



Aakash

Medical | IIT-JEE | Foundations

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MM : 720

Fortnightly Test for NEET-2026_RM(P1)_FT-01A

Time : 180 Min.

Topics Covered:**Physics:** Units & Measurements, Motion in a Straight Line**Chemistry:** Some Basic Concepts of Chemistry**Botany:** Cell : The Unit of Life**Zoology:** Structural Organisation in Animals—Animal Tissues, Biomolecules-I: (Upto polysaccharides)**General Instructions :**

Duration of Test is 3 hrs.

The Test consists of 180 questions. The maximum marks are 720.

There are four parts in the question paper consisting of Physics, Chemistry, Botany and Zoology having 45 questions in each part of equal weightage.

Each question carries +4 marks. For every wrong response, -1 mark shall be deducted from the total score. Unanswered/unattempted questions will be given no marks.

Use blue/black ballpoint pen only to darken the appropriate circle.

Mark should be dark and completely fill the circle.

Dark only one circle for each entry.

Dark the circle in the space provided only.

Rough work must not be done on the Answer sheet and do not use white fluid or any other rubbing material on the Answer sheet.

PHYSICS

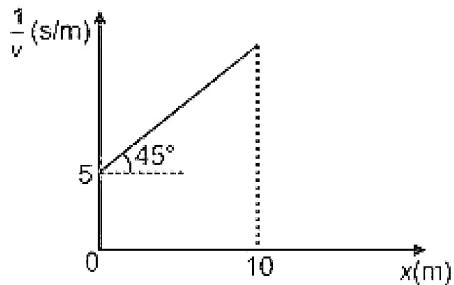
1. Two cities X and Y are connected by a regular bus service with a bus leaving in either direction every T min. A girl is driving scooter with a speed of 60 km/h in the direction X to Y notices that a bus goes past her every 30 minutes in the direction of her motion, and every 10 minutes in the opposite direction. Choose the correct option for the period T of the bus service and the speed (assumed constant) of the buses.
 - (1) 10 min, 90 km/h
 - (2) 15 min, 120 km/h
 - (3) 9 min, 40 km/h
 - (4) 25 min, 100 km/h
2. Which of the following measurement is most precise?
 - (1) 2.0 cm
 - (2) 2.00 cm
 - (3) 20.00 mm
 - (4) 2.0×10^{-2} m
3. An expression of a dimensionless quantity $P = \frac{a}{b} \sin(\omega t + bx)$; where a and b are constants, x is distance and t is time. Then dimensions of a will be
 - (1) $[M^0 L^{-1} T^{-1}]$
 - (2) $[M^0 L^{-1} T]$
 - (3) $[M^0 L^{-1} T^0]$
 - (4) $[M^0 L^0 T^{-1}]$
4. A square shape park has an area of (400.0 ± 0.4) m². The side of park is
 - (1) (20.00 ± 0.01) m
 - (2) (20.00 ± 0.02) m
 - (3) (10.00 ± 0.01) m
 - (4) (10.00 ± 0.02) m

5. Which of the following physical quantities has neither dimensions nor unit?
- Angle
 - Coefficient of friction
 - Gravitational constant
 - Stress
6. A metallic disc is being heated. Its area A (in m^2) at any time t (in second) is given by $A = 3t^2 + 5t + 9$. Rate of increase of area at $t = 3 \text{ s}$ is
- $9 \text{ m}^2/\text{s}$
 - $15 \text{ m}^2/\text{s}$
 - $23 \text{ m}^2/\text{s}$
 - $25 \text{ m}^2/\text{s}$
7. Position-time ($x - t$) graph of two particles A and B moving along x -axis is shown below. The ratio of their speeds $(\frac{v_B}{v_A})$ is
-
- (1) 1
(2) $\sqrt{3}$
(3) $\frac{1}{3}$
(4) 3
8. If $y = (x^2 - 2x + 5)$, then minimum or maximum value of y exist at
- $x = 2$
 - $x = 1$
 - $x = 0$
 - $x = -2$
9. Equation of the given line (1) as shown in figure is $y = mx + c$. Choose correct option regarding the m and c
-
- $m = 0, c = -\text{ve}$
 - $m = +\text{ve}, c = -\text{ve}$
 - $m = +\text{ve}, c = +\text{ve}$
 - $m = 0, c = 0$
10. If energy (E), velocity (V) and time (T) are chosen as the fundamental quantities, the dimensional formula of surface tension will be
- $[E^{-2} V^{-1} T^{-3}]$
 - $[E V^{-2} T^{-1}]$
 - $[E V^{-1} T^{-2}]$
 - $[E V^{-2} T^{-2}]$
11. The dimensional formula of physical quantity x is $[MLT^{-2}]$. If maximum percentage error in M, L and T are 1%, 2% and 3% respectively, then the maximum percentage error in x is
- 8%
 - 9%
 - 3%
 - 6%
12. If the maximum error in the measurement of radius of a sphere is 3%, then the maximum error in the determination of volume of the sphere will be
- 9%
 - 3%
 - 6%
 - 8%
13. **Statements A :** The slope of a line parallel to x axis is zero.
Statements B : The slope of a line parallel to y axis is infinity.
 Choose the correct option.
- Statement A is true but B is false
 - Statement A is false but B is true
 - Both statements A and B are true
 - Both statements A and B are false

