Monthly Progressive Test

Class: IX

Subject: PCMB

Academic Excellence Programme TECHNO ACE

Test Booklet No.: MPT08 **Test Date:** 20122024

Time: 120 mins **Full Marks: 200**

Important Instructions :

1. The Test is of 120 mins duration and the Test Booklet contains 100 multiple choice questions of single correct option only. There are four sections with four subjects. You have to attempt all 100 questions (Candidates are advised to read all 100 questions). Questions 1 to 25 contain Physics, Questions 26 to 50 contain Chemistry, Questions 51 to 75 contain Mathematics, Questions 76 to 100 contain Biology.
2. Each question carries 2 marks. For each correct response, the candidate will get 2 marks. There is no negative mark for wrong response. The maximum mark is 200.
3. Use Blue / Black Ball point Pen only for writing particulars marking responses on Answer Sheet.
4. Rough work is to be done in the space provided for this purpose in the Test Booklet only.
5. On completion of the test, the candidate must handover the Answer Sheet to the invigilator before leaving the Room / Hall. The candidates are allowed to take away this Test Booklet with them.
6. The CODE for this Booklet is Off Line MPT0820122024.
7. The candidates should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your UID No. anywhere else except in the specified space. Use of white fluid for correction is NOT permissible on the Answer Sheet. **Do not scrible or write on or beyond discrete bars of OMR sheet at both sides**.
8. Each candidate must show on-demand his/her Registration document to the Invigilator.
9. No candidate, without special permission of the Centre Superintendent or Invigilator, would leave his/her seat.
10. Use of Electronic Calculator/Cellphone is prohibited.
11. The candidates are governed by all Rules and Regulations of the examination with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per Rules and Regulations of this examination.
12. No part of the Test Booklet and Answer Sheet shall be detached under any circumstances.
13. There is no scope for altering response mark in Answer Sheet.

Space For Rough Works

Physics

1. The work done by a student in lifting a 0.5 kg book from the ground and keeping it on a rack at 1.0 m high level from ground.
   Ⓐ 4.9 J Ⓑ 9.8 J Ⓒ 19.6 J Ⓓ 2 J
2. A roller is pushed with a force 200 N along its handle , which is at an angle of 60° with the horizontal. Then the work done by the force in moving it through 5 m.
   Ⓐ 250 J Ⓑ 500 J Ⓒ 300 J Ⓓ 100 J
3. A player kicks a ball of mass 250g placed at the centre of a football ground. The ball leaves his foot with a speed 4m/s . The work done by the player on the ball is
   Ⓐ 8 J Ⓑ 4 J Ⓒ 2 J Ⓓ 16 J
4. A 1 kg ball is thrown upwards with a speed 2 m/s . Then its potential energy ,when it reaches the highest point (or maximum height)
   Ⓐ 8 J Ⓑ 6 J Ⓒ 4 J Ⓓ 2 J
5. A 1 kg ball is thrown upwards with initial velocity 10m/s. Then work done by its weight in one second is ($g = 10m/s^2$)
   Ⓐ 50 J Ⓑ 20 J Ⓒ 25 J Ⓓ 50 J
6. Work done by friction
   Ⓐ positive Ⓑ negative Ⓒ zero Ⓓ all the above
7. 1 horse power =
   Ⓐ 746 watt Ⓑ 476 watt Ⓒ 647 watt Ⓓ 536 watt
8. 1 kWh = (y) × 10^6 J Then y=
   Ⓐ 1.6 Ⓑ 2.6 Ⓒ 3.6 Ⓓ 4.6
9. A 100- MW(megawatt) power plant produces
   Ⓐ 100 MJ of electric energy per second Ⓑ 10 MJ electric energy per second
   Ⓒ 1 MJ electric energy per second Ⓓ none of the above
10. A man carrying a bag of mass 25 kg climbs up to a height of 1m in 10s. Then the power is needed
    Ⓐ 50 watt Ⓑ 15 watt Ⓒ 20 watt Ⓓ 25 watt
11. A progressive wave is an advancing “disturbance” moving through a material medium transferring energy from one point to the other without any physical transport of the material between those points. The statement is
    Ⓐ false Ⓑ true Ⓒ sometimes true Ⓓ Data insufficient
12. A material medium has elastic properties. The particles of the medium can vibrate about their mean position
    Ⓐ true Ⓑ false Ⓒ sometimes true Ⓓ none of the above
13. When the oscillations of the particles of medium occur in the direction of wave propagation Then the wave is called
    Ⓐ water wave Ⓑ pressure wave Ⓒ transverse wave Ⓓ longitudinal wave
14. Speed of sound in moist air : speed of sound in dry air =
    Ⓐ 1 Ⓑ > 1 Ⓒ < 1 Ⓓ we can’t say
15. speed of sound in steel : speed of sound in water =
    Ⓐ < 1 Ⓑ 1 Ⓒ > 1 Ⓓ data in sufficient
16. The range of audible sound is
    Ⓐ < 20 Hz Ⓑ > 20 KHz Ⓒ 20 Hz to 20 KHz Ⓓ no range
17. Speed of sound/frequency of sound =
    Ⓐ wave length Ⓑ time period Ⓒ amplitude Ⓓ intensity
18. Sound can not pass through
    Ⓐ liquid Ⓑ solid Ⓒ gas Ⓓ vacuum

