Monthly Progressive Test

Class: IX (S)

Subject: PCMB

Test Booklet No.: MPT04(S)	Test Date: 2 4 0 7 2 0 2 4
Time: 180 mins	Full Marks: 200

Important Instructions :

1. The Test is of 180 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 MPT0424072024(S).

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.

Physics

1. If a body starts from rest and moves with uniform acceleration, then:

    Ⓐ $v \propto t$

    Ⓑ $s \propto t$

    Ⓒ $v \propto s$

    Ⓓ $s \propto \sqrt{t}$

2. A body from rest, moves with an acceleration of $2\ \mathrm{m\,s^{-2}}$. Then the distance travelled in the 4th second is (m).

    Ⓐ 10

    Ⓑ 6

    Ⓒ 7

    Ⓓ 28

3. A man is at a distance of 6 m from a bus. The bus begins to move with a constant acceleration of $3\ \mathrm{m\,s^{-2}}$. In order to catch the bus, the minimum speed with which the man should run towards the bus is (at time $t = 2$ s, is time to catch)

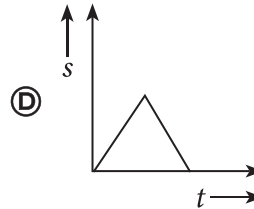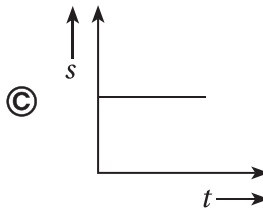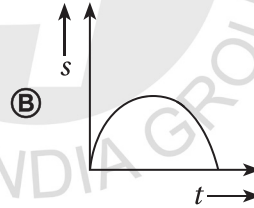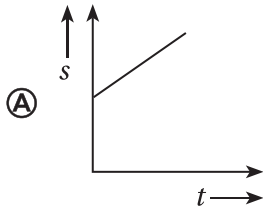   Ⓐ $2\ \mathrm{m\,s^{-1}}$

    Ⓑ $4\ \mathrm{m\,s^{-1}}$

    Ⓒ $6\ \mathrm{m\,s^{-1}}$

    Ⓓ $8\ \mathrm{m\,s^{-1}}$

4. Which one of the following represents uniform motion?

Ⓐ

Ⓑ

Ⓒ

Ⓓ

5. A small block slides without friction down an inclined plane starting from rest. Let S_n be the distance travelled from $t = n - 1$ to $t = n$. Then, $\dfrac{S_n}{S_{n+1}}$ is
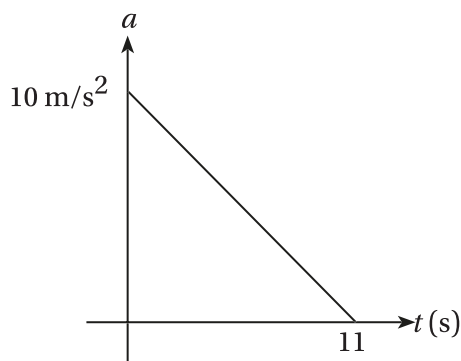
    Ⓐ $\dfrac{2n-1}{2n}$
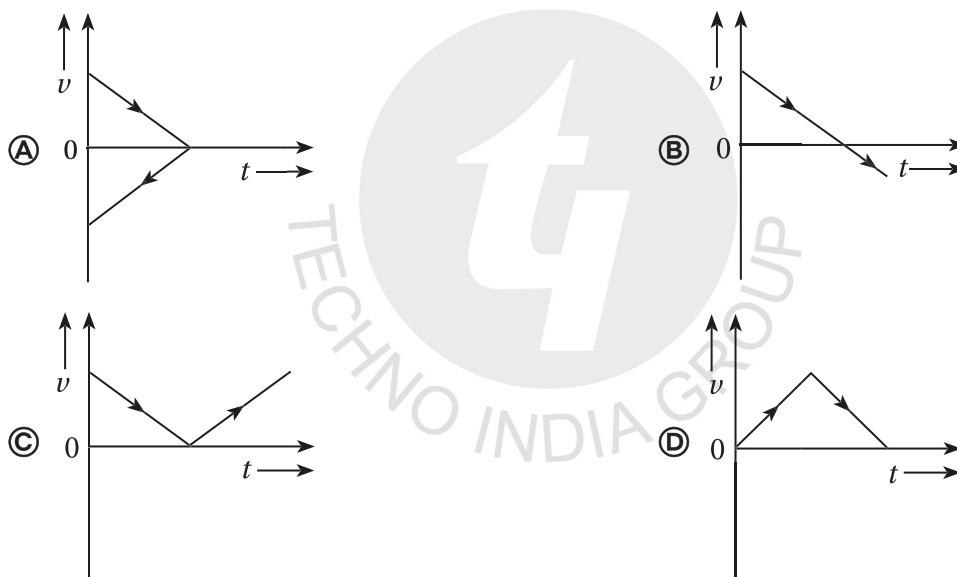
    Ⓑ $\dfrac{2n+1}{2n-1}$