- 14.** The velocity of a particle moving in a straight line along x -axis is related with displacement x as $v = \sqrt{25 - 8x}$ m/s. Its acceleration is (where x is in m)
- 4 m/s^2
 - 8 m/s^2
 - 3 m/s^2
 - 2 m/s^2
- 15.** A ball is dropped from a building of height 40 m. Simultaneously another ball is thrown up with a speed 20 m/s from the same point. The magnitude of relative velocity of first ball w.r.t. second ball at $t = 1$ s is ($g = 10 \text{ m/s}^2$)
- 20 m/s
 - 10 m/s
 - 30 m/s
 - Zero
- 16.** **Assertion (A):** Two physical quantities having same dimension always have same unit.
Reason (R): A dimensionless quantity is always unitless.
- Both Assertion & Reason are true and the reason is the correct explanation of the assertion.
 - Both Assertion & Reason are true but the reason is not the correct explanation of the assertion.
 - Assertion is true statement but Reason is false.
 - Both Assertion and Reason are false statements.
- 17.** Match (physical quantities having same dimensions) **List-I** with **List-II**.
- | List-I | List-II |
|--------------|-----------------------|
| a. Pressure | (i) Energy |
| b. Thrust | (ii) Energy density |
| c. Torque | (iii) Weight |
| d. Frequency | (iv) Angular velocity |
- Choose the correct answer from the options given below:
- a(iv), b(i), c(iii), d(ii)
 - a(iv), b(iii), c(i), d(ii)
 - a(ii), b(iii), c(i), d(iv)
 - a(ii), b(i), c(iii), d(iv)
- 18.** A particle is projected vertically upwards with a speed 50 m s^{-1} from ground. When it returns to the point of projection, then its average speed is
- 50 m s^{-1}
 - 25 m s^{-1}
 - 100 m s^{-1}
 - Zero
- 19.** A body of mass $(2 + 0.20)$ kg is moving with velocity of $(10 + 0.20)$ m/s. Its kinetic energy is
- $(100 \pm 0.14) \text{ J}$
 - $(50 \pm 0.14) \text{ J}$
 - $(50 \pm 14) \text{ J}$
 - $(100 \pm 14) \text{ J}$
- 20.** If in a vernier callipers 12 VSD coincides with 8 MSD, then the least count of vernier calliper is [given, 1 MSD = 1 mm]
- $\frac{1}{3} \text{ mm}$
 - $\frac{2}{3} \text{ mm}$
 - $\frac{4}{3} \text{ mm}$
 - $\frac{3}{4} \text{ mm}$
- 21.** A ball is dropped from the top of a tower of height H . If its speed at height $\frac{H}{4}$ is 30 m/s , then the height of tower will be
- 15 m
 - 30 m
 - 60 m
 - 120 m
- 22.** A man traversed first half of the distance with a speed v_1 in time $\frac{T}{3}$. If total time taken to cover the entire distance is T , then average speed of his journey is
- $\frac{v_1}{6}$
 - $\frac{2v_1}{3}$
 - $\frac{3v_1}{2}$
 - $6v_1$
- 23.** A system of units has 10 kg , 10 cm and 10 s as the units of mass, length and time respectively. The value of 10 N in this system will be
- 1000 units
 - 1 unit
 - 10 units
 - 100 units
- 24.** We measure two quantities as $A = (1.0 \pm 0.2) \text{ m}$, $B = (2.0 \pm 0.2) \text{ m}$. What should be correct value of \sqrt{AB} ?
- $(1.4 \pm 0.4) \text{ m}$
 - $(1.41 \pm 0.15) \text{ m}$
 - $(1.4 \pm 0.3) \text{ m}$
 - $(1.4 \pm 0.2) \text{ m}$

- 25.** Position of particle A varies as $x_A = (2t^2 - 4t)$ m and that of B as $x_B = (t^3 - 2t)$ m. Find velocity of B with respect to A at $t = 4$ s.
- (1) 36 m/s
 (2) 34 m/s
 (3) 58 m/s
 (4) 38 m/s
- 26.** The ratio of displacement in n seconds to n^{th} second for a particle starting from rest and uniform acceleration is
- (1) $\frac{n^2}{2n-1}$
 (2) $\frac{n-1}{n}$
 (3) $\frac{2n+1}{2n-1}$
 (4) $\frac{n}{n-1}$
- 27.** At a metro mall, a girl walks up a stationary escalator in 120 second. If she remains stationary on the escalator then the escalator take her up in 4 minute. The time taken by her to walk up on the moving escalator will be
- (1) 140 s
 (2) 200 s
 (3) 100 s
 (4) 80 s
- 28.** The value of $2.2 + 4.08 + 3.125 + 6.3755$ with due regard to significant places is
- (1) 16 cm
 (2) 15.7805 cm
 (3) 15.780 cm
 (4) 15.8 cm
- 29.** The number of insignificant zeros in 0.006500 are
- (1) Five
 (2) Two
 (3) Three
 (4) Four
- 30.** If $A = (16.0 \pm 0.3)$ cm and $B = (4.0 \pm 0.2)$ cm then the value of $(A - B)$ will be
- (1) (12.0 ± 0.5) cm
 (2) (12.0 ± 0.1) cm
 (3) (12.0 ± 0.3) cm
 (4) (12.0 ± 0.6) cm
- 31.** If dimensions of A and B are different, then which of the following operation can be valid?
- (1) $\log\left(\frac{A}{B}\right)$
 (2) $\frac{A}{B}$
 (3) $A + B$
 (4) $e^{-\frac{A}{B}}$
- 32.** Systematic error can be minimised by
- (1) More accurate instruments
 (2) Improved experimental techniques
 (3) Removing personal bias
 (4) All of these
- 33.** In a new set of units, unit of mass is 10 kg, unit of length is 1 km and unit of time is 1 minute. The value of 1 joule in this new hypothetical system is
- (1) 3.6×10^{-4} new units
 (2) 6×10^7 new units
 (3) 10^{11} new units
 (4) 1.67×10^4 new units
- 34.** Select the incorrect statement.
- (1) A physically consistent equation must be dimensionally consistent
 (2) A physical quantity may have units but no dimensions
 (3) A physical quantity may have dimension but not units
 (4) A dimensionally consistent equation may be physically inconsistent
- 35.** A body is moving on x-axis and its position is related with time t as $t = \alpha x^2 + \beta x$, where α and β are positive constants, the retardation of the body is
- (1) αv^3
 (2) $2\alpha v^3$
 (3) $\frac{\alpha v^3}{2}$
 (4) $2\alpha v^2$

36. Graph of $(\frac{1}{v})$ versus x of a particle, where v is speed (in m/s) and x is position moving along a straight line is as shown in figure. The time taken by particle to move from $x = 0$ m to $x = 10$ m is



- (1) 100 s
- (2) 75 s
- (3) 60 s
- (4) 50 s

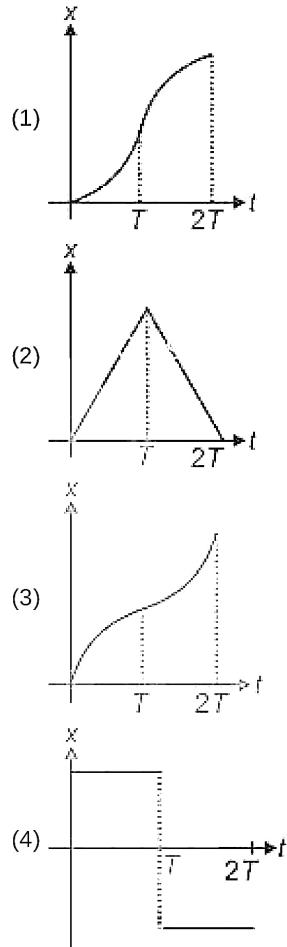
37. A particle moves along x -axis such that its velocity (v) varies with time (t) as $v = (4t - t^2)$ m/s. The distance travelled by the particle from $t = 0$ to $t = 6$ s is