19. Two sound waves in air have wavelength ratio 2 : 3. Then their frequency ratio is

Ⓐ 3 : 2 Ⓑ 1 : 2 Ⓒ 2 : 1 Ⓓ 5 : 3

20. Ultra sonic sound has frequency

Ⓐ < 20 KHz Ⓑ < 20 Hz Ⓒ 20 Hz to 20 KHz Ⓓ > 20 KHz

■ **Assertion Reason based Questions (21–22):**

Directions: Read the following questions and choose any one of the following four responses.

A: Assertion is true and reason is true, reason is correct explanation of assertion.

B: Assertion is true and reason is true, reason is not correct explanation of assertion.

C: Assertion is true and reason is false.

D: Assertion is false and reason is true.

21. **Assertion:** Sound is often reflected by mountains, trees and walls inside room.

Reason: SONAR is sound navigation and ranging.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

22. **Assertion:** 200 watt average power needed by the gravity when the stone is reaching the ground.

Reason: When a stone is dropped freely from a height 80m (vertically) ans mass of stone is 1 kg.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

■ **Case Based Questions(23–25):**

Compression (high)density and rarefaction (low density) are produced in a medium such as air due to the vibration of the source. So, the time period of the variation in density of the medium is the same as the time period of the vibration of source. For example, a source vibrating with a time period of 0.01s sends a successive compression pulses at an interval of 0.01s. At any given place, successive compression pulses will arrive at an interval of 0.01 s. So, the time period of the density will be 0.01 s . Clearly , the frequency of a sound wave is the same as the frequency of the vibrating source.

23. If the density at a place in a medium makes 200 oscillation per second, the frequency is

Ⓐ 100 Hz Ⓑ 50 Hz Ⓒ 200 Hz Ⓓ 150 Hz

24. A sound wave causes the density at a place in air to oscillate300 times in 15 s, the time period of the sound wave is

Ⓐ 5 s Ⓑ 0.5 s Ⓒ 0.05 s Ⓓ 1 s

25. The frequency of a sound wave is 100Hz, then the frequency of vibration of source producing the sound is

Ⓐ 50 Hz Ⓑ 100 Hz Ⓒ 150 Hz Ⓓ 175 Hz

Chemistry

26. An alpha particle (α-particle) is:

Ⓐ a hydrogen molecule Ⓑ a helium nucleus Ⓒ an electron Ⓓ a proton

27. An element form an oxide Y_2O_5. What will be the formula of the chloride of this element 'Y'?

Ⓐ YCl_3 Ⓑ YCl_5 Ⓒ Y_5Cl Ⓓ Y_2Cl_5

28. What is the formula of silver chromate?

Ⓐ $AgCrO_4$ Ⓑ $Ag(CrO_4)_3$ Ⓒ Ag_2CrO_4 Ⓓ $Ag_2(CrO_4)_3$

29. Nitrogen and Hydrogen combine together to form ammonia. $N_2 + 3H_2 \rightarrow 2NH_3$

[N = 14, H = 1]

