Monthly Progressive Test

Class: IX (S)

Subject: PCMB

Academic Excellence Programme TECHNO ACE

Test Booklet No.: MPT07 **Test Date: 22112024**

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 MPT07(S)22112024
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. If the change in the value of g at a depth d and at the height h above the surface of Earth is same then

   Ⓐ $d = 3h$ Ⓑ $d = 2h$ Ⓒ $2d = h$ Ⓓ $d = 1.5h$

2. If g_e and g_p denote accelerations due to gravity on the surface of the earth and on a planet respectively whose mass and radius are twice that of the earth, then

   Ⓐ $g_e = g_p$ Ⓑ $g_e = 2g_p$ Ⓒ $2g_e = g_p$ Ⓓ $g_e = 4g_p$

3. The time period of geostationary satellite is

   Ⓐ 12 hrs Ⓑ 6 hrs Ⓒ 24 hrs Ⓓ 18 hrs

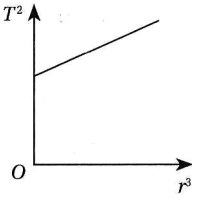
4. If the acceleration due to gravity of earth is increased by 2%, keeping the mas of Earth same, then the radius of earth will shrink by

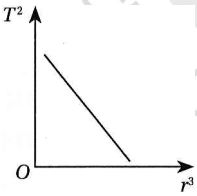
   Ⓐ 1% Ⓑ 1.5% Ⓒ 2% Ⓓ 2.5%

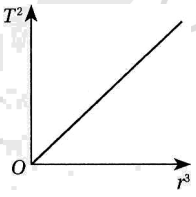
5. The depth at which the acceleration due to gravity decrease by 64% of its value on the surface of Earth is [R = radius of Earth]

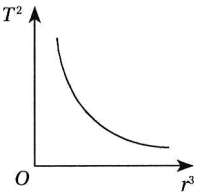
   Ⓐ $0.36R$ Ⓑ $0.5R$ Ⓒ $0.64R$ Ⓓ $0.4R$

6. With reference to Keplar's law of time period select the correct graph

   Ⓐ 

   Ⓑ 

   Ⓒ 

   Ⓓ 

7. If the gravitational attractive force is $\frac{GMm}{r} = \frac{mv^2}{r}$ related to $F \propto \frac{1}{r}$, the velocity of planet in circular orbit (of radius r) will become $v_{\text{orbit}} =$

   Ⓐ $\sqrt{GM}$ Ⓑ GM Ⓒ $\frac{GM}{2}$ Ⓓ $2\sqrt{GM}$

8. Select the correct option

   Ⓐ Kepler's laws describe how the planets move around the Sun

   Ⓑ Newton's laws of motion can be used to learn about the force which causes a planet's motion

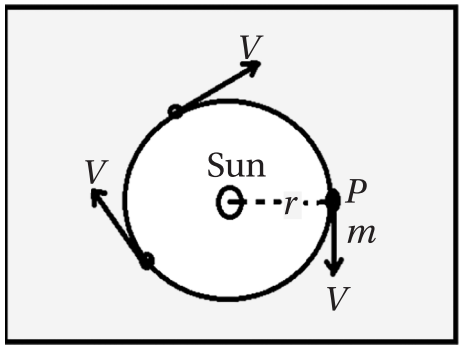
   Ⓒ Both Ⓐ and Ⓑ are correct

   Ⓓ None of these

9. The square of a planet's time period is proportional to the cube of the mean distance of the planet from the Sun.

Ⓐ True Ⓑ False Ⓒ Sometimes true Ⓓ None of these

10.