- (1) 10.66 m
- (2) 21.33 m
- (3) 4.31 m
- (4) Zero

38. If random error in an experiment for 10 observations is e , then random error in experiment for 60 observations will be

- (1) e
- (2) $\frac{e}{6}$
- (3) $6e$
- (4) $\frac{e}{36}$

39. A particle starts from rest and accelerates constantly with a for time T and then retards uniformly with same rate till it comes to rest. The position-time ($x-t$) graph of the particle is best represented by



40. The dimensions of Planck's constant is identical to

- (1) Linear momentum
- (2) Angular momentum
- (3) Torque
- (4) Angular velocity

41. Force on a particle is given by $F = P \sin \theta + Q \cos R t$, where t is time. The dimensional formula of $\frac{R}{PQ}$ is

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

- 42.** A body travels distance of 20 m and 40 m with constant speed of 5 m s^{-1} and 10 m s^{-1} respectively, the average speed of the body is
 (1) 6.5 m s^{-1}
 (2) 3.5 m s^{-1}
 (3) 7.5 m s^{-1}
 (4) 9 m s^{-1}
- 43.** A car moving with speed of 15 m s^{-1} can be stopped by applying brakes after travelling a distance 2 m. If the same car is moving with a speed of 7.5 m s^{-1} , the minimum stopping distance is (Assume same deacceleration in both cases)
 (1) 1 m
 (2) 2 m
 (3) 0.5 m
 (4) 2.5 m

CHEMISTRY

- 46.** Number of significant figures in 0.0020 is
 (1) 4
 (2) 2
 (3) 3
 (4) 5
- 47.** Choose the incorrect match among the following
- | Physical Quantity | SI unit |
|------------------------------|----------------|
| a. Electric current | (i) Ampere |
| b. Amount of substance | (ii) Kilogram |
| c. Luminous intensity | (iii) Candela |
| d. Thermodynamic temperature | (iv) Kelvin |
- Choose the correct option.
 (1) a(i)
 (2) b(ii)
 (3) c(iii)
 (4) d(iv)
- 48.** The pair of species which follows law of multiple proportions is
 (1) CO_2 and CS_2
 (2) NO_2 and NO
 (3) H_2O and H_2S
 (4) PH_3 and NH_3
- 44.** A ball is thrown vertically upward with a certain speed. It passes through the same point at 3 second and 7 second from the start. The speed of projection is [$g = 10 \text{ ms}^{-2}$]
 (1) 50 ms^{-1}
 (2) 70 ms^{-1}
 (3) 35 ms^{-1}
 (4) 100 ms^{-1}
- 45.** Choose the correct statement.
 (1) Distance travelled by a body is always greater than magnitude of displacement
 (2) Average speed is the magnitude of average velocity
 (3) Instantaneous speed is equal to the magnitude of instantaneous velocity
 (4) Both (2) and (3)
- 49.** The volume occupied by 3.4 g of NH_3 at STP is
 (1) 4.48 L
 (2) 4.48 mL
 (3) 2.24 L
 (4) 2.24 mL
- 50.** Which of the following is an incorrect statement about Dalton's atomic theory?
 (1) Matter consists of indivisible atoms
 (2) Atoms of different elements have different mass
 (3) Atoms are neither created nor destroyed in a chemical reaction
 (4) Atoms of same element have different properties
- 51.** 1 amu is equal to
 (1) $1.57 \times 10^{-24} \text{ kg}$
 (2) $1.66 \times 10^{-24} \text{ kg}$
 (3) $1.66 \times 10^{-27} \text{ kg}$
 (4) $9.1 \times 10^{-31} \text{ kg}$
- 52.** Molecular mass of glucose $\text{C}_6\text{H}_{12}\text{O}_6$ molecule is
 (1) 80 g
 (2) 180 u
 (3) 96 g
 (4) 96 u

- 53.** 28.0 g of N_2 has same number of atoms as in:
- 22 g of CO_2
 - 16 g of O_2
 - 32 g of O_3
 - 46 g of NO_2
- 54.** An element X has the following isotopic composition. X^{200} : 90% and X^{202} : 10%. The weighted average atomic mass of the naturally occurring element X is closest to
- 201.5 amu
 - 200.8 amu
 - 200.5 amu
 - 200.2 amu
- 55.** Numerical prefix used for 10^{-3} is
- Nano
 - Micro
 - Milli
 - Centi
- 56.** If mass percentage of Zn^{2+} in a biomolecule is 0.04% then minimum molecular mass of the biomolecule will be (Atomic mass of Zn = 65.4 u)
- 1.6×10^5 u
 - 3.2×10^3 u
 - 3.2×10^4 u
 - 1.6×10^6 u
- 57.** SI unit of amount of substance is
- Kilogram
 - Mole
 - amu
 - Gram
- 58.** If total number of electrons in a sample of CO_2 is 4.4×10^{26} then total number of atoms present in the sample is
- 6×10^{26}
 - 6×10^{25}
 - 2×10^{26}
 - 4.5×10^{26}
- 59.** From 100 mg of CO_2 when x mol are removed, 6.02×10^{20} molecules of CO_2 are left. The number of molecules removed is
- 7.65×10^{22}
 - 7.65×10^{20}
 - 2.72×10^{22}
 - 2.72×10^{21}
- 60.** If the mass ratio of methane and sulphur dioxide is 1 : 4, then the ratio of their atoms will be
- 1 : 4
 - 2 : 3
 - 5 : 3
 - 2 : 1
- 61.** Number of carbon atoms present in 540 u of glucose is
- $18 N_A$
 - $3 N_A$
 - 18
 - 72
- 62.** % composition of carbon in CH_3COOH is
- 20 %
 - 40 %
 - 12 %
 - 24 %
- 63.** 5 g impure NaOH is completely neutralised by one litre 0.1 M HCl. The percentage purity of NaOH sample is
- 80%
 - 60%
 - 40%
 - 20%
- 64.** At STP 11.2 L of an unknown gas weighs 15 g. Unknown gas may be
- NO_2
 - C_2H_6
 - CO_2
 - C_2H_2

65. The formula of a compound is AB_2 . The mass of 0.25 moles of this compound is 55 g, then the molar mass of the compound is

- (1) 137.5 g
- (2) 220 g
- (3) 45.4 g
- (4) 180 g

66. Suppose two elements X and Y combine to form two compounds X_2Y_3 and X_2Y_5 . If 0.2 mole of X_2Y_3 weighs 22 g and 0.05 mole of X_2Y_5 weighs 7.1 g then atomic masses of X and Y respectively are

