **R** is false.

(4) **A** is false but **R** is true.

**94.** Observe the given diagram: **[NCERT Page 121]**




Which one of the following is correctly identified?

(1) III - Cytokinesis (2) IV - $G_1$ phase

(3) I - $G_2$ (4) II - Anaphase

**95.** G.N. Ramachandran's discovery of the triple helical structure of collagen in 1954 was significantly influenced by:

(1) His training in pure mathematics. **[NCERT Page 86]**

(2) His collaboration with Indian scientists only.

(3) His exposure to Linus Pauling's models of α-helix and β-sheet.

(4) His later work on X-ray diffraction methods.

**96.** Leaf pigments, (Chl a, Chl b, Xanthophyll and Carotene) can be separated by– **[NCERT Page 137]**

(1) Paper chromatography (2) Electrophoresis

(3) X-ray diffusion (4) ELISA test

**97.** Match **List-I** with **List-II.** **[NCERT Page 175-177]**

| | List-I | | List-II |
|---|---|---|---|
| A. | Auxin | I. | Chloroplast development |
| B. | Ethylene | II. | Fruit ripening |
| C. | GA | III. | Root initiation in stem cutting |
| D. | Cytokinin | IV. | Breaking seed dormancy |

Choose the **correct** answer from the options given below:

(1) A – I, B – IV, C – III, D – II

(2) A – II, B – III, C – I, D – IV

(3) A – III, B – II, C – IV, D – I

(4) A – I, B – II, C – III, D – IV

**98.** Given below are two statements: **[NCERT Page 89]**

**Statement I:** PPLO represents pleuro pneumonia like organisms.

**Statement II:** There are three basic shapes of bacteria.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

(1) Both statement I and statement II are correct

(2) Both statement I and statement II are incorrect

(3) Statement I is correct but statement II is incorrect

(4) Statement I is incorrect but statement II is correct

**99.** Which hormone is used to initiate flowering and synchronising fruit set in pineapple? **[NCERT Page 177]**

(1) $C_2H_2$ (2) ABA (3) IAA (4) $GA_3$

**100.** Stem tendrils are found in **[NCERT Old Page 68]**

(1) Rose (2) Mustard

(3) grapevines (4) Mango

**101.** Identify the statement that is **NOT** correct. [NCERT Page 122, 123]

(1) Prophase is marked by the initiation of condensation of chromatin material
(2) The chromosomal material becomes untangled during the process of chromatin condensation
(3) In the S and $G_2$ phases the new DNA molecules formed are not distinct but interwound
(4) Nuclear envelope remains intact throughout the prophase.

**102.** Kinetin, a modified adenine (purine) was discovered from- [NCERT Page 176]

(1) The autoclaved herring sperm DNA
(2) Coconut milk
(3) Corn-Kernel
(4) Fungus

**103.** Match **List-I** with **List-II.** [NCERT Page 8]

| **List-I (Common name)** | **List-II (Taxonomic category Order)** |
|---|---|
| A. Wheat | I. Primata |
| B. Mango | II. Diptera |
| C. Housefly | III. Sapindales |
| D. Man | IV. Poales |

Choose the **correct** answer from the options given below:

(1) A – III, B – IV, C – II, D – I
(2) A – I, B – II, C – IV, D – III
(3) A – IV, B – III, C – II, D – I
(4) A – II, B – IV, C – I, D – III

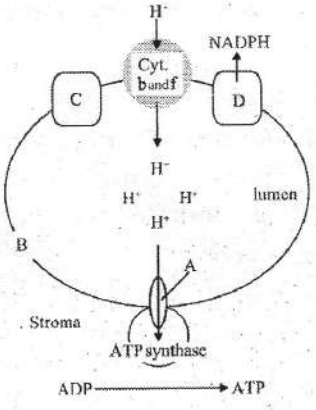
**104.** Which of the following does not occur in prophaseI? [NCERT Page 112]

(1) Condensation of chromosomal material.
(2) Two asters together with spindle fibres forms mitotic apparatus.
(3) Appearance of chromosome.
(4) Disappearance of nuclear membrane and nucleolus.

**105.** Which is required in glycolysis [NCERT Page 156]

(1) ATP, ADP, $NAD^+$, Glucose, cytoplasmic enzymes
(2) $FAD^+$, ADP, ATP, Glucose, cytoplasmic enzymes
(3) $NADP^+$, ATP, GTP, Glucose, cytoplasmic enzymes
(4) $NAD^+$, $NADP^+$, ATP, Glucose, cytoplasmic enzymes

**106.** The diagram given below shows ATP synthesis through chemiosmosis. [NCERT Page 141]




Which option shows the correct labelling of A, B, C and D in the diagram ?