    Ⓒ $\dfrac{2n-1}{2n+1}$

    Ⓓ $\dfrac{2n}{2n+1}$

6. A particle starts from rest. Its acceleration (a) versus time (t) is as shown in the figure. The maximum speed of the particle will be

Ⓐ 110 m/s   Ⓑ 55 m/s   Ⓒ 550 m/s   Ⓓ 660 m/s

7. A body is thrown vertically upwards. Which one of the following graphs correctly represent the velocity vs time?

8. If v–t graph is linear and v is decreasing, then acceleration is?

Ⓐ positive   Ⓑ retardation   Ⓒ zero   Ⓓ none of these

9. In $v = u + at$, if $u = 0$ unit, then v versus t graph is

Ⓐ straight line passing through origin
Ⓑ curve passing through origin
Ⓒ straight line not passing through origin
Ⓓ curve not passing through origin

10. In uniform circular motion the velocity

Ⓐ changes at every point   Ⓑ is constant
Ⓒ is directed towards the centre   Ⓓ none of these

11. A ball is thrown up with a speed of 10 m/s. How high will it rise?

Ⓐ 1 m   Ⓑ 2 m   Ⓒ 3 m   Ⓓ 5 m

■ **Assertion-Reasoning type questions (Q12–Q13)**

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

  A. If both Assertion and Reason are true and Reason is the correct explanation of the Assertion.

  B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

  C. If Assertion is true but the Reason is false.

  D. If both Assertion and Reason are false.

12. **Assertion:** If we apply a force F on a body of mass 2 kg, which produces an acceleration of 5 m/s^2. To produce the same acceleration in a 4 kg body, we have to apply a force of $2F$.

  Reason: If acceleration is fixed, then F is directly proportional to mass of body.

Ⓐ A   Ⓑ B   Ⓒ C   Ⓓ D

13. **Assertion:** When we stand in a bus and the bus starts suddenly, we tend to fall backwards.

  Reason: The upper part of our body doesn't feel the forward force immediately and remains at rest for a while.

Ⓐ A   Ⓑ B   Ⓒ C   Ⓓ D

14. $S = (u + v) \times (?)$ then ? =

Ⓐ t Ⓑ $t/2$ Ⓒ $2t$ Ⓓ none of these

■ **Case Study Based Questions (Q15):**

Read the passage given below and answer the following questions.

To change the velocity of a given body, one has to apply a force. Consider two bodies of unequal masses, say a football and a tennis ball. If we push the two balls with equal effort, both will start moving. Football will gain a smaller velocity than the tennis ball. Football has smaller change in velocity than tennis ball.

15. To change the velocity of a given body one has to apply a force. Is it true or false?

Ⓐ False   Ⓑ True   Ⓒ May be true   Ⓓ None of these

**16.** The dimensional formula for force per unit linear mass density of wire is the same as that for

Ⓐ velocity   Ⓑ acceleration   Ⓒ (velocity)^2 Ⓓ $\sqrt{\text{acceleration}}$

17. 1.0 N-m =

Ⓐ 10^9 dyne–cm   Ⓑ 10^7 dyne–cm   Ⓒ 10^5 dyne–cm   Ⓓ 10^{10} dyne–cm

18. Dimension of [Force × time^2]

Ⓐ ML   Ⓑ MLT   Ⓒ MT   Ⓓ LT

19. What is the SI unit of amount of substance?

Ⓐ Meter   Ⓑ Second   Ⓒ Candela   Ⓓ Mole

20. Power is directly proportional to velocity and as well as force, then find out power in relation with force and velocity.

Ⓐ Fv Ⓑ F^2v Ⓒ Fv^2 Ⓓ $\dfrac{F}{v}$

21. The velocity–time graph of a particle moving along a straight line is given in figure
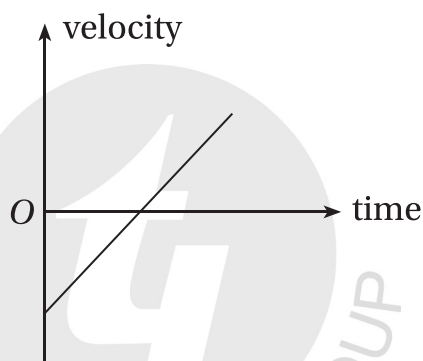
Is the particle is moving in the positive directions at $t = 0$?