- (1) 27 u and 16 u
- (2) 32 u and 24 u
- (3) 31 u and 16 u
- (4) 31 u and 14 u

67. Match List-I with List-II

List-I Amount of substance	List-II Number of atoms
a. 64 g of CH_4	(i) $4 N_A$
b. 8 g of H_2	(ii) $2 N_A$
c. 11.2 L of SO_3 at STP	(iii) $8 N_A$
d. 44.8 L of N_2 at STP	(iv) $20 N_A$

The correct match is

- (1) a(iv), b(iii), c(ii), d(i)
- (2) a(iii), b(iv), c(ii), d(i)
- (3) a(ii), b(iv), c(i), d(iii)
- (4) a(iv), b(iii), c(i), d(ii)

68. Volume of O_2 required at STP for the complete combustion of 1.6 kg of methane is

- (1) 4480 L
- (2) 44.8 L
- (3) 2240 L
- (4) 6720 L

69. How many moles of electrons weigh one milligram?

- (1) 6.02×10^{22}
- (2) $\frac{10^2}{9.1 \times 6.02}$
- (3) $\frac{9.1 \times 10^2}{6.02}$
- (4) $\frac{10^2}{9.1}$

70. Density of NO_2 gas in g/L at STP will be

- (1) 1.02
- (2) 4.5
- (3) 2.05
- (4) 3.1

71. In the reaction, $3H_2(g) + N_2(g) \rightarrow 2NH_3(g)$, when 9 mole of H_2 and 7 mol of N_2 are made to react to completion, then

- (1) All the N_2 will be consumed
- (2) 5 mol of NH_3 is formed
- (3) 4 mol of N_2 is left in excess
- (4) 1 mol of H_2 is left in excess

72. If the mass percentage of urea in an aqueous solution is 15% then molality of urea in the solution is (molar mass of urea = 60 g mol^{-1})

- (1) 2.94 m
- (2) 5.62 m
- (3) 4.25 m
- (4) 3.21 m

73. Calcium carbonate reacts with aqueous HCl to give $CaCl_2$ and CO_2 . The mass of $CaCO_3$ required to react completely with 50 mL of 0.5 M HCl is

- (1) 3.5 g
- (2) 2.5 g
- (3) 1.25 g
- (4) 5.5 g

74. If mass percentage of carbon, oxygen and hydrogen in an organic compound are 26.67%, 71.11% and 2.22% respectively then empirical formula of the organic compound will be

- (1) CH_2O
- (2) CHO_2
- (3) C_2HO_2
- (4) CHO

75. Which of the following methods of expressing concentration is dependent on temperature?

- (1) Molarity
- (2) Mole fraction
- (3) Molality
- (4) (w/w) percent

76. Mass of H_2O produced on mixing 2 g H_2 and 8 g O_2 will be

- (1) 10 g
- (2) 8 g
- (3) 9 g
- (4) 4.5 g

77. If 12 g of benzene is dissolved in 84 g of carbon tetrachloride, then the mass percent of benzene in the solution is

- (1) 15.75%
- (2) 1.25%
- (3) 12.5%
- (4) 6.25%

78. Mass percent of glucose in an aqueous solution is 18%. The molality of glucose solution is

- (1) 1.22 m
- (2) 1.86 m
- (3) 2.21 m
- (4) 0.75 m

79. 100 mL of $\frac{M}{5}$ HCl and 150 mL of $\frac{M}{5}$ HNO_3 was mixed.

Concentration of H^+ ions in the mixture will be

- (1) $\frac{1}{3}$
- (2) $\frac{1}{5}$
- (3) $\frac{8}{25}$
- (4) $\frac{2}{5}$

80. 200 ml, 0.2 M HCl is mixed with 300 ml of H_2O . The molarity of resultant solution is

- (1) 0.01 M
- (2) 0.08 M
- (3) 0.1 M
- (4) 0.25 M

81. Molarity of the solution in which 4 g NaOH is present in 250 ml solution, is

- (1) 0.4 M
- (2) 0.2 M
- (3) 0.3 M
- (4) 0.8 M

82. A volumetric flask contains 50% (w/w) H_2SO_4 solution. How many grams of the given sulphuric acid solution is required to prepare 200 mL of 0.5 M H_2SO_4 solution?

- (1) 25 g
- (2) 19.6 g
- (3) 9.8 g
- (4) 15 g

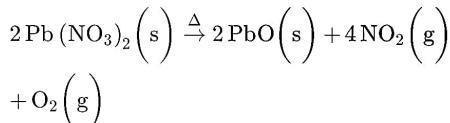
83. 20 ml of 0.1 N $BaCl_2$ is mixed with 30 ml of 0.2 N $Al_2(SO_4)_3$. The mass of $BaSO_4$ formed is (Molar mass of $BaSO_4$ = 233 g/mole)

- (1) 233 g
- (2) 2.33 g
- (3) 0.233 g
- (4) 23.3 g

84. Number of chloride ions present in 200 ml of 0.4 M $CaCl_2$ solution is

- (1) 2.4×10^{21}
- (2) 6.02×10^{20}
- (3) 9.6×10^{22}
- (4) 4.8×10^{21}

85. The moles of lead nitrate required to produce 112 L oxygen at STP on its decomposition is

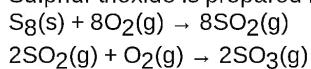


- (1) 10
- (2) 5
- (3) 15
- (4) 7

86. The empirical formula of a compound is CH. Its molecular weight is 78. The molecular formula of the compound will be

- (1) C_2H_2
- (2) C_6H_6
- (3) C_4H_4
- (4) C_2H_6

87. Sulphur trioxide is prepared by the following two reactions.



How many grams of SO_3 are produced from 1 mole S_8 ?

- (1) 640 g
- (2) 320 g
- (3) 960 g
- (4) 1280 g

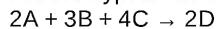
88. If mole fraction of solvent in aq. H_2SO_4 solution is 0.85 then number of moles of solute present in 2 kg of solvent is

- (1) 6.66
- (2) 5.66
- (3) 0.15
- (4) 19.6

89. The mass of zinc required to produce 2.24 L of hydrogen gas at STP on treatment with excess of dilute HCl is (Atomic mass of Zn = 65.4 u)

- (1) 13.0 g
- (2) 6.54 g
- (3) 3.25 g
- (4) 19.54 g

90. For the hypothetical reaction



Maximum moles of D formed when 10 moles of A reacts with 9 moles of B and 16 moles of C are

