**ALLEN**
OVERSEAS

HAVE CONTROL ⟶ HAVE PATIENCE ⟶ HAVE CONFIDENCE ⇒ 100% SUCCESS

BEWARE OF NEGATIVE MARKING

MENTAL ABILITY

This section contains **20 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

1. Pointing to Kalyan, Shreya said, "His mother's brother is the father of my son Manish." How is Kalyan related to Shreya ?

    (1) Sister-in-law   (2) Nephew   (3) Niece   (4) Aunt

2. In a certain code language, 'sun shines brightly' is written as 'ba lo sul', 'houses are brightly lit' as 'kado ula ari ba' and 'light comes from sun' as 'dopi kup lo nro'. What code-words are written for 'sun' and 'brightly' respectively?

    (1) ba, sul   (2) sul, lo   (3) lo, ba   (4) ba, lo

3. Find the number of triangles in the given figure.
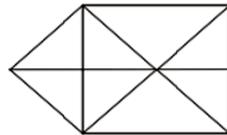
    (1) 15   (2) 16   (3) 17   (4) 18

4. A cube is painted blue on two adjacent surfaces and black on the surfaces opposite to blue surfaces and green on the remaining faces. Now the cube is cut into 216 smaller cubes of equal size. Find the number of smaller cubes which have only two surfaces painted.

    (1) 56   (2) 48   (3) 32   (4) 64

5. Ritesh starts from P and walks 2 km east up to Q and turns southwards and walks 1 km up to R. At R he turns towards east and walks 2 km up to S. He then turns northwards and walks 4 km to U. How far is he from his starting point?

    (1) 3 Km   (2) 4 Km   (3) 5 Km   (4) 6 Km

6. From the given options, select a figure in which the Question Figure is hidden/embedded
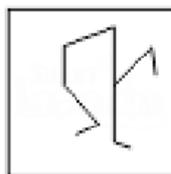
    (1)   (2)   (3)   (4)

7. Find the missing number from the given alternatives.

6	8	2	20
7	2	4	30
8	7	6	?
5	5	9	50

   (1) 55   (2) 40   (3) 60   (4) 50

8. Choose the missing term.
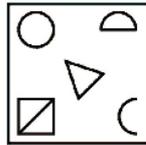
   ABC, DEF, HIJK, ?, STUVWX

   (1) MNOPQ   (2) LMNOP   (3) LMNO   (4) QRSTU

9. If '×' stands for 'greater than', '–' stands for 'addition', '÷' stands for 'division',+' stands for 'equal to', '<' stands for 'multiplication', '>' stands for 'less than' and '=' stands for 'subtraction', then which of the following options is correct?

   (1) $5 < 2 = 1 + 3 – 4 ? 1$

   (2) $5 = 2 – 1 + 3 < 4 – 1$

   (3) $5 < 2 – 1 + 3 < 4 = 1$

   (4) $5 – 2 – 1 > 3 – 4 < 1$

10. Find the mirror image :

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

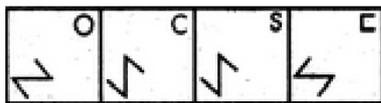11. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

    Problem figure

    (A)   (B)   (C)   (D)   (E)

    Answer figure

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

12. In a class of 45 students, Sohan is placed eighth from the bottom, whereas Mohan is placed tenth from the top. Rohan is placed exactly in between the two. What is Rohan's position from Mohan?
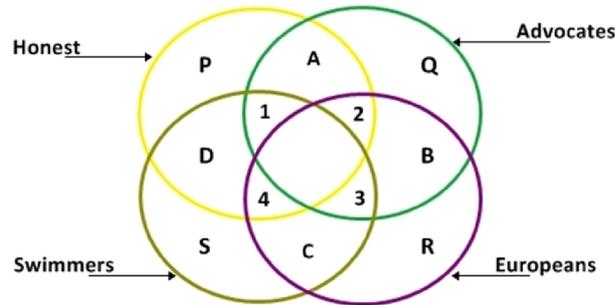
    (1) 14th   (2) 13th   (3) 15th   (4) 10th

13. Find the missing term :

15   16   ?   29   45

(1) 20   (2) 17   (3) 19   (4) 22

14. What does the area marked 1 in the figure given below represent ?

(1) All honest European swimmers

(2) All honest advocates who are swimmers

(3) All no-European advocates who are honest swimmers

(4) All non-Europeans who are honest swimmers

15. Which is the correct water image from the given four images.

r i s e

(1) ⌐!ᴤᶒ   (2) esir   (3) ꞁiᴤ⋿   (4) ᴤᴤᶖꞁ

16. Pointing to a lady, Shahrukh said, "She is the daughter of the only child of my grandmother." How is the lady related to Shahrukh?