Consider a planet of mass m moving around sun in a circular path. If speed of the planet is v and its distance from the Sun is r, and time period of the planet is T, then v =

Ⓐ $\frac{3.14r}{T}$ Ⓑ $\frac{6.28r}{T}$ Ⓒ $\frac{r}{T}$ Ⓓ $\frac{2r}{T}$

11. The relation $g \cdot R = \frac{GM}{R}$ is (r is radius of earth, M is mass of earth)

Ⓐ False Ⓑ Some times true Ⓒ True Ⓓ None of the above

12. At a height H above the surface of earth, acceleration due to gravity is $g \cdot \left[1 - 2\left(\frac{H}{R}\right)\right]$. The statement is

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

13. At a depth d from the surface of earth, acceleration due to gravity is $g\left[1 - \left(\frac{d}{R}\right)\right]$. The statement is

Ⓐ True Ⓑ may be true Ⓒ False Ⓓ None of the above

■ Case Study Based Questions

Read the passage given below and answer the following questions.

We know that planets go around the Sun. The moon goes around the earth. We know that a force is needed to change the speed or direction of motion of an object. We have observed that an object dropped from a height falls towards the earth with higher speed. The same force is responsible for all these. This force is called gravitational force.

14. The concept of universal law of gravitation can explain the motion of planets around the Sun.

Ⓐ false Ⓑ May be false Ⓒ True Ⓓ None of the above

15. The force that binds us to the earth, can be explained by the concept of universal law of gravitation.

Ⓐ Sometimes true Ⓑ False Ⓒ True Ⓓ None of these

■ **Assertion-Reason type Questions :**

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

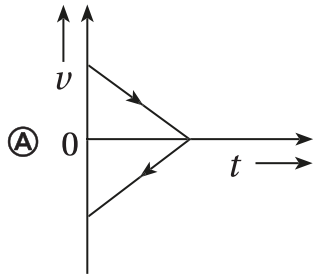
A. If both Assertion and Reason are true and Reason is the correct explanation of the Assertion.

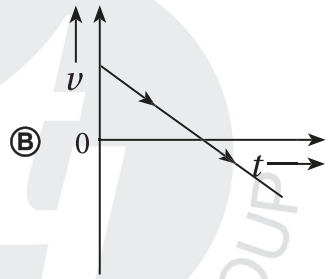
B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

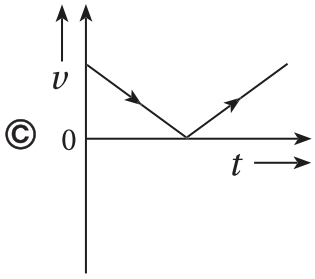
C. If Assertion is true but the Reason is false.

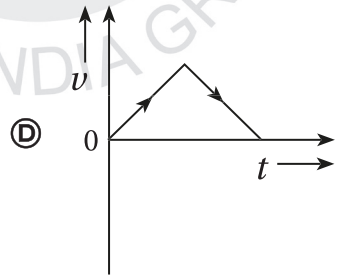
D. If Assertion is false but Reason is true.

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

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

17. **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 2*F*.

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

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

18. The force of gravitation exerted on one body by the other is F. If the mass of each body is doubled, find the new force in terms of F .

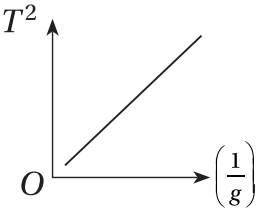
Ⓐ 2F Ⓑ F Ⓒ $\frac{F}{2}$ Ⓓ 4F

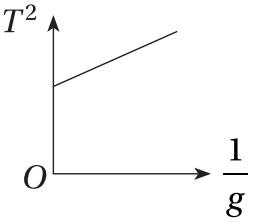
19. With reference to Keplar's law of area, the areal speed is