The mass of nitrogen and hydrogen which combine together to form 6.8 g NH_3 is:

Ⓐ N_2 = 2.8 g, H_2 = 4 g Ⓑ N_2 = 5.6 g, H_2 = 1.2 g Ⓒ N_2 = 4.0 g, H_2 = 2.8 g Ⓓ N_2 = 1.2 g, H_2 = 5.6 g

30. Which of the following represent 1 a.m.u?

Ⓐ $\frac{1}{12}$th of mass of C–12 atom Ⓑ Mass of hydrogen molecule

Ⓒ Mass of 0–16 atom Ⓓ Mass of C–12 atom

31. Ratio by mass of the element present in SO_2 is: [Atomic weight of S & O are 32 & 16 respectively]

Ⓐ 1 : 1 Ⓑ 1 : 2 Ⓒ 2 : 1 Ⓓ 3 : 1

32. The gas which has a molecular mass twice that of oxygen is : [At. wt: C = 12, O = 16, S = 32 and H = 1]

Ⓐ CO_2 Ⓑ CO Ⓒ SO_2 Ⓓ H_2S

33. What are the values of the co-efficients x, y and z in the following reaction?

$xMg + yN_2 \rightarrow zMg_3N_2$

Ⓐ x = 1, y = 1, z = 1 Ⓑ x = 1, y = 3, z = 1 Ⓒ x = 1, y = 2, z = 1 Ⓓ x = 3, y = 1, z = 1

34. Elements 'X' and 'Y' react to form X_aY_b. Elements P and Q reacts to form P_mQ_n. The formula of the compound formed between 'X' and 'Q' is:

Ⓐ X_bQ_m Ⓑ X_mQ_b Ⓒ X_aQ_n Ⓓ X_nQ_a

35. The relative molecular mass of copper (II) sulphate, $CuSO_4$ is 160 and the relative molecular mass of water is 18. The percentage by mass of water in copper (II) sulphate crystals, $CuSO_4.5H_2O$ is:

Ⓐ $\frac{18}{160}\times100$ Ⓑ $\frac{5\times18}{160}\times100$ Ⓒ $\frac{5\times18}{(160+18)}\times100$ Ⓓ $\frac{5\times18\times100}{160+(5\times18)}$

■ **Assertion Reason Type Question (36–38):**

Read the two statements carefully and select the correct option given below.

A: Assertion and Reason both are correct and Reason is the correct explanation of Assertion

B: Assertion and Reason both are correct and Reason is not the correct explanation of Assertion

C: Assertion is correct but Reason is wrong

D: Assertion is wrong but Reason is correct

36. **Assertion:** Rutherford's atomic model is also called as planetary model.

Reason: According to Rutherford's atomic model the electrons are revolving around the nucleus like planets revolving around the sun.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

37. **Assertion:** Thomson's atomic model is also called water lemon model.

Reason: According to J. J. Thomson the electrons are embedded in the atom like the seeds are embedded in red colour mass of water lemon.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

38. **Assertion:** Isobers are having some mass number.

Reason: Isobers have same number of neutrons.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

39. Match the following:

Column–I		Column–II	
(a)	Compound	(i)	Carbon
(b)	Atom	(ii)	Calcium carbonate
(c)	Molecule	(iii)	Soil
(d)	Mixture	(iv)	Oxygen

Ⓐ (a) – (ii), (b) – (i), (c) – (iv), (d) – (iii) Ⓑ (a) – (i), (b) – (ii), (c) – (iii), (d) – (iv)

Ⓒ (a) – (iii), (b) – (iv), (c) – (ii), (d) – (i) Ⓓ (a) – (ii), (b) – (iii), (c) – (iv), (d) – (i)