(1) A - $CF_1$, B - Thylakoid membrane, C - Photosystem I, D - Photosystem II
(2) A - $CF_0$, B - Thylakoid membrane, C - Photosystem I, D - Photosystem II
(3) A - $CF_1$, B - Thylakoid membrane, C - Photosystem II, D - Photosystem I
(4) A - $CF_0$, B - Thylakoid membrane, C - Photosystem II, D - Photosystem I

**107.** Given below are two statements: [NCERT Page 61]

**Statement I:** Palmately compound leaf possess a well defined rachis.

**Statement II:** Leaflet forms feather like structure.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

(1) Both statement I and statement II are correct
(2) Both statement I and statement II are incorrect
(3) Statement I is correct but statement II is incorrect
(4) Statement I is incorrect but statement II is correct

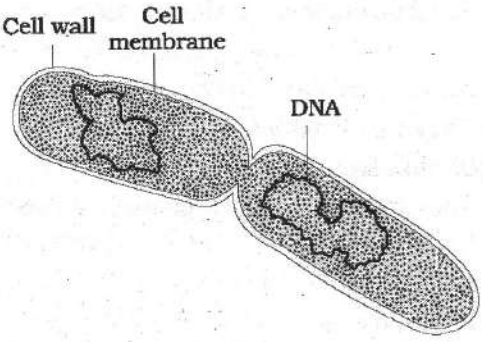
**108.** Identify the statement that is **NOT** correct. [NCERT Page 95, 96]

(1) Varied number of cisternae are present in Golgi bodies.
(2) Golgi cisternae are concentrically arranged near the nucleus
(3) Golgi bodies shows polarity- Cis/ proximal/ forming/ Concave face near nucleus and distal/Convex / Trans /Maturation face away form nucleous
(4) The Cis and trans face are interconnected

**109.** A researcher observed a cell under a microscope during meiosis. The chromosomes were paired as homologous bivalents, recombination nodules were visible, and later the homologous chromosomes aligned at the equatorial plate for separation. Which phases of meiosis are being described? [NCERT Page 126, 127]

(1) Leptotene and Zygotene
(2) Pachytene and Metaphase I
(3) Diplotene and Anaphase I
(4) Diakinesis and Telophase I

**110.** What does the following figure depicts? [NCERT Page 14]




(1) Eukaryotic cell (2) A dividing bacterium
(3) Mycoplasma (4) PPLO

**111.** If the initial amount of DNA is 2C, then after S phase it increases to [NCERT Page 121]
(1) 1C (2) 2C
(3) 4C (4) 8C

**112.** Which of the following state, nucleous, golgi, nucleous and ER reform. [NCERT Page 124]
(1) Telophase
(2) Anaphase
(3) Prophase
(4) Metaphase

**113.** In C4 plants, the enzyme that initially fixes $CO_2$ in mesophyll cells is: [NCERT Page 146]
(1) RuBisCO
(2) PEP carboxylase (PEPcase)
(3) NADP reductase
(4) ATP synthase

**114.** Reason of chromosomal movement in Anaphase – [NCERT Page 123]
(1) Astral rays
(2) Centrioles
(3) Kinetochore
(4) Kinetochore and spindle fibres

**115.** Which of the following is correctly matched with its size? [NCERT Page 89]
(1) *Mycoplasma* - 0.3 μm in length
(2) Bacteria - 3-5 μm in length
(3) RBC - 7 μm in diameter
(4) All of these

**116.** In meiosis haploid condition is realised by which stage? [NCERT Page 127]
(1) Anaphase I
(2) Anaphase II
(3) Metaphase I
(4) Metaphase II

**117.** Which of the following are not the characters of dinoflagellates? [NCERT Page 15]
A. They are saprophytic or parasitic unicellular forms.
B. They are marine red biflagellated protista.
C. They appear yellow, green, brown, blue and red in colour.
D. They are planktonic golden yellow algae with soap box like structure.
E. They are biflagellated organisms with pellicle.
(1) B and C only
(2) B and E only
(3) A, B and C only
(4) A, D and E only

**118.** Given below are two statements: [NCERT Old Page 85]
**Statement I:** Primary meristem is involved in secondary growth.
**Statement II:** Intercalary meristem is a primary meristem.
In the light of the above statements, choose the **most appropriate** answer from the options given below:
(1) Both statement I and statement II are correct
(2) Both statement I and statement II are incorrect
(3) Statement I is correct but statement II is incorrect
(4) Statement I is incorrect but statement II is correct

**119.** Match **List-I** with **List-II.** [NCERT Page 90, 96, 98]

| List-I | | List-II | |
|---|---|---|---|
| A. | Bacteria without walls | I. | Lysosome |
| B. | Small circular DNA | II. | Mycoplasma |
| C. | Flattened sacs in a chloroplast | III. | Thylakoid |
| D. | A vesicle in which hydrolytic enzymes are stored | IV. | Plasmid |

Choose the **correct** answer from the options given below:
(1) A – III, B – IV, C – II, D – I
(2) A – II, B – IV, C – III, D – I
(3) A – I, B – II, C – III, D – IV
(4) A – IV, B – III, C – I, D – II