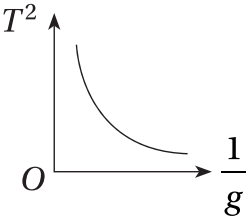
Ⓐ Constant Ⓑ Variable

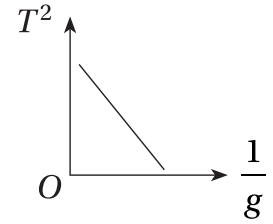
Ⓒ Sometimes constant Ⓓ Difficult of say

20. In case of simple pendulum, select the correct graph (l = constant)

Ⓐ 

Ⓑ 

Ⓒ 

Ⓓ 

21. When a body is taken from a mine to mountain top

Ⓐ g increases first then decreases Ⓑ g increases continuously

Ⓒ g decreases first then increases Ⓓ g decreases continuously

22. The density of earth in terms of acceleration due to gravity (g), radius of earth (R) and Universal Gravitational constant (G) is:

Ⓐ $\frac{4\pi RG}{3g}$ Ⓑ $\frac{3\pi RG}{4g}$ Ⓒ $\frac{4g}{3\pi RG}$ Ⓓ $\frac{3g}{4\pi RG}$

23. The height at which the acceleration due to gravity becomes $\frac{g}{9}$ (g = acceleration due to gravity at means sea level) in terms of radius of earth, R is:

Ⓐ $2R$ Ⓑ $\frac{R}{\sqrt{2}}$ Ⓒ $\frac{R}{2}$ Ⓓ $R\sqrt{2}$

24. The escape velocity from earth is 11 $km \cdot s^{-1}$. The escape velocity from planet having twice the radius of earth and same mean density as that of earth is:

Ⓐ 5.5 $km \cdot s^{-1}$ Ⓑ 11 $km \cdot s^{-1}$ Ⓒ 22 $km \cdot s^{-1}$ Ⓓ $8\sqrt{2}$ $km \cdot s^{-1}$

25. A satellite is going round the earth in circular orbit at a height $2R$ from the surface of earth (R = radius of earth). The speed of satellite is:

Ⓐ $\frac{gR}{3}$ Ⓑ $\sqrt{\frac{gR}{3}}$ Ⓒ $\sqrt{\frac{gR}{2}}$ Ⓓ $\frac{gR}{2}$

26. According to Bohr's model

Ⓐ Electrons can have particle as well as wave character

Ⓑ Electron absorb energy when jump into higher energy level

Ⓒ Electrons eventually fall into the nucleus of an atom

Ⓓ An atom is highly unstable

27. $^{40}Ca_{20}$ and $^{40}Ar_{18}$ are

Ⓐ Isotopes Ⓑ Isotones Ⓒ Isobars Ⓓ Isodiaphers

28. Number of valence electrons in F^- is

Ⓐ 7 Ⓑ 8 Ⓒ 9 Ⓓ 10

29. Which element Isotope is used in the treatment of goitre

Ⓐ Carbon Ⓑ Cobalt Ⓒ Uranium Ⓓ Iodine

30. The maximum no of electrons with n = 4?

Ⓐ 2 Ⓑ 8 Ⓒ 32 Ⓓ 64

31. Match the following :

Column-1	Column-II
(a) Chadwick	(i) Electrons
(b) Rutherford	(ii) Atomic stability
(c) J. J. Thomson	(iii) Neutrons
(d) Bohr	(iv) Atomic nucleus

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

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

32. Identify the Isotopes from the following

Ⓐ $_1H^1$, $_2He^4$ Ⓑ $_{18}Ar^{40}$, $_{20}Ca^{40}$

Ⓒ $_6C^{12}$, $_6C^{13}$ Ⓓ $_6C^{12}$, $_7N^{13}$

33. In case of which element, the outer most shell is N - shell?

Ⓐ Sulphur Ⓑ Argon Ⓒ Calcium Ⓓ Magnesium

Assertion Reason Type Question (34–37):

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

34. **Assertion:** According to Sir Rutherford, electrons release energy when it rotates around the nucleus.

Reason: Electrons move around the nucleus in some circular paths.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

35. **Assertion:** $_2He^4$ is the lightest element in this world

Reason: $_2He^4$ has equal number of protons, electrons and neutrons

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

36. **Assertion:** Maximum number of electrons in the K - shell is 4.