- (1) 8
- (2) 6
- (3) 4
- (4) 2

BOTANY

91. In cyanobacteria, the membranous extensions into the cytoplasm which contain photosynthetic pigments are called

- (1) Inclusions bodies
- (2) Mesosomes
- (3) Chromatophores
- (4) Microbodies

92. Match the column I with column II.

Column I	Column II
a. Contractile vacuole	(i) Contain water, excretory products and other useless materials in plants
b. Food vacuole	(ii) Osmoregulation and excretion in Amoeba
c. Sap vacuole	(iii) Provide buoyancy in purple and green photosynthetic bacteria
d. Gas vacuole	(iv) Formed by engulfing of food particles in protists

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)

93. In which of the following cellular structures, double stranded circular DNA is present?

- (1) Nucleus
- (2) Plastid
- (3) Lysosomes
- (4) Vacuoles

94. Match the column I with column II

Column I	Column II
----------	-----------

- | | |
|--------------------|--|
| a. Nucleolus | (i) Performs the function of packaging of biomolecules |
| b. Centriole | (ii) Forms the basal body of cilia or flagella |
| c. Leucoplasts | (iii) Spherical structures present in the nuclear matrix |
| d. Golgi apparatus | (iv) Colourless plastids with stored nutrients |

Choose the correct answer from the options given below

- (1) a(iii), b(ii), c(iv), d(i)
- (2) a(ii), b(iii), c(i), d(iv)
- (3) a(iii), b(iv), c(ii), d(i)
- (4) a(i), b(ii), c(iii), d(iv)

95. The cell organelle or structure common in both animal and higher plant cell is

- (1) Centriole
- (2) Large central vacuole
- (3) Ribosome
- (4) Plastid

96. The concept of *Omnis cellula-e cellula* given by Rudolf Virchow suggests that

- (1) All living organisms are composed of cells.
- (2) All living organisms are composed of products of cells.
- (3) All cells arise from pre-existing cell.
- (4) Activities of an organism are the outcome of sum total of activities and interactions of its constituent cells.

97. Which layer of the cell envelope prevents the bacterium from bursting or collapsing?

- (1) Plasma membrane
- (2) Glycocalyx
- (3) Cell wall
- (4) Capsule

98. Select the **incorrect** statement w.r.t. plasmid.

- (1) It is larger than genomic DNA
- (2) It is circular DNA outside genomic DNA
- (3) It confers certain unique phenotypic characters to bacteria
- (4) It can provide resistance against antibiotics to bacteria

99. When glycocalyx is thick and tough, it is called

- (1) Capsule
- (2) Slime layer
- (3) Cell wall
- (4) Cell membrane

100. Which one of the following structures allows bacteria to hide from host's immune system?

- (1) Capsule
- (2) Slime layer
- (3) Cell wall
- (4) Flagella

101. _____ are involved in respiration in prokaryotes.

Choose the **correct** option to fill in the blank

- (1) Ribosomes
- (2) Polysomes
- (3) Mesosomes
- (4) Lysosomes

102. Which of the following statements is **incorrect** regarding the secondary cell wall in plants?

- (1) It is formed towards membrane (inner) side of the cell
- (2) It brings about thickening of the cell wall
- (3) It is lignified and suberised
- (4) This wall layer gradually diminishes with maturity

103. Correct statement in relation to vacuoles is.

- (1) It is triple membraned bound space found in cytoplasm containing sap
- (2) It can occupy 90 percent of cell volume in plants
- (3) Its membrane allows transport of materials along the concentration gradient only
- (4) Concentration of ions is significantly lesser in volume than cytoplasm

104. The primary constriction of chromosome

- Is found in the middle in case of acrocentric chromosome
- (2) Has disc shaped structures known as centrosome on their sides
- (3) Holds the two chromatids of chromosome
- (4) Is always found at the end of the chromosome

105. The cell structure discovered by George Palade

- (1) Is found only in eukaryotic cells
- (2) Provides support and shape to the cell
- (3) Is organised in the stacks like the piles of coins
- (4) Is 80S type in the cytoplasm of animal cells

106. Consider the following statements.

- (a) Nucleolus is involved in rRNA synthesis
- (b) Chromatin is composed of DNA and acidic proteins only
- (c) Ends of chromosome are called telomeres.
- (d) On the basis of position of centromere, chromosomes can be divided into five types

Select **incorrect** statements from above.

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

107. Read the following statements and state them as True (T) or False (F) and choose the **correct** option.

- a. Neutral solutes may move across the membrane by the process of simple diffusion.
- b. Secondary constriction and satellite are non-staining region of certain chromosomes.
- c. Inner membrane of mitochondria is selectively permeable and is rich in cardiolipins
- d. In centrioles, peripheral doublets are connected to each other.

- (1) a(T), b(F), c(T), d(F)
- (2) a(T), b(T), c(F), d(F)
- (3) a(F), b(F), c(T), d(T)
- (4) a(F), b(T), c(F), d(T)

108. Read the following statements and choose the **correct** option.

Assertion (A): Mitochondria can synthesise some of its own proteins.

Reason (R): Both inner and outer membrane of the mitochondria have enzymes.

- (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) Only (A) is true but (R) is false
- (4) Both (A) and (R) are false

109. Regarding Golgi apparatus choose the option for **correct one(s)**.

- (a) *Cis* and *trans* faces are entirely different.
- (b) *Trans* face is concave and called maturing face.
- (c) *Cis* and *trans* faces of a Golgi apparatus are not interconnected.
- (d) Vesicles are discharged from *cis* face.

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

110. Read the following Assertion (A) and Reason (R) and select the **correct option**.

Assertion (A) : Golgi apparatus remains in close association with the endoplasmic reticulum.

Reason (R) : Materials to be packaged in the form of vesicles from the ER fuse with *cis* face of the Golgi apparatus and move towards the maturing face.

- (1) Only (A) is true but (R) is false
- (2) Both (A) and (R) are false
- (3) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (4) Both (A) and (R) are true and (R) is not the correct explanation of (A)

111. Who amongst the following scientists based on his studies concluded that the presence of cell wall is a unique character of the plant cell?

- (1) Matthias Schleiden
- (2) Robert Hooke
- (3) Robert Brown
- (4) Theodore Schwann

112. Which of the following organelles/structures divides the intracellular space into luminal and extra luminal distinct compartments?