(1) Sister   (2) Niece

(3) Cousin   (4) Data inadequate

17. In a certain code, EAT is written as 318 and CHAIR is written as 24156. What will TEACHER be written as ?

(1) 8312346   (2) 8321436   (3) 8312436   (4) 831342

18. A painter is given a task to paint a cubical box with six different colours for different faces of the cube. The detailed account of it is given as :

(i) Red face should lie between yellow and brown faces.

(ii) Green face should be adjacent to the silver face.

(iii) Pink face should lie adjacent to the green face.

(iv) Yellow face should lie opposite to the brown one.

(v) Brown face should have face down.

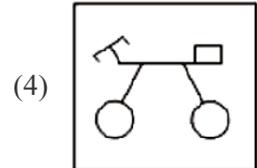(vi) Silver and pink faces should lie opposite to each other.

The faces adjacent to green are

(1) Yellow, Pink, Red, Silver   (2) Brown, Pink, Red, Silver

(3) Red, Silver, Yellow, Brown   (4) Pink, Silver, Yellow, Brown

19. Madhuri travels 14 km Westwards and then truns left and travels 6 km and further turns left and travels 26 km. How far is Madhuri now from the starting point ?

   (1) $\sqrt{180}$ km   (2) $\sqrt{80}$ km   (3) 100 km   (4) 50 km

20. If a mirror is placed on the line AB, which of the option figure shows the correct mirror image of the given question figure?

PHYSICS

This section contains **25 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

21. Action and reaction never cancels each other, because

    (1) They act on different bodies
    (2) They are opposite in direction
    (3) They are equal in magnitude
    (4) They are of different magnitude

22. Match the entries of column-I with entries of column-II and choose correct option:

	Column-I		Column-II
(A)	Speedometer of our car indicates	(P)	Distance travelled
(B)	Odometer of our car indicates	(Q)	Displacement
		(R)	Instantaneous speed
		(S)	Average speed

    (1) (A)→(P); (B)→(S)
    (2) (A)→(R); (B)→(Q)
    (3) (A)→(S); (B)→(Q)
    (4) (A)→(R); (B)→(P)

23. The value of G depend upon the

    (1) Nature of the bodies
    (2) Size of the bodies
   (3) Nature of medium between the bodies
    (4) Universal constant

24. The linear momentum of a particle of mass 'm' is P. Its kinetic energy is :

    (1) P^m
    (2) P/m
    (3) P^2/m^2
    (4) $P^2/2m$

25. Two bodies of masses 'm' and '3m', moving with velocities 3v and v respectively along same direction, collide with each other. After collision they stick together and move with a velocity 'V' in the same direction then

    (1) $V = v$
    (2) $V = \dfrac{3}{2}v$
    (3) $V = 2v$
    (4) $V = \dfrac{4}{3}v$

26. A particle is in straight line motion moving with constant velocity. A force is not required

    (1) to keep it moving with same speed and direction

    (2) to increase the speed

    (3) to decrease the speed

    (4) to change direction of motion

27. Three cars A, B and C covers a distance of 's' with constant speeds V_A, V_B & V_C respectively which are in the ratio 2 : 3 : 4. Then the ratio of time taken by them to cover the distance 's' is

    (1) 4 : 3 : 2
    (2) 3 : 4 : 6
    (3) 6 : 4 : 3
    (4) 3 : 2 : 1

28. The unit of G is

    (1) $\dfrac{Nkg^2}{m^2}$
    (2) $\dfrac{kg^2}{N.\,m^2}$
    (3) $\dfrac{Nm^2}{kg^2}$
    (4) $N.\,kg^2 m^2$

29. A 1 kg mass has a kinetic energy of 1 joule when its speed is

(1) 0.45 ms^{-1}
(2) 1 ms^{-1}
(3) 1.4 ms^{-1}
(4) 4.4 ms^{-1}

30. The radius of the circular path of a particle is doubled but its frequency of rotation is kept constant. If the initial centripetal force be F, then the final value of centripetal force will be -

(1) F
(2) $\dfrac{F}{2}$
(3) 4F
(4) 2F

31. A car travels 40 kms at an average speed of 80 km/h and then travels 40 kms at an average speed of 40 km/h. The average speed of the car for this 80 km trip is nearly:

(1) 40 km/h
(2) 45 km/h
(3) 48 km/h
(4) 53 km/h

32. Kepler's first law is also known as consequence of

(1) Law of periods
(2) Law of equal areas
(3) Law of orbits
(4) Law of speeds

33. A person pulls a body on a horizontal surface by applying a force of 5.0 N at an angle of 30° with the horizontal. Find the work done by this force in displacing the body through 2.0 m.