Ⓐ Yes   Ⓑ No   Ⓒ May be yes   Ⓓ We can't say

22.
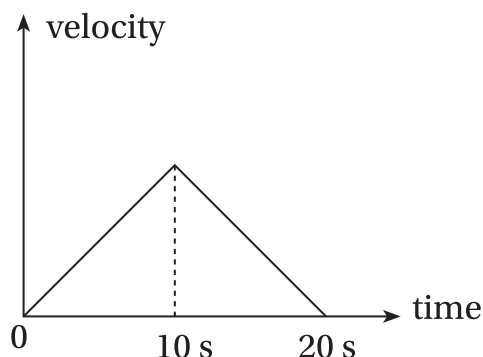
In which period is the particle accelerating

Ⓐ 10 s – 20 s   Ⓑ 0 s – 10 s   Ⓒ Only at 10 s   Ⓓ None of the above

23. An object is dropped from a cliff falls with a constant acceleration 10 m/s^2. Then its speed 2 s after it was dropped is

Ⓐ 10 m/s   Ⓑ 15 m/s   Ⓒ 20 m/s   Ⓓ None of these

■ **Case Study Based Questions (Q24):**

Read the passage given below and answer the following question.

A particle starts from a point with a velocity of +6.0 m/s and moves with an acceleration of –2 m/s^2. After 6 s, the particle will be at the location which can be worked out using equation of kinematics.

24. Find the location after 6 s.

Ⓐ Starting point　　　　　　　　Ⓑ +1 m from starting point

Ⓒ +2 m from starting point　　　　Ⓓ None of these

■ **Assertion Reason based Questions (Q25):**

Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

(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) Both Assertion (A) and Reason (R) are false.

25. **Assertion (A)** : The maximum height in vertical motion under gravity is $\frac{u^2}{2g}$, with u as initial velocity.

Reason (R) : Put $v = 0$ in kinematic equation $v^2 = u^2 - 2gH$ we get $H = \frac{u^2}{2g}$.

Ⓐ a　　　　　Ⓑ b　　　　　Ⓒ c　　　　　Ⓓ d

Chemistry

26. Four students prepared mixtures in water by taking sodium chloride, sand, chalk powder and starch respectively, in four different test tubes. After stirring, the mixture that appeared clear and transparent was that of

Ⓐ starch and water　　　　　　　Ⓑ chalk powder and water

Ⓒ sand and water　　　　　　　　Ⓓ sodium chloride and water

27. A student by mistake mixed up iron filings and sulphur powder. He wanted to separate them from one another. The method he should use is to dissolve the mixture in :

Ⓐ boiling water　　Ⓑ cold water　　Ⓒ carbon disulphide　　Ⓓ kerosene.

28. Which of the following statement is incorrect about ammonium chloride ?

Ⓐ It is a solid at room temperature

Ⓑ It directly changes to vapours on heating

Ⓒ It is soluble in water

Ⓓ It melts at room temperature and changes to liquid

29. When a mixture of common salt and ammonium chloride is heated, it is observed that

Ⓐ solid common salt gets deposited on the cooler parts of the funnel while solid ammonium chloride remains in the china dish.

Ⓑ mixture of common salt and ammonium chloride turns into greenish crystals when allowed to cool

Ⓒ ammonium chloride gets deposited on the cooler parts of the funnel and solid common salt remains in the china dish

Ⓓ droplets containing both common salt and ammonium chloride appear on the upper part of the funnel while some molten mixture of common salt and ammonium chloride remains in the china dish.

30. Mass of 76 ml of a liquid having density 2.00 g/ml is—

Ⓐ 24g   Ⓑ 38g   Ⓒ 76g   Ⓓ 152g

31. At 283 K a saturated solution of solid X can be prepared by dissolving 21.0 g of it in 100 g water. The maximum amount X which can be dissolved in 100 g of water at 313 K is 62.0 g. An attempt is made to dissolve 50.0 g of X in 100 g of water at 313 K.

(1) All the 50.0 g of X will be dissolved

(2) At 313 K 29.0 g of X will remain undissolved

(3) Solubility of X decreases with increases of temperature

(4) On cooling the solution of X from 313 K to 283 K more than 21.0g of X will crystallize out. Which of the above statements are correct ?