Reason: Maximum number of electrons in a shell is $2n^2$.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

37. **Assertion:** Chlorine can accept one electron spontaneously.

Reason: On receiving one electron in the outermost shell, chlorine attains its nearest noble gas configuration and that brings the stability.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

Case Study Based Question (38–40):

Average atomic mass is determined by the following formula

$$\text{Average atomic mass} = \frac{\Sigma(\text{mass of the isotope} \times \text{percentage of abundance in nature})}{100}$$

38. Consider the following data and select the correct average atomic mass of argon

$_{18}Ar^{40} = 99.6\%$, $_{18}Ar^{36} = 0.337\%$, $_{18}Ar^{38} = 0.063\%$

Ⓐ 39.754 Ⓑ 39.985 Ⓒ 39.656 Ⓓ 39.728

39. Consider the following data and select the correct average atomic mass of neon

$_{10}Ne^{20} = 90.5\%$, $_{10}Ne^{21} = 0.27\%$, $_{10}Ne^{22} = 9.25\%$

Ⓐ 20.191 Ⓑ 20.245 Ⓒ 20.003 Ⓓ 20.201

40. On which factor, the average atomic weight does not depend?

Ⓐ Mass number

Ⓑ Atomic number

Ⓒ Maximum number of electron(s) released during ionization

Ⓓ Number of all possible isotopes

41. Consider the given data and select the correct mathematical relationships given below

X = Atomicity of aluminium bicarbonate molecule

Y = Atomicity of aluminium sulphate molecule

Z = Atomicity of calcium phosphate molecule

(I) $\frac{Y+X}{2} \rangle Z$ (II) $Y > X > Z$ (III) $\frac{Y+Z}{2} \langle X$

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

42. **Statement I :** A colloid is a homogeneous mixture

Statement II : The components of colloids cannot be separated by normal filtration method

Statement III : In case of emulsion, dispersed phase is gas and dispersing medium is liquid

Ⓐ F T T Ⓑ F T F Ⓒ T F T Ⓓ F F T

43. How many atoms of sulphur are present in 0.1 mole of S_8 molecule? (Atomic Weight S = 32)

Ⓐ 2.56×10^{23} atom Ⓑ 1.28×10^{23} atom

Ⓒ 4.817×10^{23} atom Ⓓ 48.17×10^{23} atom

44. X = Number of moles of 2 gm calcium atoms [atomic mass of calcium = 40]

Y = Number of moles of 18.066×10^{21} iron atoms [Avogadro number = 6.022×10^{23}]

Z = Number of moles of 0.1 gm calcium carbonate [atomic mass : calcium = 40, carbon = 12, oxygen = 16]

Now, the correct value of [X + Y + Z] will be equal to

Ⓐ 0.0405 Ⓑ 0.405 Ⓒ 0.081 Ⓓ 0.81

Assertion Reason Type Question (45):

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

45. **Assertion (A):** Both 32g of SO_2 and 8 g of CH_4 contain same number of molecules

Reason (R): Equal moles of two compounds contain same number of molecules.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

46. $^{15}X_7$, $^{11}X_7$ are two naturally occurring isotopes of an element X. What is the percentage of each isotope of 'X' if the average atomic mass is 14?

Ⓐ 95, 5 Ⓑ 80, 20 Ⓒ 75, 25 Ⓓ 65, 25

47. 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) and (iii) Ⓓ (iii), (ii) and (i)

48. In a sample of ethylethanoate ($CH_3COOC_2H_5$), the two oxygen atoms have the same number of electrons but different number of neutrons. Which of the following is the correct reason for it?

Ⓐ One of the oxygen atoms has gained electrons

Ⓑ One of the oxygen atoms has gained two neutrons

Ⓒ The two oxygen atoms are isotopes

Ⓓ The two oxygen atoms are isobars

Assertion Reason Type Question (49):

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

49. **Assertion (A):** Bohr had postulated that the electrons in stationary orbits around the nucleus do not radiate energy.