**120.** Identify the statement that is **NOT** correct. [NCERT Page 137, 138, 139, 141]
(1) PS I and PS II are located in stroma of the chloroplast.
(2) PS I and PS II are linked by e carriers.
(3) Chlorophyll have an absorption spectrum with pronounced peaks in red and blue light.
(4) Protons diffuse through protein channels which are ATP -synthase molecules

**121.** The process of mitosis is divided into 4 phases. Identify the correct order in which these phases appear in mitosis [NCERT Page 102]
(1) Anaphase, metaphase, telophase and prophase
(2) Telophase, anaphase, metaphase and prophase
(3) Metaphase, prophase, anaphase and telophase
(4) Prophase, metaphase, anaphase and telophase

**122.** Two cytokinins are Kinetin and Zeatin. What is the difference between the two? [NCERT Page 176]
(1) Kinetin is the active form of zeatin
(2) Zeatin is the active form of kinetin
(3) Zeatin is a synthetic cytokinin and kinetin is naturally occuring
(4) Zeatin is a naturally occuring plant cytokinin and kinetin is not a naturally occuring plant cytokinin.

**123.** Glycolysis– [NCERT Page 156]

(1) Takes place in all living cells
(2) Causes partial oxidation of glucose (one molecule) to form 2 molecules of pyruvic acid and 2 ATP as net gain
(3) Uses 2 ATP at two steps
(4) All of these

**124.** From the statements given below choose the **correct** option: [NCERT Page 23, 24]

A. It was given by George Bentham and Joseph Dalton Hooker
B. It was based on natural affinities among the organisms
C. It takes into account not only the external features but also internal features
D. Internal features like ultrastructure, anatomy, embryology and phytochemistry are also considered
E. Evolution is also taken into account

(1) A and B only (2) A, B, C and D only
(3) C and D only (4) E only

**125.** Match **List-I** with **List-II**. [NCERT Page 97, 99, 100, 102]

| | List-I | | List-II |
|---|---|---|---|
| A. | Axoneme | I. | Centriole |
| B. | Cartwheel pattern | II. | Cilia and flagella |
| C. | Crista | III. | Chromosome |
| D. | Satellite | IV. | Mitochondria |

Choose the **correct** answer from the options given below:

(1) A – IV, B – III, C – II, D – I
(2) A – IV, B – II, C – III, D – I
(3) A – II, B – IV, C – I, D – III
(4) A – II, B – I, C – IV, D – III

**126.** Mango fruit develops from [NCERT Page 65]

(1) syncarpous ovary
(2) multicarpellary, syncarpous ovary
(3) unilocular ovary
(4) monocarpellary superior ovary

**127.** Match **List-I** with **List-II**. [NCERT Page 6, 7]

| | List-I | | List-II |
|---|---|---|---|
| A. | Taxon | I. | Basic unit of classification |
| B. | Species | II. | A taxonomic group of any rank |
| C. | Kingdom | III. | Highest category |
| D. | Genus | IV. | Group of related species having more character in common with others species |

Choose the **correct** answer from the options given below:

(1) A – I, B – II, C – IV, D – III
(2) A – III, B – I, C – IV, D – II
(3) A – II, B – I, C – III, D – IV
(4) A – III, B – II, C – IV, D – I

**128.** Match **List-I** with **List-II**. [NCERT Page 136, 138]

| | List-I | | List-II |
|---|---|---|---|
| A. | Grana of chloroplast | I. | Thylakoid membrane |
| B. | Stroma of chloroplast | II. | Light reaction |
| C. | PS I | III. | Dark reaction |
| D. | PS I and PS II | IV. | Stroma lamellae |

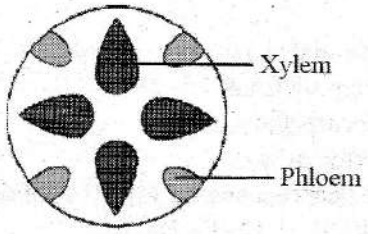
Choose the **correct** answer from the options given below:

(1) A – IV, B – III, C – II, D – I
(2) A – I, B – II, C – IV, D – III
(3) A – IV, B – I, C – III, D – II
(4) A – II, B – III, C – IV, D – I

**129.** Identify the statement that is **NOT** correct. [NCERT Page 90]

(1) They are extrachromosomal DNA
(2) They are small, circular, double stranded naked DNA that confer certain unique phenotypic characters to some bacteria like resistance to antibiotics
(3) They are used in genetic engineering
(4) It helps in the replication of nucleoid

**130.** Identify the type of vascular bundle shown in figure. [NCERT Page 73/Practical]




(1) Radial
(2) Conjoint closed
(3) Conjoint open
(4) Bicollateral

**131.** Match **List-I** with **List-II** : [NCERT Page 156, 157]

| | List-I | | List-II |
|---|---|---|---|
| A. | Lactic acid fermentation | I. | Hexokinase |
| B. | Alcoholic fermentation | II. | Lactate dehydrogenase |
| C. | Sucrose → Glucose + Fructose | III. | Invertase |
| D. | Phosphorylation of Glucose and fructose | IV. | Alcohol dehydrogenase |