40. Calculate the mass of 6.022×10^{23} number of N_2, molecules: [At. wt. of N = 14]

Ⓐ 96 g Ⓑ 42 g Ⓒ 89 g Ⓓ 28 g

41. Which of the following is/are correct

Ⓐ Number of moles of solute in one litre of solution is molality

Ⓑ Ratio of number of moles of a component to total number of moles is known as mole fraction

Ⓒ Number of moles of solute in one kilogram of solvent is molarity

Ⓓ All of these correct

42. Which of the following correctly represent the electronic distribution in the Mg atom?

[At. wt. = 24, At. no = 12]

Ⓐ 3, 8, 1 Ⓑ 2, 8, 2 Ⓒ 1, 8, 3 Ⓓ 8, 2, 2

43. Atomic models have been improved over the years. Arrange the following atomic models in the order of their chronological order

I. Rutherford's atomic model

II. Thomson's atomic model

III. Bohr's atomic model

Ⓐ I, II and III Ⓑ II, III, and I Ⓒ II, I, III Ⓓ III, II and I

44. Mass of an electron is:

Ⓐ 9.1083×10^{-31} kg Ⓑ 9.1083×10^{-24} kg

Ⓒ 9.1083×10^{-28} kg Ⓓ 1.67×10^{-24} kg

45. A natural phenomenon that supports the experimental conclusion that atoms are divisible is:

Ⓐ allotropy Ⓑ radioactivity Ⓒ cracking Ⓓ none of these

■ Comprehension Type Question (46–49):

Except noble gases all other elements including Helium have less than 8 electrons in their outermost Shell. To complete their octet they either gain or lose electrons. The new species thus formed will carry charge and are termed as ions. The positively changed ion formed by the loss of electron(s) are called cations, whereas the negatively charged ions formed by the gain of electron are called anions. The charge on the ions is equal to the number of electrons lost or gained by the atom. Two types of ions are formed:

(i) **Cations:** When an atom loose electron(s), the number of electrons become lesser than that of proton and ion get positive charge: ex: $Na - e^{\ominus} = Na^{+}$; $Mg - 2e^{\ominus} = Mg^{++}$

(ii) Anions when an atom accepts electrons, number of electrons become more than that of protons and ion gets negative charge

ex: $F + e^{\ominus} = F^{\ominus}$

$O + 2e^{\ominus} = O^{2-}$

46. An $X^{2\ominus}$ contains 10 electrons and 8–neutrons, what will be its atomic mass?

Ⓐ 8 Ⓑ 16 Ⓒ 10 Ⓓ 18

47. An atom A(atomic number 13) will form a stable:

Ⓐ A^{3+} ion Ⓑ $A^{3(-)}$ ion Ⓒ A^{2+} ion Ⓓ A^{2-} ion

48. If number of protons in A is 10, the number of protons in A^{2+} will be:

Ⓐ 12 Ⓑ 8 Ⓒ 10 Ⓓ 11

49. An atom of an element has 26 electrons and has a mass number 56. The nucleus of this atom contains neutrons

Ⓐ 26 Ⓑ 36 Ⓒ 30 Ⓓ 56

50. Explanation of the presence of three unpaired electrons in nitrogen atom is given by:

Ⓐ Pauli's principle Ⓑ Hund's rule Ⓒ Aufbau's principle Ⓓ Uncertainty principle

Mathematics

51. If $x^y = y^x$, then $\left(\frac{x}{y}\right)^{\frac{x}{y}}$ is equal to

Ⓐ $x^{\frac{x}{y}-1}$ Ⓑ $x^{\frac{y}{x}-1}$ Ⓒ $x^{\frac{x}{y}}$ Ⓓ $x^{\frac{y}{x}}$

52. The sum of the powers of the prime factors in 108×192 is

Ⓐ 8 Ⓑ 12 Ⓒ 15 Ⓓ 10

53. The value of $3\sqrt[3]{2} \times 7\sqrt[3]{6} \times 5\sqrt[3]{18}$ is

Ⓐ 630 Ⓑ 500 Ⓒ 450 Ⓓ 530

54. If $\sqrt{[0.04 \times 0.4 \times x]} = 0.4 \times 0.04 \times \sqrt{y}$ then the value of $\frac{x}{y}$ is

Ⓐ 0.16 Ⓑ 0.016 Ⓒ 0.00016 Ⓓ 16

55. The value of $\frac{1}{11}$ in decimal form is

Ⓐ $0.0\overline{99}$ Ⓑ $0.\overline{909}$ Ⓒ $0.\overline{09}$ Ⓓ $0.00\overline{9}$