Reason (R): According to classical concept all moving electrons radiate energy

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

50. Calculate the total number of electrons in nitrate ion (NO_3^-).

Ⓐ 63 Ⓑ 30 Ⓒ 32 Ⓓ 33

Mathematics

51. The sides of a triangular board are 13 metres, 14 metres and 15 metres. The cost of painting one side of it at the rate of ₹ 8.75 per m^2 is

Ⓐ ₹688.80 Ⓑ ₹735 Ⓒ ₹730.80 Ⓓ ₹722.50

52. The length of each side of an equilateral triangle having an area of $4\sqrt{3}$ cm^2 is

Ⓐ 4 cm Ⓑ $\frac{4}{\sqrt{3}}$ cm Ⓒ $\frac{\sqrt{3}}{4}$ cm Ⓓ 3 cm

53. The volume (in cm^3) of a right circular cone of height 12 cm and base radius 6 cm is

Ⓐ 12π Ⓑ 36π Ⓒ 72π Ⓓ 144π

54. The volume of a sphere is 38808 cu. cm. The surface area of the sphere (in cm^2) is

Ⓐ 5544 Ⓑ 1386 Ⓒ 8316 Ⓓ 4158

55. From a point within an equilateral triangle, perpendiculars are drawn to its sides. The lengths of these perpendiculars are 6m, 7m and 8m. Find the area of the triangle.

Ⓐ 160 sq. m Ⓑ $147\sqrt{3}$ sq.m Ⓒ $210\sqrt{3}$ sq.m Ⓓ $27\sqrt{3}$ sq.m

56. Height of an equilateral triangle is 9 cm, then its area is

Ⓐ 20.78 cm^2 Ⓑ 46.76 cm^2

Ⓒ 35.94 cm^2 Ⓓ none of these

57. The sum of the radius of the base and height of a solid cylinder is 37 cm. If the total surface area of the solid cylinder is 1628 cm^2. The volume of the cylinder is

Ⓐ 4600 cm^3 Ⓑ 4620 cm^3 Ⓒ 4640 cm^3 Ⓓ none of these

Assertion Reason based Questions (58–59):

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.

58. Assertion (A) : If the surface area of a sphere is 36π cm^2 then its volume is 36π cm^3

Reason (R) : Volume of a sphere = r^3 cu.units

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

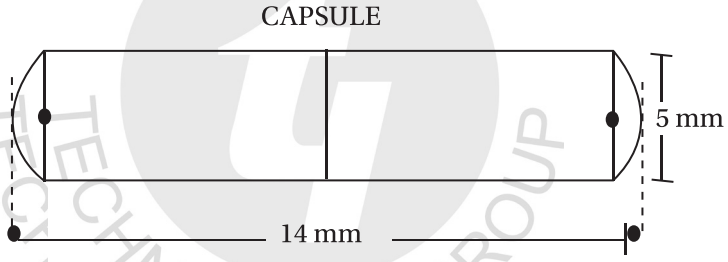
59. Assertion (A) : If the ratio of the heights of the right circular cylinders A and B is 1 : 2 and the ratio of the radii of the bases of A and B is 1 : 4, then ratio of the volumes of right circular cylinders is 1 : 32

Reason (R) : Every quadratic expression has at most two zeros.

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

Case Study Based Questions (60–62):

In the math practical class, Dr. Smith took out a medical capsule to show his students. The capsule was shaped like a cylinder with hemispheres attached to both ends. The total length of the capsule was 14 mm and its diameter was 5 mm.



Based on this answer the following questions.