(1) $5\sqrt{3}$ Joule
(2) $6\sqrt{2}$ Joule
(3) $7\sqrt{3}$ Joule
(4) $4\sqrt{3}$ Joule

34. When a constant force is applied to a body, it moves with uniform -

(1) Acceleration
(2) Velocity
(3) Speed
(4) Momentum

35. For the motion of a particle, acceleration time graph is shown in figure then the velocity time curve for the duration of 0 - 4 sec is.
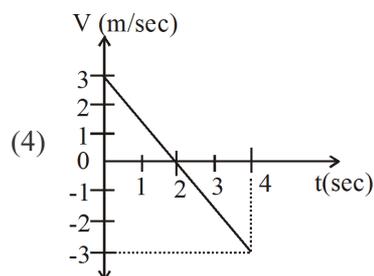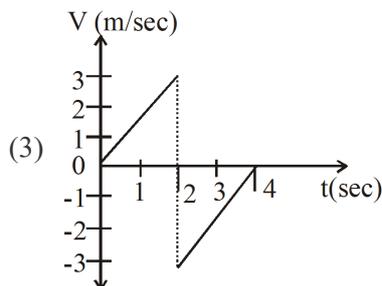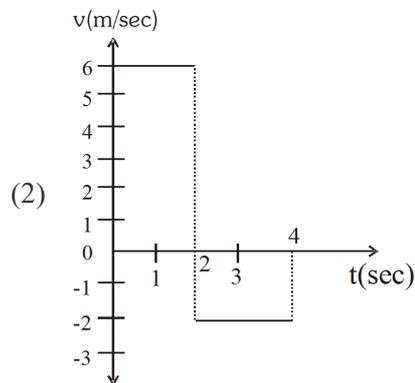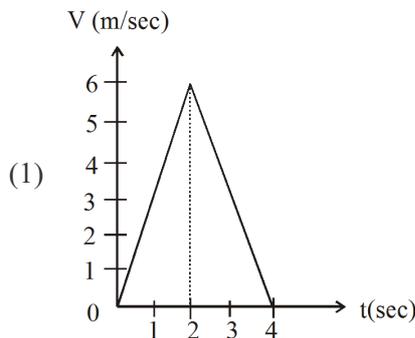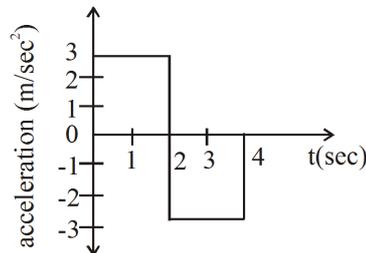
36. At what depth below the earth's surface does the acceleration due to gravity fall to 2% of its value at the earth's surface? (R-Radius of Earth)

(1) $\dfrac{R}{50}$ (2) $\dfrac{R}{25}$ (3) $\dfrac{49R}{50}$ (4) $\dfrac{4R}{25}$

37. When a body rolls down an inclined plane, its has :

(1) Only kinetic energy   (2) Only potential energy

(3) Both kinetic and potential energy   (4) Neither kinetic nor potential energy

38. A bullet of mass 10 gm moving with 100 m/s is embedded in a block of 1 kg which is initially in rest. The final velocity of the system will be–