Ⓐ 1 and 2   Ⓑ 1 and 4   Ⓒ 2 and 3   Ⓓ 1, 3 and 4

32. **Assertion (A) :** When Helium gas is released from a metal tank maintained at a constant temperature, the pressure of the gas decreases.

Reason (R) : The average distance between the gas molecules decreases.

Ⓐ Both A and R are true and R is the correct explanation for A.

Ⓑ Both A and R are true but R is not the correct explanation for A.

Ⓒ A is true and R is false.

Ⓓ A is false and R is true.

■ **Assertion Reason based Questions (33–37):**

Directions: In each of the following questions, a statement of Assertion is given by the corresponding statement of Reason. Of the statements, mark the correct answer as

(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.

33. **Assertion (A)** : A solution of table salt in a glass of water is homogeneous.

    Reason (R) : A solution having different composition throughout is homogeneous.

    Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

34. **Assertion (A)** : A mixture of sugar and benzoic acid can be separated by shaking with ether.

    Reason (R) : Sugar is insoluble in water.

    Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

35. **Assertion (A)** : True solutions exhibits Tyndall effect.

    Reason (R) : Particles are very small in size.

    Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

36. **Assertion (A)** : Chemical changes bring a variation in chemical properties.

    Reason (R) : Chemical change is also known as chemical reaction.

    Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

37. **Assertion (A)** : Colloidal particles do not show Tyndall effect.

    Reason (R) : Colloidal solutions are stable and the colloidal particles do not settle down.

    Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

■ **Case Based Questions (38-40)**

Answer the questions on the basis of your understanding of the following passage and related studied concept.

A homogeneous mixture is true solution in which the solute particle size is very small 1– 10Å. Due to this, solute particles cannot be seen with naked eye and they cannot be separated by filtration,. Homogeneous mixture are clear and transparent. Heterogeneous

mixtures can be classified into either colloids or suspensions depending on the particle size. Colloids are solutions in which the solute particle size is between 10 Å and 1000 Å. Suspensions are solutions in which the particle size is greater then 1000 Å. Human beings can see the particles whose particle size is greater than 10 Å.

38. The order of solute particle size is

Ⓐ true solution <suspension<colloid   Ⓑ true solution> suspension > colloid

Ⓒ true-solution > colloid > suspension   Ⓓ true solution < colloid < suspension

39. Filtration can be used if solute particle size is ....

Ⓐ greater than 1000 Å   Ⓑ equal to 100 Å

Ⓒ smaller than 1.0 Å   Ⓓ smaller than 10 Å

40. A true solution (solid + liquid) can be separated into its components by

Ⓐ evaporation   Ⓑ boiling

Ⓒ sedimentation   Ⓓ fractional distillation

41. If a solid non-metal 'X' forms oxide type X_2O_5, then the formula of its corresponding chloride is

Ⓐ XCl_3 Ⓑ XCl_5 Ⓒ X_2Cl_5 Ⓓ X_3Cl_2

42. The chemical formula of potassium permanganate is

Ⓐ $PMnO_4$ Ⓑ $PoMnO_4$

Ⓒ $KMnO_4$ Ⓓ $PtMnO_4$

43. On which factor the rate of evaporation does not depend

Ⓐ Surface area   Ⓑ Material of the vessel

Ⓒ Temperature   Ⓓ Humidity

44. Choose the correct statement of the following

Ⓐ Conversion of solid into vapours without passing through the liquid state is called vapourisation.

Ⓑ Conversion solid into vapours without passing through the liquid state is called sublimation.

Ⓒ Conversion of vapours into solid without passing through the liquid state is called freezing.

Ⓓ Conversion of solid into liquid is called sublimation.

45. A student takes some water in a beaker and heats it over a flame for determining its boiling point. He keeps on taking its temperature readings. He would observe that the

temperature of water

Ⓐ Keeps on increasing regularly

Ⓑ Keeps on increasing irregularly

Ⓒ First increases slowly, then decreases rapidly

Ⓓ First increases regularly and then becomes constant

46. Brownian movement is due to

Ⓐ Convection currents

Ⓑ Attractive forces between the particles of dispersed phase and the dispersion medium.

Ⓒ Impact of particles of the dispersion medium on the particles of the dispersed phase.

Ⓓ Heat changes in liquid state.

47. Which of the following mixtures can not be separated by fractional distillation?

Ⓐ Acetone and methyl alcohol   Ⓑ Chloroform and benzene

Ⓒ Water (5%) and ethylalcohol (95%)   Ⓓ Benzene and toluene

48. Which one of the following processes involves fractional distillation ?

X : Separation of components of a liquid air.