Choose the **correct** answer from the options given below:

(1) A – III, B – IV, C – II, D – I
(2) A – II, B – IV, C – I, D – III
(3) A – III, B – I, C – II, D – IV
(4) A – II, B – IV, C – III, D – I

**132.** From the statements given below choose the **correct** option: [NCERT Page 14, 20]

A. Virus means venom or poisonous fluid
B. These are smaller than bacteria
C. Viruses are facultative parasites
D. No virus contain both RNA or DNA
E. Cholera is caused by virus

(1) A, B and D only (2) B, C and E only
(3) A and E only (4) B and D only

**133.** The emergence of molecular biology was primarily driven by: [NCERT Page 55]

(1) Purely ecological studies at the population level.
(2) Use of physico-chemical concepts and techniques in cell-free systems.
(3) Study of locomotion and movement at the organismic level.
(4) Discarding biochemistry and biophysics in favour of genetics.

**134.** Match **List-I** with **List-II.** [NCERT Page 66, 67]

| List-I | | List-II |
|---|---|---|
| A. Coleorhiza | I. | Without fertilisation |
| B. Food storing tissue | II. | Mango |
| C. Parthenocarpic fruit | III. | Endosperm |
| D. Single seeded fruit developing from monocarpellary superior ovary | IV. | Radicle |

Choose the **correct** answer from the options given below:

(1) A – III, B – I, C – IV, D – II
(2) A – IV, B – II, C – III, D – I
(3) A – II, B – I, C – III, D – IV
(4) A – IV, B – III, C – I, D – II

**135.** Which of the following statements regarding mitochondria is incorrect? [NCERT Page 97]

(1) Enzymes of electron transport are embedded in outer membrane
(2) Inner membrane is convoluted with infoldings
(3) Mitochondrial matrix contains single circular DNA molecule and ribosomes
(4) Outer membrane is permeable to monomers of carbohydrates, fats and proteins

**136.** From the statements given below choose the **correct** option: [NCERT Page 108]

A. Primary metabolites are biochemicals formed as intermediates and products of normal vital metabolic pathways of organisms.
B Plant tissues produce only secondary metabolites.
C. Secondary metabolites have restricted distribution in the plant kingdom only.
D. Secondary metabolites are derivatives of primary metabolites.
E. Many plants, fungi and microbes synthesise secondary metabolites.

(1) A, B and C only
(2) D and E only
(3) A, D and E only
(4) B and C only

**137.** The hormone secreting cells of the hypothalamus are called [NCERT Page 240]

(1) Mast cells
(2) Osteocytes
(3) Neurosecretory cells
(4) Neuroglia

**138.** A heart attack occurs when: [NCERT Page 203]

(1) a heart valve malfunctions.
(2) a coronary artery is blocked.
(3) the heart is weakened by overwork.
(4) the aorta is blocked.

**139.** In human kidneys are located in? [NCERT Page 206]

(1) Near the neck region
(2) Between thoracic and cervical vertebrae
(3) Between last thoracic and third lumbar vertebrae
(4) Inside the rib cage

**140.** From the statements given below choose the **correct** option: [NCERT Page 115]

A. Lowering the energy of activation
B. Causing the release of heat, which acts as a primer
C. Increasing molecular motion
D. Changing the free energy difference between substrate and product

(1) A only (2) B and C only
(3) B, C and D only (4) C and D only

**141.** Given below are two statement: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**:

**Assertion (A):** Calcium ions play a key role in muscle contraction. [NCERT Page 222]

**Reason (R):** Calcium ions bind to troponin causin a conformational change in tropomyosin, exposing the active sites on action.

In the light of the above statements, choose the **correct** answer from the options given below:

(1) Both **A** and **R** are true and **R** is the correct explanation of **A**.
(2) Both **A** and **R** are true but **R** is **NOT** the correct explanation of **A**.
(3) **A** is true but **R** is false.
(4) **A** is false but **R** is true.

**142.** Match **List-I** with **List-II.** [NCERT Page 218]

| | List-I | | List-II |
|---|---|---|---|
| A. | Cytoskeletal element | I. | Trachea |
| B. | Cilia | II. | Spermatozoa |
| C. | Flagella | III. | Microfilament |
| D. | Streaming of protoplasm | IV. | *Amoeba* |

Choose the **correct** answer from the options given below:

(1) A – III, B – I, C – II, D – IV
(2) A – II, B – IV, C – I, D – III
(3) A – III, B – II, C – I, D – IV
(4) A – IV, B – II, C – III, D – I

**143.** Identify the statement that is **NOT** correct. [NCERT Page 247, 248]

(1) Intracellular receptors are mostly present in the plasma membrane of cell.
(2) Membrane-bound receptors are present on the cell membrane of target cells.
(3) Each hormone receptor is specific to one hormone only.
(4) Steroid hormones mostly regulate gene expression by the interaction of hormone-receptors complex with the genome.