(1) 1 m/s   (2) 1.5 m/s   (3) 0.5 m/s   (4) 2 m/s

39. Which of the following distance-time graph shows retarded motion ?
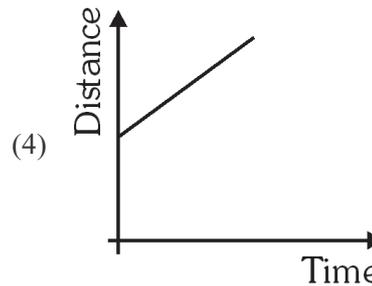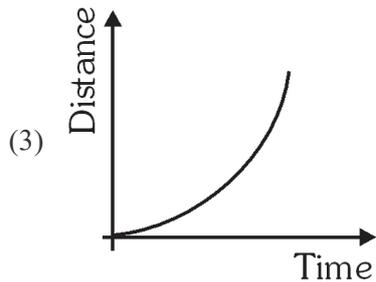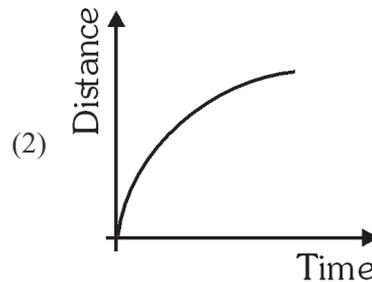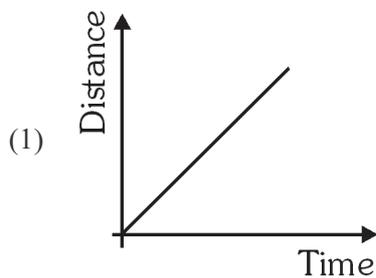
40. If the distance between two masses is doubled then the gravitational force between them will be

(1) one-fourth   (2) half   (3) double   (4) four times

41. The K.E. of a body is increased most by doubling its

(1) mass   (2) weight   (3) speed   (4) density

42. A player caught a cricket ball of mass 150g which came to his hand with a speed of 20m/s. If the ball was stopped in 0.1s, the force exerted by ball on the hands of player is:

(1) 150N   (2) 3kN   (3) 30N   (4) 15N

43. Starting from the same point, two person A and B starts running in opposite direction on the circumference of a circle of radius R with a velocity of v_1 & v_2. After how much time, they will meet again:

(1) $\dfrac{2\pi R}{v_1 + v_2}$ (2) $\dfrac{\pi R}{v_1} + \dfrac{\pi R}{v_2}$ (3) $\dfrac{v_1 + v_2}{2\pi R}$ (4) $\dfrac{\pi R}{(v_1 + v_2)}$

44. Which statement is correct among the following for gravitational acceleration (g) due to earth?

    (1) The value of g is equal at poles and equatorial circle

    (2) The value of g is more at poles than at equatorial circle

    (3) The value of g is more at equatorial circle than at poles

    (4) g is maximum at core of the earth

45. Which of the following graphs closely represents the kinetic energy (K) of a freely falling body and its height (h) above the ground ?
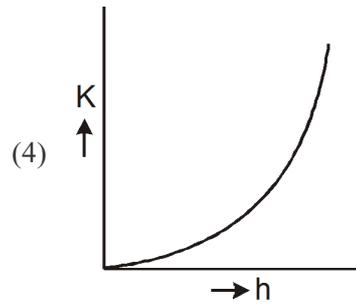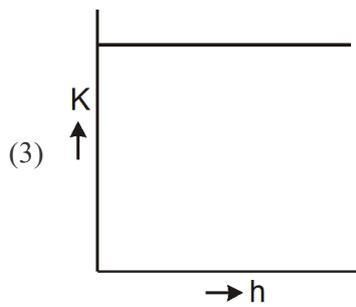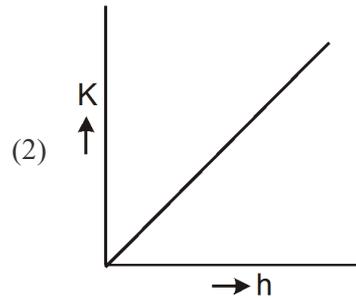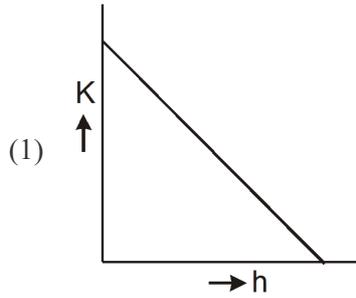
CHEMISTRY

This section contains **25 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

46. What is the mass of 10.0% blood plasma solution that contains 2.5 g of dissolved solute ?

    (1) 0.25 g   (2) 0.278 g   (3) 25 g   (4) 250 g

47. The atomicity of sulphur is-

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

48. The charge of the atom containing 17 protons, 18 neutrons and 18 electrons is _____ ?

    (1) +1   (2) –2   (3) –1   (4) Zero

49. Which of the following will show the "Tyndall effect"?
    (a) Salt solution
    (b) Milk
    (c) Copper sulphate solution
    (d) Starch solution