56. Calculate the value of $9x^2 + 4y^2$ if $xy = 6$ and $3x + 2y = 12$.

Ⓐ 72 Ⓑ 62 Ⓒ 52 Ⓓ 80

57. The polynomial $px^2 + qx + rx^4 + 5$ is of type

Ⓐ linear Ⓑ quadratic Ⓒ cubic Ⓓ biquadratic

58. If $x + 2$ is a factor of $x^3 - 2ax^2 + 16$, then value of a is

Ⓐ 3 Ⓑ 1 Ⓒ 4 Ⓓ 2

59. A quadratic polynomial can have at most _____ terms.

Ⓐ 1 Ⓑ 4 Ⓒ 2 Ⓓ 3

60. What do we get after factorising $x^3 + 8y^3 + z^3 - 6xyz$?

Ⓐ $(x - 2y + z)(x^2 + 4y^2 + z^2 - 2xy - 2yz - zx)$ Ⓑ $(x - 2y - z)(x^2 + 4y^2 + z^2 - 2xy - 2yz - zx)$

Ⓒ $(x + 2y + z)(x^2 + 4y^2 + z^2 - 2xy - 2yz - zx)$ Ⓓ $(x + 2y + z)(x^2 + 4y^2 + z^2 + 2xy + 2yz + zx)$

61. The coordinates of the point which lies on the y-axis and is 3 units away from the origin are

Ⓐ (0, 3) Ⓑ (0, –3) Ⓒ Ⓐ and Ⓑ both Ⓓ (–3, 0)

62. If a point is equidistant from co-ordinate axes, then the line passing through this point and origin makes an angle θ with the x- axis. The value of θ is

Ⓐ 30° Ⓑ 40° Ⓒ 60° Ⓓ 45°

63. The point (a, b) is reflected over the origin, its image is

Ⓐ (–a, –b) Ⓑ (a, –b) Ⓒ (–b, –a) Ⓓ (b, a)

64. If the point (3, 4) lies on the line $y = mx + 8$, then m is equal to

Ⓐ $\frac{4}{3}$ Ⓑ $\frac{-4}{3}$ Ⓒ $\frac{3}{4}$ Ⓓ $\frac{-3}{4}$

65. The number of common points of the lines $x = 0$ and $y = 0$ is

Ⓐ two Ⓑ three Ⓒ one Ⓓ infinitely many

■ Case Study Based Questions (66–68):

Anil went to buy some vegetables, he bought 'x' kgs. of tomato and 'y' kgs. of potato. The total cost of vegetables comes out to be of ₹200. Now if the cost of 1 kg of tomato is ₹50 and 1 kg of potato is ₹30, then answer the following questions.

66. Which of the following equations represents the total cost.

Ⓐ $5x - 3y = 20$ Ⓑ $5y + 3x = 20$ Ⓒ $5x + 3y = 20$ Ⓓ $3x + 5y = 20$

67. If Anil bought 'x' kgs of tomato and 2.5 kgs. of potato, then find the value of 'x'.

Ⓐ 5 Ⓑ 2.5 Ⓒ 3.5 Ⓓ 4

68. The graph of $5x + 3y = 20$ cuts y-axis at the point.

Ⓐ (0, 10) Ⓑ $\left(0, \frac{20}{3}\right)$ Ⓒ (0, 0) Ⓓ $\left(\frac{20}{3}, 0\right)$

■ Assertion Reason based Questions (69–70):

Directions: In the following questions, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
(c) Assertion (A) is true but reason (R) is false.
(d) Assertion (A) is false but reason (R) is true.

69. **Assertion(A) :** If $p(x) = x^2 - 4x + 3$, then 3 and 1 are the zeroes of the polynomial p(x).