**144.** In comparison to solubility of $O_2$ in blood the solubility of $CO_2$ is- [NCERT Page 188]

(1) 20-25 times lesser
(2) Slightly higher
(3) Slightly greater
(4) 20-25 times higher

**145.** From the statements given below choose the **correct** option: [NCERT Page 198, 201, 202]

A. Pulmonary artery is thick-walled in comparison to pulmonary vein.
B. The lumen of pulmonary artery is broader than pulmonary vein.
C. Out of four chambers of heart, the thickest muscular wall is present in left ventricle.
D. Hepatic vein, renal vein, hepatic portal vein and pulmonary vein carry deoxygenated blood.
E. Coronary artery supply oxygenated blood to brain, lungs and intestine.

(1) A, B and D only (2) C and D only
(3) C, D and E only (4) A and C only

**146.** Match **List-I** with **List-II.** [NCERT Page 111, 116]

| | List-I | | List-II |
|---|---|---|---|
| A. | *Rana tigrina* | I. | Species of cockroach |
| B. | *Periplaneta americana* | II. | Winter sleep |
| C. | Aestivation | III. | Species of frog |
| D. | Hibernation | IV. | Summer sleep |

Choose the **correct** answer from the options given below.

(1) A – III, B – I, C – IV, D – II
(2) A – IV, B – I, C – II, D – III
(3) A – II, B – IV, C – I, D – III
(4) A – I, B – II, C – III, D – IV

**147.** Which of the following statements about hypothalamic hormones is correct? [NCERT Page 240]

(1) They only inhibit pituitary hormone secretion.
(2) They reach the anterior pituitary via a portal circulatory system.
(3) The posterior pituitary secretes hormones independently of the hypothalamus.
(4) Gonadotrophin releasing hormone (GnRH) inhibits gonadotrophin release.

**148.** Match **List-I** with **List-II.** [NCERT Page 45]

| | List-I | | List-II |
|---|---|---|---|
| A. | *Cucumaria* | I. | Sea-cucumber |
| B. | *Antedon* | II. | Sea-urchin |
| C. | *Echinus* | III. | Sea-lily |
| D. | *Asterias* | IV. | Star-fish |

Choose the **correct** answer from the options given below:

(1) A – I, B – III, C – II, D – IV
(2) A – II, B – IV, C – I, D – III
(3) A – I, B – II, C – III, D – IV
(4) A – IV, B – I, C – III, D – II

**149.** Given below are two statement: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**:

**Assertion A:** Nucleotide is an assemblage of three distinct components.

**Reason R:** Nucleotide is made up of a heterocyclic compound, monosaccharide and nitrogenous base. [NCERT Page 111]

In the light of the above statements, choose the **correct** answer from the options given below:

(1) Both **A** and **R** are true and **R** is the correct explanation of **A**.
(2) Both **A** and **R** are true but **R** is **NOT** the correct explanation of **A**.
(3) **A** is true but **R** is false.
(4) **A** is false but **R** is true.

**150.** Which one of the following pairs of nitrogenous bases of nucleic acids, is wrongly matched with the category mentioned against it ? [NCERT Page 111]

(1) Adenine, thymine – Purines
(2) Thymine, uracil – Pyrimidines
(3) Uracil, cytosine – Pyrimidines
(4) Guanine, adenine – Purines

**151.** Match **List-I** with **List-II.** **[NCERT Page 225]**

| | List-I | | List-II |
|---|---|---|---|
| A. | Carpals | I. | 5 in number |
| B. | Metacarpals | II. | 7 in number |
| C. | Phalanges | III. | 8 in number |
| D. | Tarsals | IV. | 14 in number |

Choose the **correct** answer from the options given below:

(1) A – II, B – I, C – IV, D – III
(2) A – III, B – IV, C – I, D – II
(3) A – III, B – I, C – IV, D – II
(4) A – II, B – IV, C – I, D – III

**152.** SA node is called pace maker of the heart. Why? **[NCERT Page 199]**

(1) It can change contractile activity generated by AV node.
(2) It delays the transmission of impulse between the atria and ventricles.
(3) It gets stimulated when it receives neural signal.
(4) It initiates and maintains the rhythmic contractile activity of heart.

**153.** Match **List-I** with **List-II.** **[NCERT Page 80, 81]**

| | List-I | | List-II |
|---|---|---|---|
| A. | Sound producing vocal sacs | I. | Covered the eyes |
| B. | Nictitating membrane | II. | Hindlimbs |
| C. | Four Digits | III. | Forelimbs |
| D. | Five Digits | IV. | Male frog |

Choose the **correct** answer from the options given below:

(1) A – IV, B – I, C – III, D – II
(2) A – I, B – II, C – III, D – IV
(3) A – II, B – III, C – I, D – IV
(4) A – III, B – IV, C – II, D – I

**154.** Identify the statement that is **NOT** correct. **[NCERT Page 108]**

(1) The study of plant secondary metabolites has many practical application.
(2) Some secondary metabolites have ecological importance.
(3) The types of secondary metabolites in animal cells are more than that in plant cells.
(4) Secondary metabolites are found in fungi, microbes and plants.