- (1) Endoplasmic reticulum
- (2) Centrosome
- (3) Ribosome
- (4) Centriole

113. The structures formed by extension of cell membrane into the cell found in prokaryotes, helps

- (1) To attach the bacteria to rocks in streams
- (2) In synthesis of amino acids from mRNA
- (3) In storing the reserve material
- (4) In cell wall formation and DNA replication

114. Match column I with column II and select the **correct option**.

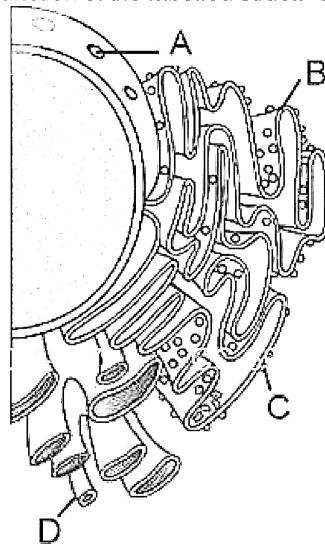
Column I	Column II
a. Cristae	(i) It represents flat, disc-shaped sacs that are stacked parallel to each other to form a reticular structure near the nucleus
b. Cisternae	(ii) It represents the core of a motile structure that work like oars
c. Thylakoids	(iii) It represents infolding of membrane associated with oxidative phosphorylation for ATP production
d. Axoneme	(iv) It represents flattened membranous sacs inside the chloroplast

- (1) a(i), b(iv), c(iii), d(ii)
- (2) a(ii), b(i), c(iv), d(iii)
- (3) a(iii), b(i), c(iv), d(ii)
- (4) a(iii), b(ii), c(i), d(iv)

115. Chlorophyll pigments are present in

- (1) Stroma
- (2) Thylakoids
- (3) Matrix
- (4) Lysosome

116. Observe the figure given below and identify the correct feature/function of the labelled structures (A – D).



- (1) 'A' helps in oxidative phosphorylation
- (2) 'B' helps in steroid hormone synthesis
- (3) 'C' is composed of ribonucleic acid and proteins and are surrounded by a membrane
- (4) 'D' helps in detoxification of drugs

117. Na^+/K^+ pump in a cell is an example of

- (1) Active transport
- (2) Passive transport
- (3) Osmosis
- (4) Simple diffusion

118. The structure of centriole differs from cilia as the former

- a. Has cartwheel like appearance
- b. Has 9 + 2 arrangement of axonemal microtubules
- c. Is involved in the formation of spindle microtubules
- d. has central proteinaceous region called hub
- e. Is surface structure involved in cell motility

The correct ones are

- (1) a, c and e only
- (2) b, d and e only
- (3) a, c and d only
- (4) a, d and e only

119. The ribosomes of chloroplast are

- a. 70S type
- b. Larger than cytoplasmic ribosome
- c. Made up of 50S & 40S subunits

The correct one(s) is/are

- (1) a only
- (2) a and c only
- (3) b and c only
- (4) All a, b and c

120. Which of the given is/are **not** true for lipid component of plasma membrane?

- a. Tail is made up of saturated hydrocarbons
- b. Head is hydrophobic
- c. It gives quasi fluid nature to plasma membrane
- d. In human erythrocyte membrane, lipid fraction is more than proteins

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

121. The plastid that is specialised to store protein is

- (1) Elaioplasts
- (2) Aleuroplasts
- (3) Amyloplasts
- (4) Chromoplasts

122. Various chemical reactions occur in main arena of all living organisms to keep the cell in the living state.

The above given statement is **true** for

- (1) Stroma
- (2) Mitochondrial matrix
- (3) Nucleoplasm
- (4) Cytoplasm

123. ATP synthesis and oxidative phosphorylation occurs in

- (1) Golgi body
- (2) Mitochondria
- (3) SER
- (4) Glyoxysomes

124. Read below given statements and choose the **correct** option.

Statement-A : The number of mitochondria in different cells is always constant.

Statement-B : Mitochondria are common to both plant and animal cells.

- (1) A is correct, B is incorrect
- (2) B is correct, A is incorrect
- (3) Both statements are correct
- (4) Both statements are incorrect

125. Read below given statements and select the **correct** option.

Statement A : Cells actively involved in protein synthesis have large, more numerous nucleoli.

Statement B : Outer nuclear envelope is often connected with RER.

- (1) Only statement A is correct
- (2) Both statements A and B are correct
- (3) Only statement B is correct
- (4) Both statements A and B are incorrect

126. Read the following statements of Assertion (A) and Reason (R).

Assertion (A): Lysosomes contain enzymes for the digestion of macromolecules.

Reason (R): Hydrolytic enzymes present in the lysosomes are active at basic pH.

In light of the above statements, choose the **correct** answer from the following options.

- (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

127. Identify the pair of organelles involved in protein synthesis and modification and are included in endomembrane system.

- (1) Lysosomes and Ribosomes
- (2) Mitochondria and microbodies
- (3) Golgi bodies and Endoplasmic reticulum
- (4) Lysosomes and chloroplast

128.A : The middle lamella is a layer mainly made up of calcium pectate.

R : Cell wall and middle lamella may be traversed by plasmodesmata which connect the cytoplasm of neighbouring cells.

(1) Both Assertion & Reason are true and the reason is the correct explanation of the assertion

(2) Both Assertion & Reason are true but the reason is not the correct explanation of the assertion

(3) Assertion is true statement but Reason is false

(4) Both Assertion and Reason are false statements

129. Identify the **incorrectly** matched pair

(1) Amyloplasts – Potato tuber

(2) Elaioplasts – Rice

(3) Chromoplasts – Ripened tomato

(4) Aleuroplasts – Aleurone cells of maize

130. Identify the **incorrect** statements w.r.t. microbodies.

(1) These are single membrane-bound minute vesicles that contain various enzymes.

(2) They are associated with oxidation reactions other than those of respiration.

(3) These are found in both plant and animal cells

(4) They possess their own DNA.

131. Which of the following vacuoles provides buoyancy in prokaryotes?

(1) Sap vacuole

(2) Contractile vacuole

(3) Gas vacuole

(4) Food vacuole

132. An elaborate network of filamentous proteinaceous structures present in the cytoplasm of an eukaryotic cell is called

(1) Cytoskeleton

(2) Spindle fibres

(3) Filaments

(4) Kinetochores

133. Which among the following is the function of the cytoskeleton?

(1) Protein synthesis

(2) Motility

(3) Lipid synthesis

(4) mRNA synthesis

134. Select the set of structures in which microtubules are present?

(1) Nucleosome, Chromatin, Nucleus

(2) Spindle fibres, Cilia and Centriole

(3) Cilia, Chromatin, Peroxisomes

(4) Microbody, Spindle fibers, Centrosome

135. Which of the following is **not** an inclusion body of prokaryotes?

(1) Cyanophycean granules

(2) Phosphate granules

(3) Glycogen granules

(4) Polysome

ZOOLOGY

136. Type of tissue whose muscle fibres taper at both ends and do **not** show striations are/show

(1) Voluntary in nature

(2) Called cylindrical fibres

(3) Not under the control of our will

(4) Devoid of cell junctions

137. Choose the option which includes all the tissues belonging to the same category.

(1) Blood, bone and neuroglia

(2) Bone, cartilage and Nissl's granules

(3) Blood, bone and cartilage

(4) Cuboidal epithelium, ligament and tendon

138. Choose the organism among the following whose body is made up of different types of cells and the number of cells in each type can be in thousands.