60. The height of the cylindrical part is

Ⓐ 9 mm Ⓑ 14 mm Ⓒ 11.25 mm Ⓓ 11.5 mm

61. Curved surface area of a hemispherical part is

Ⓐ 12.5π mm^2 Ⓑ 15π mm^2

Ⓒ 25π mm^2 Ⓓ 70π mm^2

62. Surface area of the capsule is

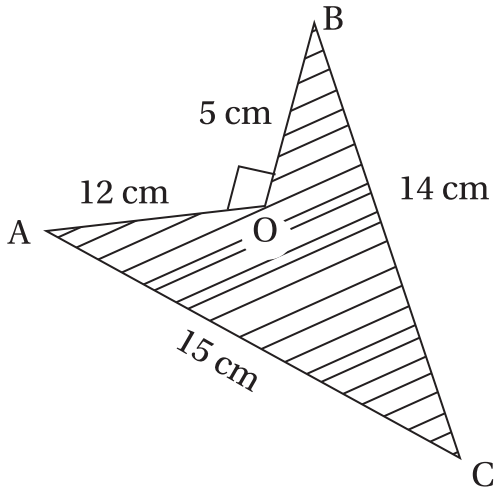
Ⓐ 75π mm^2 Ⓑ 85π mm^2

Ⓒ 70π mm^2 Ⓓ 80π mm^2

63. Calculate the area of a triangle with medians measuring 14 cm, 10 cm and 6 cm.

Ⓐ $20\sqrt{3}$ cm^2 Ⓑ $15\sqrt{3}$ cm^2 Ⓒ $25\sqrt{3}$ cm^2 Ⓓ $18\sqrt{3}$ cm^2

64. Calculate the area of the shaded region



Ⓐ 44 cm^2 Ⓑ 34 cm^2

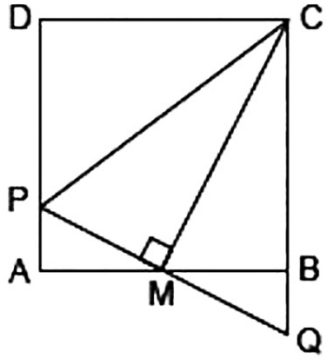
Ⓒ 84 cm^2 Ⓓ none of these

65. The base of an isosceles triangle is 16 cm and its area is 48 cm^2. The perimeter of the triangle is

Ⓐ 41 cm Ⓑ 36 cm

Ⓒ 45 cm Ⓓ 324 cm

66. In the following diagram, ABCD is a square. M is the mid-point of AB and PQ is perpendicular to CM. Which of the following is correct?



Ⓐ $PA = AM$ Ⓑ $MC = CQ$

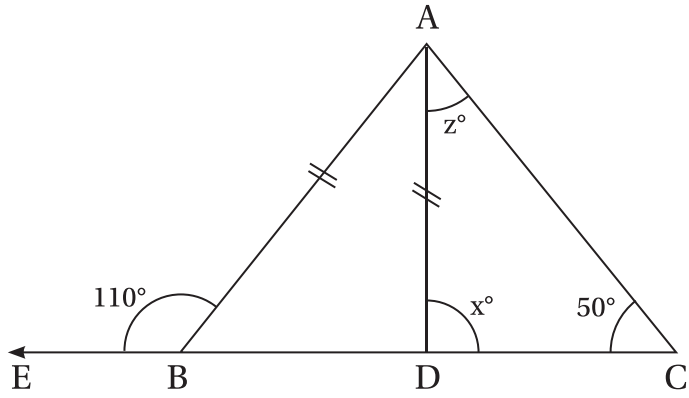
Ⓒ $PA = MB$ Ⓓ $PC = QC$

67. If the diagonal of a rhombus are 18 cm and 24 cm respectively, then its side is equal to

Ⓐ 16 cm Ⓑ 15 cm

Ⓒ 20 cm Ⓓ 17 cm

68. In figure given below find z.



Ⓐ 20 Ⓑ 110 Ⓒ 45 Ⓓ None of these

69. Given: $3x - 4y = 7$ and $x + cy = 13$, for what value of 'c', the two equations not have a solution?

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

70. If $a + b + c = 12$ and $a^2 + b^2 + c^2 = 50$, find the value of $ab + bc + ca$.

Ⓐ 44 Ⓑ 45 Ⓒ 46 Ⓓ 47

71. The perimeter of a triangular field is 540 m and its sides are in the ratio 25 : 17 : 12. The area of the triangle will be