**155.** Match **List-I** with **List-II.** **[NCERT Page 235, 236]**

| | List-I | | List-II |
|---|---|---|---|
| A. | Command and control system | I. | Cranial meninges |
| B. | Brain is covered | II. | Skull |
| C. | Brain is protected | III. | Brain |
| D. | Major part of human brain | IV. | Cerebrum |

Choose the **correct** answer from the options given below:

(1) A – I, B – III, C – II, D – IV
(2) A – III, B – I, C – II, D – IV
(3) A – III, B – II, C – IV, D – I
(4) A – I, B – II, C – III, D – IV

**156.** Match **List-I** with **List-II.** **[NCERT Page 50]**

| | List-I | | List-II |
|---|---|---|---|
| A. | *Neophron* | I. | Vulture |
| B. | *Struthio* | II. | Penguin |
| C. | *Pavo* | III. | Peacock |
| D. | *Aptenodytes* | IV. | Ostrich |

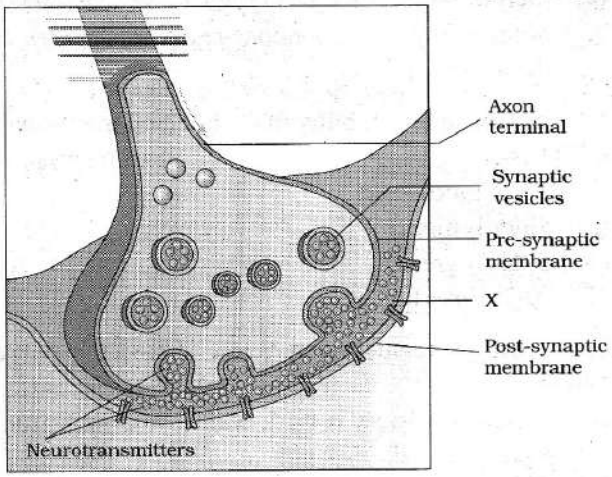
Choose the **correct** answer from the options given below:

(1) A – II, B – I, C – IV, D – III
(2) A – I, B – IV, C – II, D – III
(3) A – I, B – III, C – II, D – IV
(4) A – I, B – IV, C – III, D – II

**157.** GFR of a healthy individual is **[NCERT Page 209]**

(1) 125 ml/min (2) 180 L/day
(3) 125 L/day (4) Both (1) and (2)

**158.** Identify 'X' in the given diagram. **[NCERT Page 234]**




(1) Synaptic cleft (2) Synapse
(3) Receptors (4) Axon

**159.** Choose the incorrect options from the following with respect to frog. **[NCERT Page 83]**

(1) Frogs are devoid of internal ear.
(2) Vasa efferentia enters into bidder's canal.
(3) A mature female frog can lay 2500 to 3000 ova at a time.
(4) Frogs have well organised male and female reproductive systems.

**160.** Given below are two statement: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**:

**Assertion A:** Vasa recta are absent or highly reduced in cortical nephrons.

**Reason R:** Loop of Henle is too short in such nephrons parallel to which vasa recta runs. **[NCERT Page 208]**

In the light of the above statements, choose the **correct** answer from the options given below:

(1) Both **A** and **R** are true and **R** is the correct explanation of **A**.
(2) Both **A** and **R** are true but **R** is **NOT** the correct explanation of **A**.
(3) **A** is true but **R** is false.
(4) **A** is false but **R** is true.

**161.** Mark the correct flow of tubular fluid in a nephron. **[NCERT Page 207]**

(1) Bowman's capsule → PCT → Ascending limb of Henle's loop → Descending limb of Henle's loop → DCT
(2) Bowman's capsule → DCT → Descending limb of Henle's loop → Ascending limb of Henle's loop → PCT
(3) Bowman's capsule → DCT → Descending limb of Henle's loop → PCT → Ascending limb of Henle's loop → DCT
(4) Bowman's capsule → PCT → Descending limb of Henle's loop → Ascending limb of Henle's loop → DCT

**162.** Match **List-I** with **List-II.** **[NCERT Page 227]**

| | **List-I (Type of Joint)** | | **List-II (Found between)** |
|---|---|---|---|
| A. | Synovial joint | I. | Between flat skull bones |
| B. | Arthritis | II. | Synovial fluid |
| C. | Fibrous Joint | III. | Between carpal and metacarpal of thumb |
| D. | Saddle Joint | IV. | Inflammation of joints |

Choose the **correct** answer from the options given below:

(1) A – III, B – I, C – II, D – IV
(2) A – II, B – IV, C – I, D – III
(3) A – I, B – IV, C – III, D – II
(4) A – II, B – IV, C – III, D – I

**163.** Identify the statement that is **NOT** correct. **[NCERT Old Page 111, 112, 114]**

(1) Cockroach's body is covered by a soft chitinous exoskeleton.
(2) Head of cockroach is triangular in shape.
(3) Cockroaches are nocturnal omnivorous that live in damp places throughout the world.
(4) Cockroach is uricotelic animal.