(1) Amoeba

(2) *Paramoecium*

(3) *Hydra*

(4) Yeast

139.The type of cells that make up more than one half the volume of neural tissues in our body

- (1) Are specialised to transmit impulses in our body
Exert the greatest control over the body's
- (2) responsiveness to changing conditions by transmitting impulses
- (3) Are excitable cells due to the presence of a differential concentration gradient of ions
- (4) Protect and support the cells that act as the functional unit of neural system

140.Complete the analogy by selecting the correct option.

Exocrine secretion : Earwax :: Endocrine secretion :

- (1) Milk
- (2) Oil
- (3) Trypsin
- (4) Hormone

141.Blood is a fluid connective tissue and is in direct contact with _____ epithelial tissue during circulation
Select the correct option to fill in the blank

- (1) Columnar
- (2) Cuboidal
- (3) Simple squamous
- (4) Stratified squamous

142.In neural tissue,

- A. Axon carries impulse towards the cyton
 - B. Axon carries impulse away from cyton.
 - C. Dendrite carry impulse away from cyton.
- Select the **correct** option.

- (1) A and B only
- (2) A and C only
- (3) Only A
- (4) Only B

143.How many cells given in the box below are produced in bone marrow?

RBC, WBC, Platelet, Chondroblast

Choose the correct option.

- (1) Three
- (2) Two
- (3) Four
- (4) One

144.**Assertion (A)** : Cardiac muscle fibres have striated appearance.

Reason (R) : Cardiac muscle fibres possess particular alternate arrangement of light and dark bands.

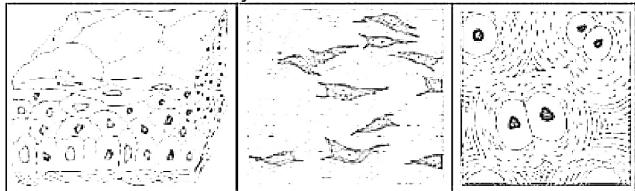
In the light of above statements, select the correct option.

- (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) Both (A) and (R) are false

145.Choose the property which is common to both nerve cells and cardiac muscle cells.

- (1) Elasticity
- (2) Excitability
- (3) Extensibility
- (4) Contractility

146. Three types of tissues named (a), (b) and (c) are given below. Identify the correct matching pair along with their location in human body.



Name of tissue	– Location
(1) (a) Compound epithelium	– Covers the moist surface of buccal cavity
(b) Dense irregular connective tissue	– Present in the skin
(c) Bone	– Present in thigh region
(2) (a) Simple squamous epithelium	– Alveoli of lungs
(b) Dense regular connective tissue	– Tendons
(c) Specialized connective tissue	– Present in viscera
(3) (a) Compound epithelium	– Covers the moist surface of pharynx
(b) Dense regular connective tissue	– Ligament connecting two bones in the region of joint
(c) Cartilage	– Present in the regions of trachea and larynx
(4) (a) Simple cuboidal epithelium	– Ducts of glands
(b) Specialised connective tissue	– Skin
(c) Fluid connective tissue	– Inside heart and blood vessels

- (1) (1)
- (2) (2)
- (3) (3)
- (4) (4)

147. Match List-I with List-II

	List-I		List-II
(a)	Bronchioles	(i)	Dense Regular Connective Tissue
(b)	Goblet Cell	(ii)	Loose Connective Tissue
(c)	Tendons	(iii)	Glandular Tissue
(d)	Adipose Tissue	(iv)	Ciliated Epithelium

Choose the correct answer from the options given below:

- (1) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)
- (2) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
- (3) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
- (4) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

148. The type of muscle fibres present in biceps are similar to the type of muscle fibres present in heart as both have/show

- (1) Branched appearance
- (2) Uninucleated condition
- (3) Presence of striations
- (4) Intercalated discs

149. Consider the given features.

- (a) Possesses compactly packed fibres and fibroblasts
 - (b) Attaches skeletal muscles to bones
 - (c) Orientation of fibres show a regular pattern
- Choose the option for which all of the above given features hold true.

- (1) Tendon
- (2) Ligament
- (3) Adipose tissue
- (4) Areolar tissue

150. A type of epithelium whose function is to move particles or mucus in a specific direction over the epithelium is present in

- (1) Inner surface of fallopian tube
- (2) Lining of stomach
- (3) Proximal convoluted tubule
- (4) Wall of blood vessels

151. Cells of simple epithelium which usually get specialised for secretion are

- a. Columnar cells
- b. Squamous cells
- c. Cuboidal cells

Choose the correct option.

- (1) a and b
- (2) Only b
- (3) a and c
- (4) Only c

152. The type of specialised skeletal connective tissue that is present in our outer ear joints is also present in

- a. Limbs and hands in adults
- b. Tip of nose
- c. Walls of blood vessels
- d. Between adjacent bones of vertebral column

Select the **correct** option.

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

153.Assertion (A) : Out of all the types of connective tissues, blood is the main circulating fluid that helps in the transport of various substances across the body.

Reason (R) : Blood is a loose connective tissue in which fibroblasts are absent.

In the light of above statements, select the correct option.

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) (A) is true but (R) is false
- (3) Both (A) and (R) are false
- (4) Both (A) and (R) are true but (R) is not the correct explanation of (A)

154.Select the type of tissue that generally helps in changing the diameter of blood vessels.

- (1) Areolar tissue
- (2) Muscular tissue
- (3) Adipose tissue
- (4) Epithelial tissue

155.Match column I with column II and choose the correct option.

Column I	Column II
a. Tight junctions	(i) Facilitate the cells to communicate with each other by connecting the cytoplasm of adjoining cells
b. Adhering junctions	(ii) Present in cardiac muscle tissue
c. Gap junctions	(iii) Perform cementing to keep neighbouring cells together
d. Communication junctions	(iv) Help to stop substances from leaking across a tissue

- (1) a(iii); b(iv); c(ii); d(i)
- (2) a(iv); b(iii); c(i); d(ii)
- (3) a(iii); b(iv); c(i); d(ii)
- (4) a(iii); b(ii); c(iv); d(i)

156.After performing the chemical analysis of organic compounds found in living organisms, the fraction obtained in acid-insoluble pool is called

- (1) Filtrate
- (2) Retentate
- (3) Aqueous pool
- (4) Inorganic pool

157.A primary metabolite 'X' is a monomer of 'Y' which is a storage polysaccharide in animals. Identify and choose the correct option w.r.t 'X' and 'Y' respectively.