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

50. The correct increasing order of molecular weights is-

    (1) $H_2O > H_2S > CO_2 > SO_2$ (2) $H_2O > H_2S < CO_2 > SO_2$

    (3) $H_2O < H_2S < CO_2 < SO_2$ (4) $H_2O > H_2S > CO_2 < SO_2$

51. Plum-pudding model of atom was also known as?

    (1) Rutherford model   (2) Thomson's model

    (3) Bohr model   (4) Dalton model

52. The solid state of CO_2 is also known as _____ ?

    (1) Tear gas   (2) Cooking gas   (3) Dry ice   (4) Laughing gas

53. What is the number of molecules in 0.25 moles of oxygen ?

    (1) 15.05×10^{23} (2) 150.5×10^{23}

    (3) 1.505×10^{23} (4) 0.1505×10^{23}

54. The number of electrons in the M-shell of the element with atomic number 10 is

    (1) 0   (2) 1   (3) 2   (4) 4

55. Which of the following pair represents the atomic symbols for mercury and potassium respectively.

    (1) Mg, P   (2) K, Hg   (3) Hg, P   (4) Hg, K

56. Lightest particle is

    (1) Neutron   (2) Electron   (3) Proton   (4) Nucleus

57. What will be the formula of calcium phosphate?

    (1) Ca_2PO_4 (2) $Ca_2(PO_4)_3$ (3) $Ca_3(PO_4)_2$ (4) $CaPO_4$

58. Number of valence electrons in Ar are

    (1) 8   (2) 18   (3) 19   (4) 20

59. What is the term used to describe the phase change of a liquid to a gas?

    (1) Boiling   (2) Condensation   (3) Melting   (4) Freezing

60. The number of oxygen atoms in 16 g oxygen gas is :

    (1) 6.02×10^{23} atoms   (2) 3.01×10^{23} atoms

    (3) 12.04×10^{23} atoms   (4) 12.04×10^{22} atoms

61. Rutherford's experiment, which established the nuclear model of the atom, used a beam of

    (1) β particles, which impinged on a metal foil and got scattered

    (2) γ-rays, which impinged on a metal foil and ejected electrons

    (3) Helium atoms, which impinged on a metal foil and got scattered

    (4) Helium nuclei, which impinged on a metal foil and got scattered

62. Tincture of iodine has antiseptic properties. This solution is made by dissolving

    (1) Iodine in alcohol

    (2) Iodine in vaseline

    (3) Iodine in water

    (4) Iodine in potassium iodide

63. A sample of sodium carbonate contains 6.02×10^{23} $Na^{\oplus}$ ions, the mass of the sample is :
    (at. mass: Na = 23, C = 12, O = 16, H = 1)

    (1) 53 g   (2) 106 gm   (3) 84 gm   (4) 42 gm

64. An element has atomic number 20. How many electrons will be present in K, L, M and N energy shells of its atom?

    (1) 2, 8, 10, 0   (2) 2, 10, 8, 0   (3) 2, 8, 8, 2   (4) 2, 8, 9, 1

65. A sugar solution contains 15% sugar by weight. When the solution is heated, 40% sugar is left in the solution. What is the amount of water(in grams) which has disappeared?

    (1) 62.5   (2) 22.5   (3) 85   (4) 37.5

66. Which of the following is not a compound?

    (1) Silica   (2) Steel   (3) Limestone   (4) Rust

67. Identify the correct statement :

    (1) $^{14}_{6}C$ and $^{14}_{7}C$ shows different chemical reactivity due to difference in atomic masses.

    (2) A neutron is formed by an electron and a proton combining together. Therefore it is neutral

    (3) Mass of an electron is about 1840 times that of proton.

    (4) Each energy level in an atom is associated with a fixed amount of energy.