Reason(R) : Number of zeroes of a polynomial cannot exceed its degree.

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

70. **Assertion(A) :** Sum of two irrational numbers $2 + \sqrt{3}$ and $4 + \sqrt{3}$ is irrational.

Reason(R) : Sum of two irrational numbers is always an irrational number.

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

71. If $\sqrt[4]{x}+\frac{1}{\sqrt[4]{x}}=2$, then the value of $x^{2024}+\frac{1}{x^{2024}}$ is

Ⓐ 5 Ⓑ 2 Ⓒ $2\sqrt{2}$ Ⓓ 4

72. If $x^{2023}+2$ is divided by x^2-1, then the remainder is

Ⓐ 2 Ⓑ $x+2$ Ⓒ $x-2$ Ⓓ 3

73. A(3, 0), B(0, 3), C(–3, 0) and D(0, –3) are vertices of a quadrilateral taken in order. The name of the quadrilateral is

Ⓐ parallelogram Ⓑ rhombus Ⓒ square Ⓓ rectangle

74. The number of solution(s) for the equation $2x + 3 = 0$ is

Ⓐ one Ⓑ two Ⓒ one or infinitely many Ⓓ infinitely many

75. The value of $(x+1)^2+(x+2)^2+(x+3)^2-(x+1)(x+2)-(x+2)(x+3)-(x+3)(x+1)$ is

Ⓐ 0 Ⓑ 2 Ⓒ 3 Ⓓ 1

Biology

76. Plastids contain—

Ⓐ Microtubules Ⓑ Chromatin network Ⓒ Thylakoids Ⓓ Cristae

77. Sarcoplasmic reticulum is endoplasmic reticulum found in :

Ⓐ Adipose cell Ⓑ Muscle cell Ⓒ Nerve cell Ⓓ Leucocyte

78. Liquid content of vacuole is called

Ⓐ Cell sap Ⓑ Matrix Ⓒ Nucleoid Ⓓ Core

79. Plant tissues can be divided into how many groups?

Ⓐ 2 Ⓑ 3 Ⓒ 4 Ⓓ None

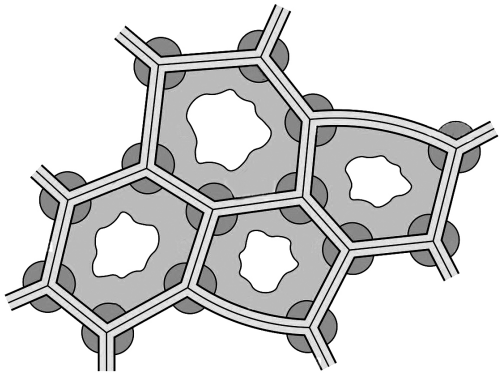
80. Neurons not having myelin sheath make nerve impulse move—

Ⓐ Faster than myelinated neuron Ⓑ Slower than myelinated neuron

Ⓒ Sometimes faster and sometimes slower Ⓓ None of these

■ Case Based Question (81 – 85):

Study the diagram given below and answer the following questions:



81. The tissue shown above is :

Ⓐ Parenchyma Ⓑ Collenchyma Ⓒ Sclerenchyma Ⓓ Xylem

82. The cell wall contains :

Ⓐ Cellulose
Ⓑ Cellulose+pectin+hemicellulose
Ⓒ Pectin+ hemicellulose
Ⓓ Cellulose + hemicellulose

83. The given tissue is absent in –

Ⓐ Roots Ⓑ Stem Ⓒ Leaves Ⓓ All

84. The given tissue mainly provides-

Ⓐ Protection Ⓑ Hardness Ⓒ Nutrition Ⓓ Tensile strength

85. The given tissue is a

Ⓐ Meristematic tissue
Ⓑ Complex permanent tissue
Ⓒ Vascular tissue
Ⓓ Simple permanent tissue

■ **Case Based Question (86-90):**

A tissue which grows upon another tissue is called epithelium. It protects the animal as an outer covering of their bodies. It also forms the lining of internal organs. In some areas, they may be stratified. They may also form glands. They occur in various types depending upon their shapes.