- (1) Glucose, Starch
- (2) Fructose, Cellulose
- (3) Glucose, Glycogen
- (4) Glucose, Cellulose

158.Select the incorrect statement.

- (1) The acid-soluble pool represents roughly the cytoplasmic composition.
- (2) Primary metabolites have identifiable functions and play known roles in normal physiology.
- (3) Vinblastine and curcumin are toxins under the category of secondary metabolites.
- (4) Anthocyanins and carotenoids are secondary metabolites that belong to the category of pigments.

159.Which one is not obtained in acid insoluble fraction?

- (1) Nucleotides
- (2) Polysaccharides
- (3) Proteins
- (4) Nucleic acid

160.Read the following given statements and choose the correct option.

Statement A : All the carbon compounds that we get from living tissues can be called biomolecules.

Statement B : Living organisms do not possess inorganic elements.

- (1) Both statements are correct
- (2) Both statements are incorrect
- (3) Only statement A is correct
- (4) Only statement B is correct

161.The ash obtained from a completely burnt tissue will contain how many of the elements mentioned in the box given below?

Sodium, Potassium, Calcium, Magnesium, Carbon, Oxygen, Hydrogen

Select the correct option.

- (1) 2
- (2) 3
- (3) 5
- (4) 4

162.If a comparison of elements present in Earth's crust and human body is done, then % weight of nitrogen in Earth's crust is

- (1) Equal to that in human body
- (2) Less than that in human body
- (3) More than that in human body
- (4) Twice the % weight of silicon in Earth crust

163. Function of microvilli of epithelial cells is to

- (1) Make them motile
- (2) Increase the surface area for absorption
- (3) Move particles or mucus in a specific direction
- (4) Engulf the foreign matter

164. A common feature of all compounds present in the acid-soluble pool obtained upon chemical analysis of living tissue is that they

- (1) Are polymeric compounds
- (2) Have approximate molecular weights ranging from 18-800 Da
- (3) Have molecular weight greater than 10,000 Da
- (4) Are insoluble in organic solvents

165. Which of the following are **not** secondary metabolites in plants?

- (1) Rubber, gums
- (2) Morphine, codeine
- (3) Amino acids, glucose
- (4) Vinblastin, curcumin

166. The analysis of outer hard covering of the cockroach reveals the presence of a polysaccharide with N-acetyl glucosamine as its monomeric units.

Identify the polysaccharide and select the **correct** option w.r.t it

- (1) It is a structural polysaccharide
- (2) It is also found in exoskeleton of annelids
- (3) It is a derivative of galactose
- (4) It is the most abundant polysaccharide in nature

167. 'X' is the major structural component of plant cell wall and it is also a secondary metabolite. Choose the **incorrect** statement w.r.t. 'X'

- (1) It is a polymeric substance
- (2) It is a homopolysaccharide of glucose
- (3) It contains complex helices
- (4) It does not give positive iodine test

168. The type of biomacromolecules whose monomeric unit is nucleotide constitutes what % of the total cellular mass?

- (1) 10-15
- (2) 5-7
- (3) 70-90
- (4) 20-30

169. Select the secondary metabolite among the following which can be categorised as both drug as well as an alkaloid.

- (1) Morphine
- (2) Abrin
- (3) Ricin
- (4) Concanavalin A

170. The component of cell that constitutes more % of the total cellular mass than that of proteins is

- (1) Carbohydrates
- (2) Lipids
- (3) Water
- (4) Ions

171. The correct reason that explains why lipids are observed in acid-insoluble fraction obtained upon chemical analysis of a living tissue is that

Molecular weight of lipids are in the range of ten thousand Daltons and above

They are present in cell membrane and when these membranes are broken into pieces during grinding of a tissue, they form vesicles which are not water-soluble

(3) They are heteropolymeric i.e., made up of different repeating units
(4) Their molecular weights do not exceed beyond 800 Da.

172. Ribose differs from glucose in all of the following aspects, except

- (1) Number of carbon atoms
- (2) Being a component of nucleic acid
- (3) Being a monosaccharide
- (4) Number of hydroxyl groups in the structure

173. Polymer of fructose is

- (1) Insulin
- (2) Inulin
- (3) Glycogen
- (4) Starch

174. Among the following biomacromolecule, the least per cent of the total cellular mass is constituted by

- (1) Protein
- (2) Lipid
- (3) Nucleic acid
- (4) Carbohydrate

175. All of the given elements form higher per cent weight of Earth's crust in comparison to human body, **except**

- (1) Sodium
- (2) Carbon
- (3) Magnesium
- (4) Calcium

176. Choose the correct option to complete the analogy.
Alkaloid : Codeine : _____ : Concanavalin A

- (1) Drug
- (2) Terpenoid
- (3) Lectin
- (4) Pigment

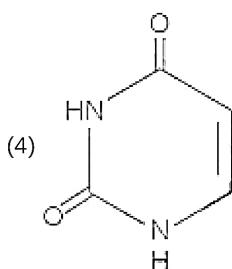
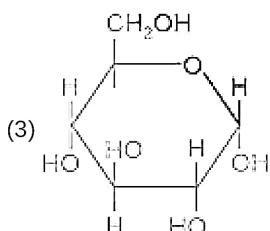
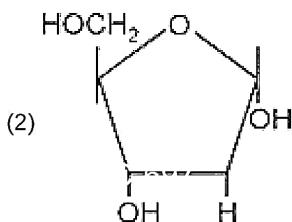
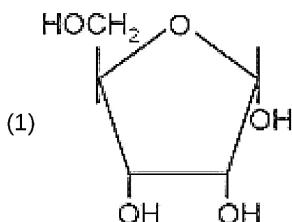
177. The organic compound 'X' that forms 10-15% of the total cellular mass in living organisms, is made up of monomeric units that are joined together with the help of

- (1) Peptide bonds
- (2) Glycosidic bonds
- (3) Phosphodiester bonds
- (4) Hydrogen bonds

178. To find out the type of organic compounds found in living organisms, a chemical analysis is carried out for the living tissue, in which it is grinded with a chemical named

- (1) Trihydroxypropane
- (2) Trichloroacetic acid
- (3) Arachidonic acid
- (4) Guanylic acid

179. Which of the following structures is a correct representation of glucose?



180. Assertion(A): If you add iodine solution to a sample containing starch, it gives blue colour.

Reason(R): Starch forms helical secondary structures in which it can hold I_2 molecules.

In the light of above statements, choose the correct option.

- (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, (R) is false
- (4) (A) is false, (R) is true