Ⓐ 7000 m^2 Ⓑ 9000 m^2 Ⓒ 2500 m^2 Ⓓ 10000 m^2

72. A basketball is packed in a cubical box of side 20 cm so that it touches all the faces of the box. The surface area of the basketball is

Ⓐ 1200 cm^2 Ⓑ 2400 cm^2 Ⓒ 400 π cm^2 Ⓓ 1250 cm^2

73. The radius of a cone is r cm and its height is h cm. The change in volume when the height is decreased by x cm is same as the change in volume when the radius is decreased by x cm. The relation among x, r and h is

Ⓐ $x = \frac{2rh - r^2}{h}$ Ⓑ $x = \frac{2rh + r^2}{h}$ Ⓒ $x = \frac{r^2 - 2rh}{h}$ Ⓓ $x = 2h + r^2$

74. The volume of the greatest sphere that can be cut off from the cylindrical wooden log of base radius 1 cm and height 5 cm is

Ⓐ $\frac{4}{3}\pi$ cm^3 Ⓑ $\frac{10}{3}\pi$ cm^3 Ⓒ 5π cm^3 Ⓓ 10π cm^3

75. A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random

from the box, then find the probability that it bears a perfect square number.

Ⓐ $\frac{1}{5}$ Ⓑ $\frac{1}{10}$ Ⓒ $\frac{1}{90}$ Ⓓ $\frac{4}{45}$

Biology

76. Abiotic factors include

Ⓐ Drought Ⓑ Salinity Ⓒ Temperature Ⓓ All

77. Most important source of nutrients for plants is

Ⓐ Soil Ⓑ Water Ⓒ Air Ⓓ None

78. Which of the following is milch animal ?

Ⓐ *Apis sp.* Ⓑ *Bos indicus* Ⓒ *Bos bubalis* Ⓓ *Both b and c*

79. Bees are kept for

Ⓐ Honey Ⓑ Silk Ⓒ Medicine Ⓓ All

80. Which of the following is not a technique of crop improvement ?

Ⓐ Use of HYV seeds Ⓑ Genetic manipulation

Ⓒ Hybridization Ⓓ Feeding

81. Manure is prepared by

Ⓐ Microbial decomposition Ⓑ Chemical treatment

Ⓒ Physical processing Ⓓ All

82. Organic farming is based on using

Ⓐ Fertilizer Ⓑ Pesticide Ⓒ Herbicide Ⓓ None

Assertion-Reason type Questions (83–84):

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

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

B. Both Assertion and Reason are true but Reason is not the correct explanation of the Assertion.

C. Assertion is true but Reason is false.

D. Assertion is false but Reason is true.

83. **Assertion:** Intercropping prevents pests.

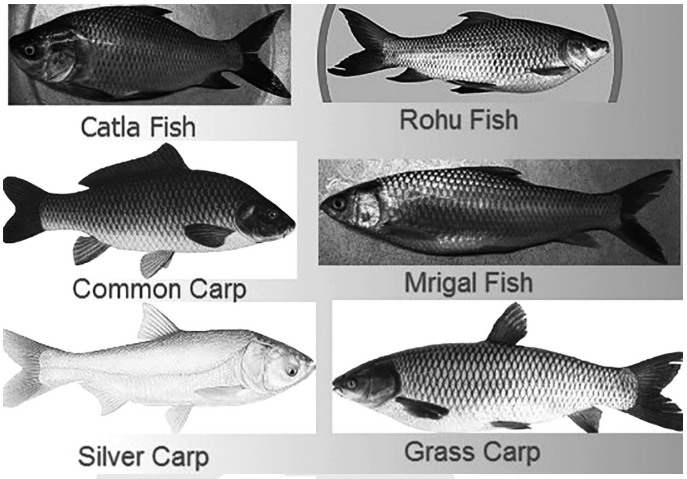
Reason: Plant pests can be controlled biologically by their natural parasites and pathogens.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