68. Which of the following is not an example of a physical change?

    (1) Dissolving sugar in water   (2) Casting iron in moulds

    (3) Setting of cement   (4) Magnetisation of iron

69. The number of molecules in 11g of CO_2 is same as that in :

    (1) 8 g of oxygen gas   (2) 16 g of oxygen gas

    (3) 17 g of CO gas   (4) 3.5 g of CO gas

70. Which of the following correctly represent the electronic distribution in the 'Ca' atom?

    (1) 3, 8, 1   (2) 2, 8, 8, 2   (3) 1, 8, 3   (4) 8, 2, 2

BIOLOGY

This section contains **25 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

71. Living beings are made up of cells. This statement belongs to–

    (1) Lamarck   (2) Mendel

    (3) Hugo de Vries   (4) Schleiden and Schwann

72. Aditi observed following observations while looking into a permanent slide.
    (i) Cells are long, cylindrical and unbranched.
    (ii) Light and dark bands are present.
    It could be a slide of–

    (1) Striated muscle fibres   (2) Smooth muscle fibres

    (3) Cardiac muscle fibres   (4) Neurons

73. Which one of the following is caused by worms :

    (1) Malaria   (2) Ascariasis   (3) Kala-azar   (4) Polio

74. Aerenchyma are modified–

    (1) Parenchyma   (2) Collenchyma   (3) Phloem   (4) Sclerenchyma

75. Which of the following is Non-membranous organelle :

    (1) Ribosome   (2) Golgi Complex   (3) Lysosome   (4) Chloroplast

76. Which one has abundant white fibres :

    (1) Tendon   (2) Ligament   (3) Cartilage   (4) Bone

77. A sexually transmitted disease is–

    (1) Diphtheria   (2) Leprosy   (3) Syphilis   (4) Tetanus

78. Genetic material in bacteria & fungi is :

    (1) DNA, RNA respectively   (2) RNA, DNA respectively

    (3) DNA in both   (4) RNA in both

79. Observe the following figure and select the option that correctly identifies A, B, C and D
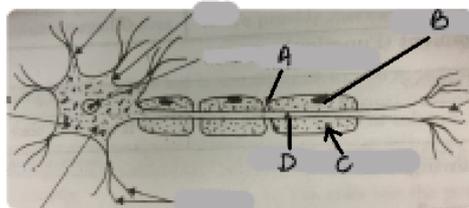
	A	B	C	D
(1)	Medullary sheath	Schwann cells	Axon	Synapse
(2)	Nodes of Ranvier	Schwann cells	Myelin sheath	Axon
(3)	Axon	Myelin sheath	Cyton	Dendrites
(4)	Schwann cells	Cyton	Dendrites	Axon

80. Example of congenital disease is :

(1) Haemophilia   (2) Rabies   (3) Typhoid   (4) Small pox

81. Cell theory was proposed by

(1) Robert Hooke   (2) A.V Leeuwenhoek

(3) Schleiden and Schwann   (4) Rudolf Virchow

82. Lignified cell wall is found in–

(1) Sieve tubes   (2) Xylem vessels

(3) Xylem parenchyma   (4) Companion cells

83. Typhoid is caused by :

(1) Salmonella   (2) Shigella   (3) Giardia   (4) Escherichia

84. An animal cell differs from a plant cell in the absence of :–

(1) ER   (2) Mitochondria   (3) Plastids   (4) Centrioles

85. Muscles present in limbs are–

(1) Unstriated and uninucleate   (2) Unstriated and multinucleate

(3) Spindle shaped and multinucleate   (4) Cylindrical and multinucleate

86. Cholera is _____

(1) Air born disease   (2) Water born disease

(3) Allergic disease   (4) Caused by protozoa

87. The process of taking in solid material by infolding of membrane is known as :

(1) Phagocytosis   (2) Osmosis

(3) Passive transport   (4) Pinocytosis

88. The meristem present at the root or shoot apices is called

(1) Promeristem   (2) Apical meristem

(3) Intercalary meristem   (4) Lateral meristem

89. Small pox and measles are caused by

(1) Virus   (2) Protozoan   (3) Bacterium   (4) Nematode

90. Cellulose is the major component of cell wall of–

(1) Saccharomyces   (2) Spirogyra

(3) Acetobacter   (4) Mycoplasma

91. The main conducting part of phloem and xylem in angiosperms is:–

	Phloem	Xylem
(1)	Sieve tubes (dead)	Vessels (living)
(2)	Sieve tubes (living)	Vessels (dead)
(3)	Sieve tubes (living)	Vessels (living)
(4)	Vessels (dead)	Sieve tubes (living)

92. Acute disease is–

    (1) Elephantiasis   (2) Asthma   (3) Cancer   (4) Common cold

93. When some Rheo leaves are boiled in water for a few minutes and the cells are put in a strong salt solution after mounting. The cells will:

    (1) Swell up   (2) Shrink down

    (3) Burst   (4) Remain unchanged

94. What are the identifying features of meristematic tissues.

    (1) Thick cellulose wall, small vacuoles, dense cytoplasm, small nuclei

    (2) Thin cellulose wall, Almost no vacuoles, dense cytoplasm, prominent nuclei

    (3) Thin cellulose wall, no vacuoles, sparse cytoplasm, small nuclei

    (4) Thick cellulose wall, large vacuoles, sparse cytoplasm, small nuclei

95. Ring worm disease is caused by–

    (1) Fungi   (2) Bacteria   (3) Algae   (4) Protozoan

MATHEMATICS

This section contains **25 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which ONLY ONE is correct.

96. If the area of three adjacent faces of cuboid is 6 cm^2, 15 cm^2 and 10 cm^2. Find the volume of cuboid.

    (1) 30 cm^3 (2) 90 cm^3 (3) 18 cm^3 (4) 36 cm^3

97. Which one of the following is not correct :

    (1) Two lines which are both parallel to the same line are parallel to each other.

    (2) Two distinct lines cannot have more than one point in common.

    (3) Two intersecting lines can be both parallel to the same line

    (4) A line contains infinite number of points

98. In the given figure, AOB is a diameter of a circle with centre O. If ∠BOD = 120°, find ∠ACD.
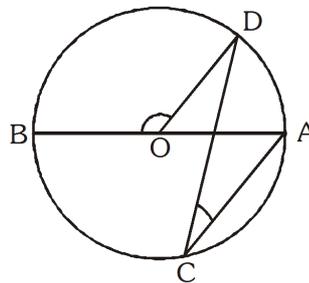
    (1) 30°   (2) 60°   (3) 120°   (4) 90°

99. What must be subtracted from $3z^4 + 11z^3 + 4z^2 - 2z + 4$ so that the result is exactly divisible by $3z^2 + 5z - 2$?

    (1) $\dfrac{13}{3}(2z+1)$ (2) $\dfrac{1}{3}(14z+7)$ (3) $\dfrac{1}{3}(26z+5)$ (4) $\dfrac{2}{3}(13z+2)$

100. When the diagonals of a parallelogram are perpendicular to each other then it is called :

    (1) Trapezium   (2) Rectangle   (3) Rhombus   (4) Parallelogram

101. If the difference between mean and mode is 63, the difference between mean and median is :

    (1) 189   (2) 21   (3) 31.5   (4) 48.5
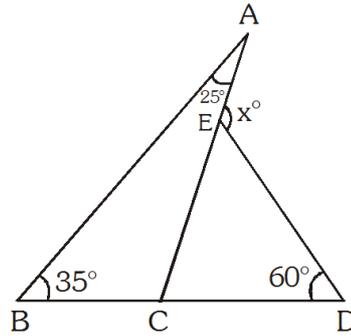
102. Semi-perimeter of a scalene triangle of sides 3p, 4p and 5p is

    (1) 6p   (2) 5p   (3) 4p   (4) 3p

103. The point which lies on the y-axis at a distance of 6 units in the negative direction of y-axis is _____.

    (1) (0, 6)   (2) (6, 0)   (3) (0, –6)   (4) (–6, 0)

104. From the adjoining figure the value of x is :

 (1) 60°   (2) 75°   (3) 90°   (4) 120°

105. Two unbiased dice are thrown simultaneously and their outcomes are recorded. The probability that the sum of the numbers appearing on both the dice(in each recording) is divisible by 3 is

 (1) $\dfrac{1}{3}$ (2) $\dfrac{2}{5}$ (3) $\dfrac{3}{4}$ (4) $\dfrac{2}{3}$

106. Simplify : $5\sqrt[3]{250} + 7\sqrt[3]{16} - 14\sqrt[3]{54}$:

 (1) $-2\sqrt[3]{3}$ (2) $3\sqrt[3]{2}$ (3) 0   (4) $-3\sqrt[3]{2}$

107. If the chord of length $2\sqrt{2}$ cm subtends an angle of 45º at the circumference of circle. Find the radius of circle.