Y : Separation of crude petroleum into useful fractional like gasoline, kerosene oil, diesel etc.

Z : Separation of kerosene oil and water.

Ⓐ X, Y, Z   Ⓑ X, Y   Ⓒ X, Z   Ⓓ Y, Z

49. Scattering of light occurs when a beam of light is passed through

Ⓐ Copper sulphate Ⓑ Water   Ⓒ Brine   Ⓓ Blood

50. The best method to separate the components of an ink is

Ⓐ Chromatography Ⓑ Evaporation   Ⓒ Filtration   Ⓓ Sublimation

Mathematics

51. If $x = y$, then which of the following is correct?

Ⓐ $x + y = y - z$ Ⓑ $x - y = y + z$ Ⓒ $x - z = y - z$ Ⓓ All of these

52. If the supplement of an angle is three times its complement, then the angle is

Ⓐ 40°   Ⓑ 35°   Ⓒ 50°   Ⓓ 45°

53. What is the value of x for the figure given below?
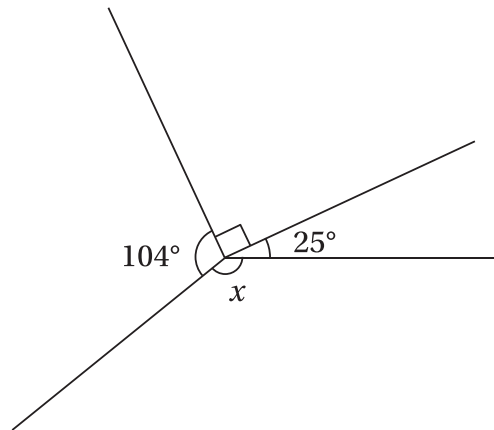
    Ⓐ 141°   Ⓑ 70°   Ⓒ 105°   Ⓓ 45°

54. The sum of two angles of a triangle is 116° and their difference is 24°. The measure of each angle of the triangle is
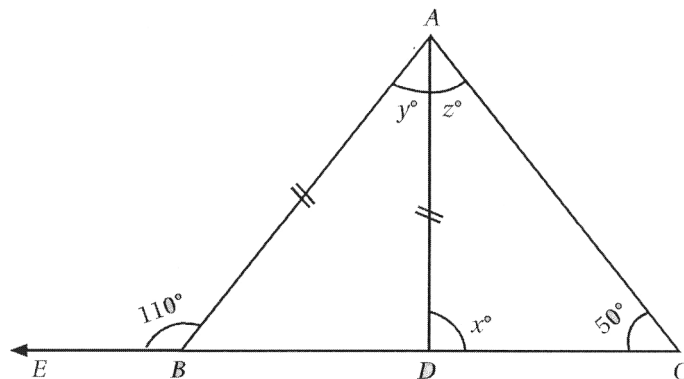
    Ⓐ 40°, 60°, 80°   Ⓑ 70°, 46°, 64°   Ⓒ 70°, 50°, 60°   Ⓓ 60°, 90°, 30°

55. In figure given below, AD is the median then $\angle BAD$ is
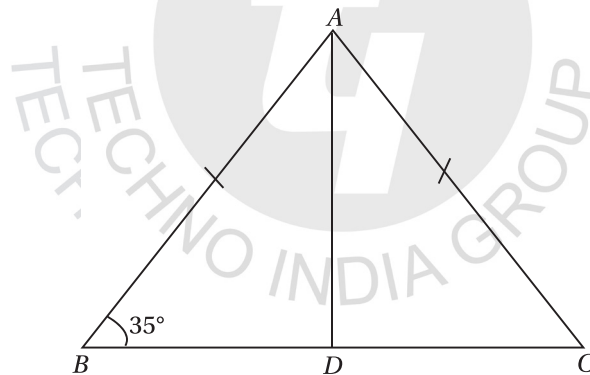
    Ⓐ 35°   Ⓑ 70°   Ⓒ 110°   Ⓓ 55°