84. **Assertion:** Fish and few other varieties of aquatic animals are used as food.
Reason: Fish and other varieties of sea food constitute good source of protein.
Ⓐ A Ⓑ B Ⓒ C Ⓓ D

Case Based Questions (85–87):

Study the picture given below and answer the following questions :



85. The above picture represents :
Ⓐ Aquarium Ⓑ Hybridization
Ⓒ Composite fish culture Ⓓ Mariculture

86. The fishes selected for this kind of fish culture _____ .
Ⓐ Do not compete with each other for food
Ⓑ All derive food from the same level of the pond
Ⓒ Can also be grown in paddy fields
Ⓓ Some of the fishes are not edible

87. One major problem associated with this type of culture is
Ⓐ The fishes derive food from the same level of the pond
Ⓑ The fishes have to be marine
Ⓒ Lack of availability of good quality seeds.
Ⓓ All

88. Rinderpest disease of poultry is caused by
Ⓐ Insects Ⓑ Bacteria
Ⓒ Virus Ⓓ Protozoa

89. The Jersey bull used for cross breeding is an exotic variety from :
   Ⓐ England Ⓑ Scotland
   Ⓒ Switzerland Ⓓ Holland

90. "Drones" in a honey bee colony are
   Ⓐ Fertile males Ⓑ Female worker bees
   Ⓒ Fertile female queen bee Ⓓ None of the above

91. Sclerenchyma is a _____
   Ⓐ Dead permanent complex tissue Ⓑ Living permanent simple tissue
   Ⓒ Dead permanent simple tissue Ⓓ None

92. Which one is not a part of nucleus ?
   Ⓐ Chromatin Ⓑ Nucleolus
   Ⓒ Centrosome Ⓓ Nucleoplasm

93. Prokaryotic cells generally show :
   Ⓐ Amitosis Ⓑ Mitosis
   Ⓒ Meiosis Ⓓ They do not divide

94. Hydrolytic enzymes are located in :
   Ⓐ Lysosomes Ⓑ Ribosomes
   Ⓒ Microsomes Ⓓ Mesosomes

95. Myelin sheath covers :
   Ⓐ Axon of neuron Ⓑ Surface of skin
   Ⓒ Ligament Ⓓ Artery

Assertion-Reason type Questions (96–98):

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

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

B. Both Assertion and Reason are true but Reason is not the correct explanation of the Assertion.

C. Assertion is true but Reason is false.

D. Assertion is false but Reason is true.

96. **Assertion:** Droughts occur because of scarcity or irregular distribution of rains.
   Reason: Drought poses a threat to rain fed farming areas.
   Ⓐ A Ⓑ B Ⓒ C Ⓓ D

97. **Assertion:** Nitrogen is a macronutrient of plants.
Reason: It is required in trace amounts by plants
Ⓐ A Ⓑ B Ⓒ C Ⓓ D

98. **Assertion:** The Italian bees have high collection capacity.
Reason: The Italian bees sting less.
Ⓐ A Ⓑ B Ⓒ C Ⓓ D

99. How does an insect pest attack a crop plant ?
Ⓐ It cuts the stems and roots of the plants
Ⓑ It sucks the cell sap from the plant
Ⓒ It bores into the stem and fruits
Ⓓ All of these

100. Apiaries are
Ⓐ farms where poultry birds are reared Ⓑ cattle sheds
Ⓒ paddy fields in which fishes are grown Ⓓ None

Space For Rough Works

Space For Rough Works