**164.** Match **List-I** with **List-II.** **[NCERT Page 235, 236]**

| | **List-I** | | **List-II** |
|---|---|---|---|
| A. | Outer layer | I. | Arachnoid |
| B. | Inner layer | II. | Duramater |
| C. | Middle layer | III. | Piamater |
| D. | Brain stem | IV. | Midbrain, pons and medulla oblongata |

Choose the **correct** answer from the options given below:

(1) A – I, B – II, C – III, D – IV
(2) A – III, B – II, C – I, D – IV
(3) A – II, B – III, C – I, D – IV
(4) A – IV, B – II, C – III, D – I

**165.** Given below are two statements: **[NCERT Page 236]**

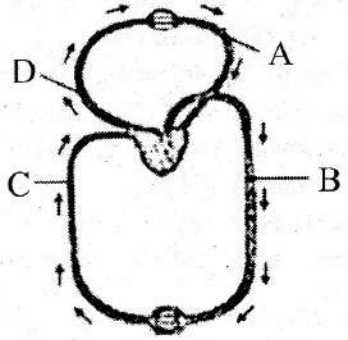
**Statement I:** The cerebral hemispheres are connected by nerve tract known as corpus callosum.

**Statement II:** The brain stem consists of the medulla oblongata, pons and cerebrum.

In the light of the above statements, choose the **most appropriate** answer from the options given below:

(1) Both statement I and statement II are correct
(2) Both statement I and statement II are incorrect
(3) Statement I is correct but statement II is incorrect
(4) Statement I is incorrect but statement II is correct

**166.** Figure shown schematic plan of blood circulation in humans with labels A to D. Identify the label with it's correct matching. **[NCERT Page 188]**




(1) B-Pulmonary artery-takes blood from heart to lungs, $pO_2 = 90$ mm Hg
(2) C-Vena Cava - takes blood from body parts to right auricle, $pCO_2 = 45$ mm Hg
(3) D - Dorsal aorta - takes blood from Heart to body Part $pO_2 = 40$ mm Hg
(4) A-Pulmonary artery - takes oxygenated blood from lungs to heart

**167.** Match **List-I** with **List-II.** **[NCERT Page 231, 232]**

| | **List-I** | | **List-II** |
|---|---|---|---|
| A. | Nissl's granules | I. | Short fibres branch repeatedly |
| B. | Dendrites | II. | CNS to skeletal muscles |
| C. | Somatic neural system | III. | CNS to involuntary organs |
| D. | Autonomic neural system | IV. | Granular bodies |

Choose the **correct** answer from the options given below:

(1) A – I, B – II, C – III, D – IV
(2) A – IV, B – I, C – II, D – III
(3) A – III, B – I, C – II, D – IV
(4) A – II, B – I, C – III, D – IV

**168.** Match **List-I** with **List-II.** [NCERT Page 224]

| | List-I | | List-II |
|---|---|---|---|
| A. | Cranial bone | I. | 14 |
| B. | Facial bone | II. | 8 |
| C. | U-shaped bone | III. | 3 |
| D. | Middle ear | IV. | 1 |

Choose the **correct** answer from the options given below:
(1) A – II, B – I, C – IV, D – III
(2) A – I, B – II, C – III, D – IV
(3) A – II, B – III, C – I, D – IV
(4) A – IV, B – II, C – I, D – III

**169.** The main body parts common to all molluscs are the – [NCERT Page 44]
(1) Foot, Radula and the Mantle
(2) Foot, Visceral mass (hump) and mantle
(3) Visceral mass, Mantle, shell
(4) Foot, Radula, Visceral mass

**170.** Given below are two statements: [NCERT Page 108]
**Statement I:** Acid insoluble fraction includes proteins, nucleic acids, polysaccharides and lipids.
**Statement II:** They have molecular weights in the range of ten thousand Daltons or above.
In the light of the above statements, choose the **most appropriate** answer from the options given below:
(1) Both statement I and statement II are correct
(2) Both statement I and statement II are incorrect
(3) Statement I is correct but statement II is incorrect
(4) Statement I is incorrect but statement II is correct

**171.** Given below are two statements: [NCERT Page 240]
**Statement I:** Insulin stimulates conversion of glucose to glycogen in the target cells.
**Statement II:** Hypoglycemia causes increase in the level of insulin.
In the light of the above statements, choose the **most appropriate** answer from the options given below:
(1) Both statement I and statement II are correct
(2) Both statement I and statement II are incorrect
(3) Statement I is correct but statement II is incorrect
(4) Statement I is incorrect but statement II is correct