56. In figure given below find z.

    Ⓐ 20   Ⓑ 110   Ⓒ 45   Ⓓ None of these

57. In the given figure, ΔABC is an isosceles triangle whose side AC is produced to E through C, CD is drawn parallel to BA. The value of x is
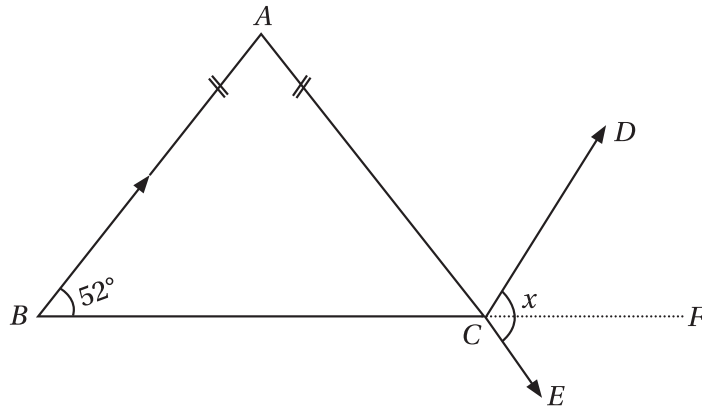
    Ⓐ 52°   Ⓑ 76°   Ⓒ 156°   Ⓓ 104°

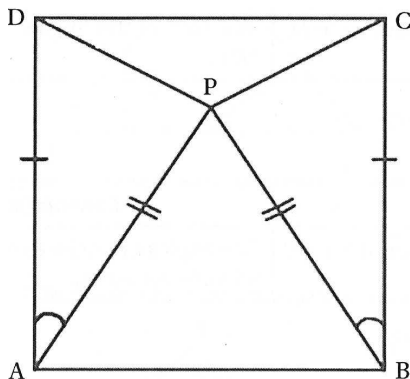**58.** In the given figure, identify the pair of parallel lines.

    Ⓐ $AB \parallel EF$ Ⓑ $BC \parallel CF$ Ⓒ $EF \parallel BC$ Ⓓ $EF \parallel CE$
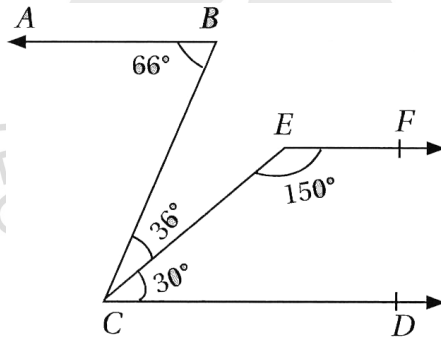
59. In ΔABC, $\angle B = 90°$ and $\angle C = 2\angle A$. The correct relation is
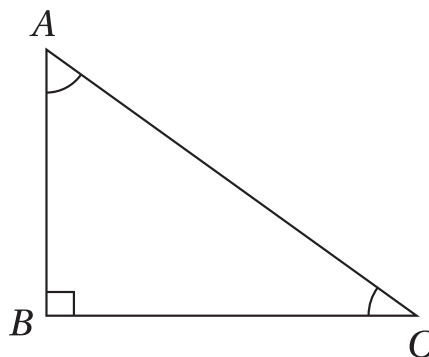
    Ⓐ $AC = 2AB$ Ⓑ $AC = 2BC$ Ⓒ $AC = 3AB$ Ⓓ $AC = 3BC$

60. In the following diagram, *ABCD* is a square and △*APB* is an equilateral triangle. Find the angles of triangle *DPC*.

  Ⓐ 15°, 150°, 15°   Ⓑ 20°, 140°, 20°   Ⓒ 75°, 30°, 75°   Ⓓ 70°, 40°, 70°

■ **Assertion Reason based Questions (61–62):**

Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

(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.

61. Assertion (A): If the side *BC* of a △*ABC* is produced to D, then ∠*ACD* = ∠*A* + ∠*B*.

Reason (R): The sum of the angles of a triangle is 180°.

  Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

62. Assertion (A): △*ABC* and △*DBC* are two isosceles triangles on the same base *BC*. Then, ∠ABD = ∠ACD.
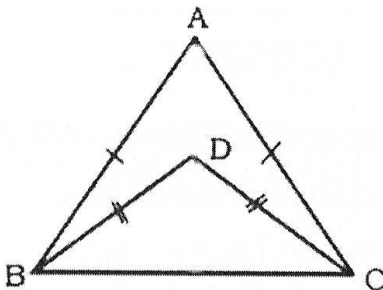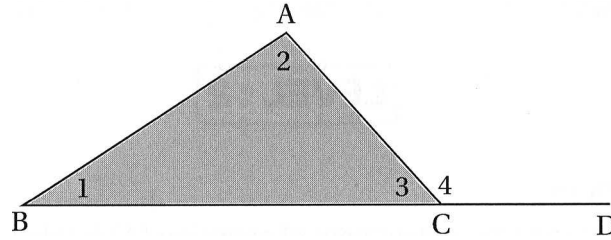

Reason (R): The angles opposite to equal sides of a triangle are equal.

  Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

■ **Case Study Based Questions (63–65):**

Read the passage given below and answer the following questions.

Ashok is studying in 9th class. Once he was at his home and was doing his geometry homework. He was trying to measure three angles of a triangle. He found that the second angle of the triangle was three times as large as the first. The measure of the third angle is double of the first angle.

63. What was the value of the first angle?

   Ⓐ 30°   Ⓑ 45°   Ⓒ 60°   Ⓓ 90°

64. What was the value of the third angle?

   Ⓐ 30°   Ⓑ 45°   Ⓒ 60°   Ⓓ 90°

65. What was the value of the second angle?

   Ⓐ 30°   Ⓑ 45°   Ⓒ 60°   Ⓓ 90°

66. If $2^{2008} - 2^{2007} - 2^{2006} + 2^{2005} = k \times 2^{2005}$ then the value of k is equal to?

   Ⓐ 2   Ⓑ 3   Ⓒ 4   Ⓓ 5

67. If $\sqrt{x} + \dfrac{1}{\sqrt{x}} = 2$, then the value of $x^8 + \dfrac{1}{x^8}$ is

   Ⓐ 2   Ⓑ 3   Ⓒ $\sqrt{2}$ Ⓓ 4

68. If $a + b + c = 0$, then $\dfrac{a^2}{bc} + \dfrac{b^2}{ac} + \dfrac{c^2}{ab} =$

   Ⓐ 0   Ⓑ 1   Ⓒ –1   Ⓓ 3

69. If $a = 2^{\frac{1}{3}} - 2^{-\frac{1}{3}}$, then find the value of $2a^3 + 6a - 3$

   Ⓐ 1   Ⓑ –1   Ⓒ 0   Ⓓ 2

70. The solution set of the system of equations $\dfrac{4}{x} + 5y = 7$, $\dfrac{3}{x} + 4y = 5$ is

   Ⓐ $\left(\dfrac{1}{3}, -1\right)$ Ⓑ $\left(-\dfrac{1}{3}, 1\right)$ Ⓒ $\left(-\dfrac{1}{3}, -1\right)$ Ⓓ $\left(\dfrac{1}{3}, 1\right)$

■ **Case Study Based Questions (71–73):**

Read the passage given below and answer the following questions.

At a construction site, two triangular sections of a new buildings frame work need to be ensured to be identical for structural integrity. The site supervisor provides the following measurements

Triangle *ABC* has sides of length 6 m, 8 m and 10 m

Triangle *PQR* has sides of length 6 m, 8 m and 10 m

71. Are the triangles *ABC* and *PQR* congruent?

Ⓐ Yes   Ⓑ no   Ⓒ 50–50 chance   Ⓓ none of these

72. If the angle between the 6*m* and 8*m* side in triangle *ABC* is 60°, what is the angle between the corresponding sides in triangle *PQR*?

Ⓐ 30°   Ⓑ 60°   Ⓒ 90°   Ⓓ 45°

73. 6, 8, 10 satisfy which of the following?

Ⓐ $P = mf$ Ⓑ $E = mc^2$ Ⓒ $a^2 + b^2 = c^2$ Ⓓ none of these

■ **Assertion Reason based Questions (74–75):**

Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

(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.

74. Assertion (A) : If two triangles have equal areas, they are congruent.

Reason (R) : Two triangles are congruent if their corresponding sides and angles are equal.

Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

75. Assertion (A) : If two triangles are congruent, then their corresponding angles are equal.

Reason (R) : Congruent triangles have equal areas.

Ⓐ a   Ⓑ b   Ⓒ c   Ⓓ d

Biology

76. Which among these is not a type of parenchyma?

Ⓐ Chlorenchyma   Ⓑ Collenchyma   Ⓒ Aerenchyma   Ⓓ Both Ⓐ and Ⓑ

77. Guard cell differ from other epidermal cell by :

Ⓐ Presence of chloroplast   Ⓑ Absence of vacuole
Ⓒ Presence of centriole   Ⓓ All of the above

78. Meristems helps in :

Ⓐ Absorption of water   Ⓑ Absorption of minerals
Ⓒ Transport of food   Ⓓ Growth of plants