 (1) 2 cm   (2) 1 cm   (3) $\sqrt{2}$ cm   (4) $2\sqrt{2}$ cm

108. $(a - b)^3 + (b - c)^3 + (c - a)^3$ is equal to

 (1) 3abc

 (2) $3a^3b^3c^3$

 (3) $3(a - b)(b - c)(c - a)$

 (4) $[a - (b + c)]^3$

109. The figure formed by joining the mid points of the adjacent sides of a rectangle is a

 (1) Square   (2) Rhombus   (3) Trapezium   (4) Rectangle
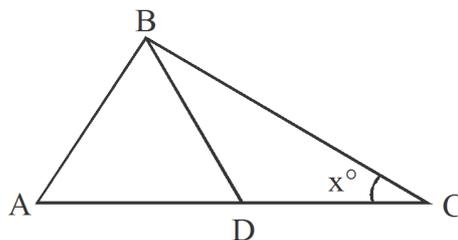
110. It is given that $S = \dfrac{10}{\sqrt[3]{7} + \sqrt[3]{3}} = \sqrt[3]{a} + \sqrt[3]{9} - \sqrt[3]{b}$, where a and b are integers. The sum of a and b is:

 (1) 49   (2) 70   (3) 21   (4) 1

111. The surface area of a sphere of radius 5 cm is five times the area of the curved surface area of a cone of radius 4 cm. Find the height of the cone.
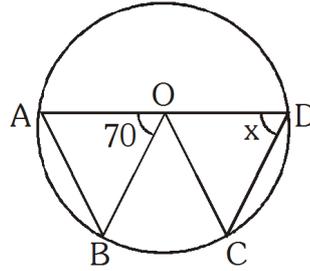
 (1) 3 cm   (2) 4 cm   (3) 5 cm   (4) 6 cm

112. In the diagram, If AB = AD = BD = DC, then find x°.

 (1) 25°   (2) 30°   (3) 15°   (4) 45°

113. O is the centre of the circle, if chord AB = chord CD and $\angle AOB = 70°$. Then x =

   (1) 70°   (2) 55°   (3) 50°   (4) 45°

114. If $x = \dfrac{1}{2 - \sqrt{3}}$ find the value of $x^3 - 2x^2 - 7x + 5$ is

   (1) 2   (2) 1   (3) 0   (4) 3

115. The figure formed by joining the consecutive mid-points of any rhombus is always-

   (1) A rhombus   (2) A rectangle   (3) A trapezium   (4) A Square
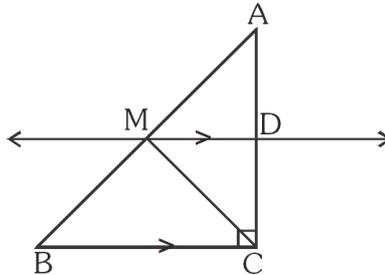
116. The mean of first six multiples of 3 is

   (1) 10   (2) 10.5   (3) 11   (4) 12

117. x = 1, y = – 1 is a solution of the system :

   (1) 5x+4y = 1 ; 5x – 4y =8   (2) 3ax + by = a – b ; ax – by = a + b

   (3) ax + by – a + b = 0 ; bx – ay – a – b = 0   (4) 4x + 7y = 3 ; 5x – 11y = 16

118. ABC is a triangle right angled at C. A line through the mid point M of hypotenuse AB parallel to BC intersects AC at D. Then CM is equal to ?

   (1) AD   (2) $\dfrac{1}{2}$ AB   (3) BC   (4) MD

119. A letter of the English alphabet is chosen at random. Find the probability that the letter chosen precedes P ?

   (1) $\dfrac{15}{26}$ (2) $\dfrac{11}{26}$ (3) $\dfrac{4}{13}$ (4) $\dfrac{2}{13}$

120. If $2^{2x-y} = 32$ and $2^{x+y} = 16$ then $x^2 + y^2$

   (1) 9   (2) 10   (3) 11   (4) 13

SAMPLE PAPER ANSWER KEY

Q.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A.	2	3	3	2	3	1	1	1	3	3	4	1	1	3	1	1	3	4	1	2
Q.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
A.	1	4	4	4	2	1	3	3	3	4	4	3	1	1	1	3	3	1	2	1
Q.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
A.	3	3	1	2	1	3	4	3	3	3	2	3	3	1	4	2	3	1	1	1
Q.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
A.	4	1	1	3	1	2	4	3	1	2	4	1	2	1	1	1	3	3	2	1
Q.	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
A.	3	2	1	3	4	2	1	2	1	2	2	4	4	2	1	1	3	1	4	3
Q.	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
A.	2	1	3	4	1	4	1	3	2	2	1	2	2	4	2	2	3	2	1	2