86. Squamous epithelial cells are—

Ⓐ Thin and flat Ⓑ Cubical Ⓒ Elongated Ⓓ Spherical

87. Epithelial tissue, of all types, lie on a delicate non-cellular structure called _____

Ⓐ Mucous Ⓑ Collagen Ⓒ Basement membrane Ⓓ Blood vessels

88. The inner lining of the kidney tubules are lined by—

Ⓐ Squamous epithelium
Ⓑ Cuboidal epithelium
Ⓒ Columnar epithelium
Ⓓ Both B and C

89. Germinal epithelium is found in—

Ⓐ Stomach Ⓑ Lungs Ⓒ Testis Ⓓ Oviduct

90. Keratin occurs in the—

Ⓐ Squamous epithelium of buccal cavity
Ⓑ Squamous epithelium of skin
Ⓒ Cuboidal epithelium of sperm ducts
Ⓓ Glandular epithelium

91. Tonoplast is the—

Ⓐ single membrane covering of vacuoles
Ⓑ double membrane covering of nucleolus
Ⓒ covering of ribosomes
Ⓓ covering of ER

92. Choose the incorrect statement:

Ⓐ Ligaments connect bones to bones
Ⓑ Tendons connect cartilage to bones
Ⓒ Adipose tissue stores fat
Ⓓ Blood and lymph are fluid connective tissue

93. Which of the following is not a part of xylem?

Ⓐ Tracheids Ⓑ Parenchyma Ⓒ Sclerenchyma Ⓓ Collenchyma

■ **Assertion – Reason Based Question (94-96):**

A: Assertion and Reason both are correct and Reason is the correct explanation of Assertion.
B: Assertion and Reason both are correct but Reason is not the correct explanation of Assertion.
C: Assertion is correct but Reason is wrong.
D: Assertion is wrong but Reason is correct.

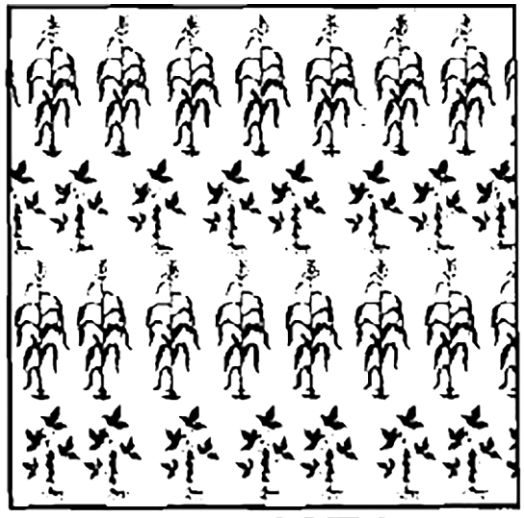
94. **Assertion:** When a deshelled boiled egg is placed in water, it shows no change in its size.
Reason: The membranous covering of the egg has become dead due to boiling, hence shows no osmosis.

95. **Assertion:** Lysosomes form a demolition squad of animal cells.
Reason: Lysosomes are present on the cell membrane of animal cells.

96. **Assertion:** Parenchyma consists of isodiametric cells.
Reason: Parenchyma is a living tissue.

■ **Case Based Questions (97 -100):**

Study the diagram of a particular type of cropping pattern given below and answer the following questions:



97. What pattern of cropping does the field show?
Ⓐ Crop rotation Ⓑ Mixed cropping Ⓒ Intercropping Ⓓ Organic farming

98. Soyabean is a very rich source of—
Ⓐ Protein Ⓑ Starch Ⓒ Fats Ⓓ All

99. What is the advantage of this type of cropping pattern?
Ⓐ It increases the productivity of crops per unit area Ⓑ It makes better use of resources
Ⓒ It helps to control weeds and pests Ⓓ All of the above

100. Maize is cultivated generally as a—
Ⓐ Cereal crop Ⓑ Leguminous crop Ⓒ Fodder crop Ⓓ Oil seed crop