79. Which tissue provides maximum mechanical strength to the plants :

Ⓐ Parenchyma   Ⓑ Xylem   Ⓒ Phloem   Ⓓ Collenchyma

80. The process by which meristematic tissue changes into permanent tissue is called :

Ⓐ Development   Ⓑ Differentiation   Ⓒ Division   Ⓓ All of the above

81. Sclerenchyma is a :

Ⓐ dead permanent complex tissue   Ⓑ living permanent simple tissue
Ⓒ dead permanent simple tissue   Ⓓ none of the above

82. Technical term for cork cambium is :

Ⓐ Phellem   Ⓑ Phellogen   Ⓒ Phelloderm   Ⓓ Phallic

■ Study the diagram given below and answer the following questions.
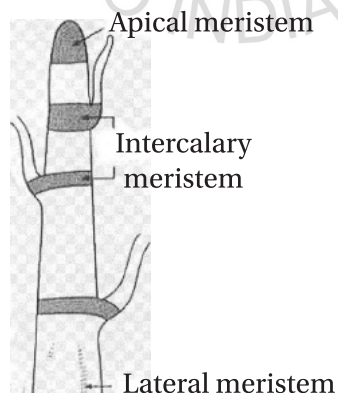
83. Cells of meristematic tissue are _____

Ⓐ dead   Ⓑ Some dead and some living
Ⓒ old   Ⓓ in a constant state of division

84. Meristematic tissue is not found in

Ⓐ Root apex   Ⓑ Stem apex   Ⓒ Internodes   Ⓓ Vascular bundle

85. Choose the incorrect statement:

Ⓐ Apical meristem increases height

Ⓑ Primary meristem is formed from embryonic meristem

Ⓒ Meristematic tissue is metabolically active

Ⓓ No meristematic tissue occur at the internodes

86. Cell wall of the cells of meristematic tissue are made up of—

Ⓐ Cellulose   Ⓑ Cellulose + Pectin

Ⓒ Cellulose + lignin   Ⓓ Cellulose + Pectin + Lignin

87. Lateral meristem helps in

Ⓐ Increasing length of stem

Ⓑ Increasing length of root

Ⓒ Increasing the distance between successive nodes

Ⓓ Increasing the girth of stem

■ **Assertion-Reason type Questions**

Directions: Each of the following questions consists of two statements, namely Assertion (A) and Reason (R).

For selecting the correct answer, use the following code:

A. Both Assertion (A) and Reason (R) are true and (R) is the correct explanation of A.

B. Both A and R are true, but R is not the correct explanation of A.

C. A is true, R is false.

D. A is false, R is true.

88. **Assertion:** Parenchyma cells help in storage of food.

Reason: Parenchyma cells are non-living cells.

89. **Assertion:** Vessels and sieve tubes are parts of vascular bundle.

Reason: Vessels are lignified.

90. **Assertion:** Collenchyma tissue makes the plant flexible and provides tensile strength.

Reason: Cell wall of collenchyma cells are irregularly thickened with cellulose and pectin.

91. A prokaryotic cell does not possess :

Ⓐ Nuclear membrane   Ⓑ Plasma membrane

Ⓒ Cell wall   Ⓓ Cytoplasm

92. Which structure contains the genetic material of the cell?

Ⓐ Nucleus   Ⓑ Ribosomes

Ⓒ Golgi apparatus   Ⓓ Endoplasmic reticulum

93. Cell organelle, common to prokaryotes and eukaryotes is

Ⓐ Mitochondria   Ⓑ Golgi body

Ⓒ Ribosome   Ⓓ Endoplasmic reticulum

94. Transport of substances between the cytoplasm and nucleus occurs through the

Ⓐ Endoplasmic reticulum   Ⓑ Golgi body

Ⓒ Mitochondria   Ⓓ Lysosome

95. The number of chromosomes found in prokaryotic cells are—

Ⓐ One   Ⓑ Two   Ⓒ Three   Ⓓ Four

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96. Assertion: Lateral meristem appears on the apices of roots and stem.

Reason: Lateral meristem helps to increase the girth of stem.

97. Assertion: Xylem is majorly a dead tissue.

Reason: Three out of four elements of the xylem are dead.

98. Assertion: Companion cells are closely associated with the sieve tubes.

Reason: Both companion cells and sieve tubes are dead cells.

99. The most abundant plant tissue is

Ⓐ Parenchyma   Ⓑ Collenchyma

Ⓒ Meristematic tissue   Ⓓ None

100. The leaf stalks are flexible due to the presence of

Ⓐ Parenchyma   Ⓑ Collenchyma

Ⓒ Meristematic tissue   Ⓓ Sclerenchyma

Space For Rough Works