**172.** Match **List-I** with **List-II.** [NCERT Page 225, 226]

| | List-I | | List-II |
|---|---|---|---|
| A. | Scapula | I. | Large triangular bone |
| B. | Essential for all type of movement | II. | Joints |
| C. | Pubic symphysis | III. | Fibrous cartilage |
| D. | Attachment of ribs to sternum | IV. | Hyaline cartilage |

Choose the **correct** answer from the options given below:
(1) A – I, B – IV, C – III, D – II
(2) A – I, B – II, C – III, D – IV
(3) A – IV, B – III, C – II, D – I
(4) A – II, B – I, C – III, D – IV

**173.** Read the following statements about regulation of respiration : [NCERT Page 190]
A. Neural signal from pneumotaxic centre (pons) can reduce the duration of inspiration and thereby alter the respiratory rate
B. The role of oxygen in the regulation of respiratory rhythm is highly significant
C. A chemosensitive area situated in the rhythm centre (medulla) is highly sensitive to $CO_2$ and hydrogen ions
D. Receptors associated with aortic arch and carotid artery can recognise changes in $CO_2$ and $H^+$ concentration
E. Medulla of brain has significant role in the respiratory regulation
(1) A, C and D only
(2) B and E only
(3) A and B only
(4) B, C and D only

**174.** Plants produce an enormous diversity of substances that have no apparent roles in growth and development processes are classified under the heading of – [NCERT Page 108]
(1) Primary metabolites
(2) Secondary metabolites
(3) Necessary metabolites
(4) Tertiary metabolites

**175.** Given below are two statements: [NCERT Page 202]
**Statement I:** Adrenal medullary hormone decreases heart rate.
**Statement II:** Parasympathetic neural signal increases heart rate.
In the light of the above statements, choose the **most appropriate** answer from the options given below:
(1) Both statement I and statement II are correct
(2) Both statement I and statement II are incorrect
(3) Statement I is correct but statement II is incorrect
(4) Statement I is incorrect but statement II is correct

**176.** Given below are two statements: [NCERT Page 206]
**Statement I:** Flame cell is a excretory organ in *Planaria* and *Amphioxus*.
**Statement II:** Protonephridia in rotifers help to regulate ionic and fluid volume, i.e., osmoregulation.
In the light of the above statements, choose the **most appropriate** answer from the options given below:
(1) Both statement I and statement II are correct
(2) Both statement I and statement II are incorrect
(3) Statement I is correct but statement II is incorrect
(4) Statement I is incorrect but statement II is correct

**177.** Which of the following are **NOT** the effects of Parathyroid hormone? [NCERT Page 243]

A. Stimulates the process of bone resorption
B. Decreases $Ca^{2+}$ level in blood
C. Reabsorption of $Ca^{2+}$ by renal tubules
D. Decreases the absorption of $Ca^{2+}$ from digested food
E. Increases metabolism of carbohydrates

Choose the most appropriate answer from the options given below:

(1) B, D and E only
(2) A and E only
(3) B and C only
(4) A and C only

**178.** Given below are two statement: one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**: [NCERT Page 210, 211]

**Assertion (A):** Mammals have the ability to produce concentrated urine.

**Reason (R):** Conditional reabsorption of $Na^+$ and water takes place in distal convoluted tuble.

In the light of the above statements, choose the **correct** answer from the options given below:

(1) Both **A** and **R** are true and **R** is the correct explanation of **A**.
(2) Both **A** and **R** are true but **R** is **NOT** the correct explanation of **A**.
(3) **A** is true but **R** is false.
(4) **A** is false but **R** is true.

**179.** Match **List-I** with **List-II.** [NCERT Page 234, 235]

| | **List-I** | | **List-II** |
|---|---|---|---|
| A. | Electrical synapse | I. | Impulse transmission is fast |
| B. | Chemical synapse | II. | Impulse transmission is slow |
| C. | Synaptic cleft | III. | Chemical filled vesicles |
| D. | Neurotransmitter | IV. | Gap between pre synaptic membrane and post synaptic membrane of neurons |

Choose the **correct** answer from the options given below:

(1) A – I, B – II, C – IV, D – III
(2) A – II, B – I, C – III, D – IV
(3) A – III, B – I, C – II, D – IV
(4) A – IV, B – III, C – I, D – II

**180.** Match **List-I** with **List-II.** [NCERT Page 187]

| | **List-I** | | **List-II** |
|---|---|---|---|
| A. | Total lung capacity (TLC) | I. | IRV + TV |
| B. | Expiratory capacity (EC) | II. | FRC + TV + IRV |
| C. | Inspiratory capacity (IC) | III. | ERV + TV |
| D. | Functional residual capacity (FRC) | IV. | ERV + RV |

Choose the **correct** answer from the options given below:

(1) A – I, B – IV, C – III, D – II
(2) A – II, B – I, C – III, D – IV
(3) A – II, B – III, C – I, D – IV
(4) A – III, B – II, C – IV, D – I