A

SCSS-ST-25

PCM Group

Question Booklet Sr. No.

Exam Date : 23/03/2025 **Time :** 02.30 pm to 05.00 pm **Max. Marks :** 400

Important Instructions :

1. Immediately fill the particulars on this page of The Booklet as well as Answer-sheet with Black or Blue Ball Pen. ***Use of Pencil is strictly prohibited.***
2. Do not open this Test Booklet until you are asked to do so.
3. This Test Booklet contains four sections A, B, C & D.
4. The Section-**A** contains **25** questions of **Physics.**
5. The Section-**B** contains **25** questions of **Chemistry.**
6. The Section-**C** contains **25** questions of **Mathematics**
7. The Section-**D** contains **25** questions of **Basic Mathematics & Mental ability.**
8. This Test Booklet contains **100** questions.
9. There are **four** choices for every question out of which only one choice is most correct (MCQ). Dark the appropriate circle on the OMR Answer-sheet with Blue/Blak Ball pen.
10. Each question carries 4 marks. There is negative marking system. For each wrong answer **1 mark will be deducted from obtained marks**.
11. Filling up more than one responses in any question will be treated as wrong response and marks for this will be deducted according to negative system.
12. **Do not fold or make any stray marks on the Answer-sheet.**
13. No candidates is allowed to carry any printed or written textual material, bits of paper, cell phone and any other electronic devices.
14. Rough work is to be done on the space provided in the Test Booklet only.
15. On completion of the test, the candidate must hand over the Answer-sheet to the Invigilator on duty. ***However, candidates are allowed to take away this Question paper with them.***

Name of Candidate (In capital letters) : _____

Seat No. : In figures

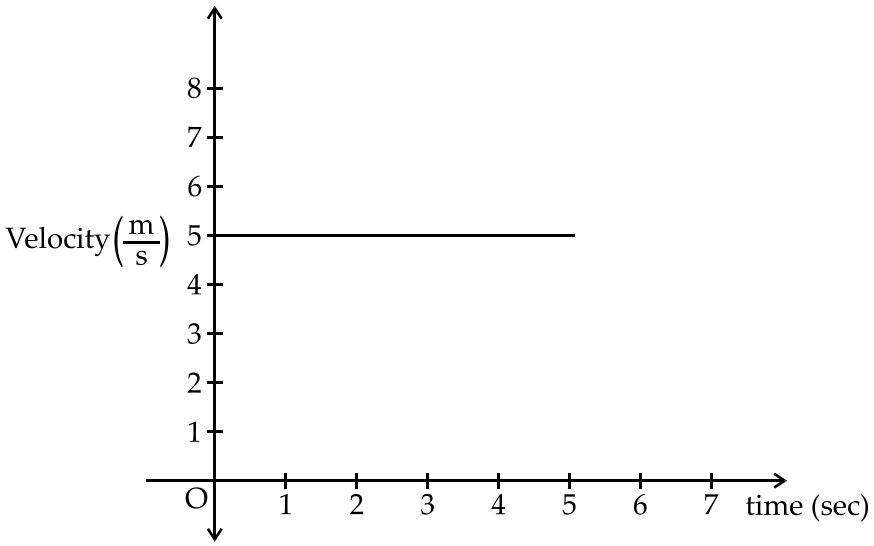
Section-A : Physics

01. The velocity of a car changes from 18 km/hr to 72 km/hr in 30 s. Calculate acceleration in m/s^2.

1) $1.8\ m/s^2$ 2) $0.5\ m/s^2$

3) $2\ m/s^2$ 4) $2.5\ m/s^2$

02. The following graph shows rectilinear motion of a particle. What does the graph represents regarding its motion ?



1) constant acceleration 2) zero acceleration

3) velocity is increasing 4) velocity is zero

03. A goalkeeper pulls his hands backward while catching the ball. This enables goalkeeper to

1) increase rate of change of momentum 2) decrease rate of change of momentum

3) increase force exerted by the ball on hand 4) exert larger force on ball

04. Why does the horse-rider fall backward, when the horse starts running suddenly ?

1) Inertia of motion 2) Inertia of direction

3) Inertia of rest 4) Moment of inertia

05. A gun of mass 10 kg fires a bullet, causes the gun to recoil with the speed of 18 km/hr. Find momentum of the gun

1) 180 N s 2) 50 N s

3) 10 N s 4) 18 N s

06. A stone is thrown upward with a certain speed then its kinetic energy at the highest point is

1) zero 2) maximum

3) minimum 4) data insufficient

Space for rough work

07. **Statement 1 :** Moon completes one rotation around the earth then work done by gravity is zero.

Statement 2 : Whenever a body is dropped from a certain height, kinetic energy gets convrted to potential energy.

1) Statement - 1 is true, Statement - 2 is false
2) Statement - 2 is true, Statement - 1 is false
3) Both are true
4) Both are false

08. A force of 50 N acts on a body to displace it by 5 m. If the work done in this process is 125 J, then find the angle between the direction of the force and the displacement.

1) 0° 2) 60°
3) 45° 4) 90°

09. If an object is freely falling from height of 45 m. Find the time taken by the object to reach the ground. ($g = 10\ m/s^2$)

1) 2 s 2) 3 s
3) 4 s 4) 5 s

10. Which of the following statement is / are **correct** ?

i) All planets revolves around the sun in circular orbit.
ii) Acceleration due to gravity (g) is greater at poles than equator.
iii) The weight of body at centre of the earth is zero.

1) All i, ii and iii are correct 2) Only ii is correct
3) Only i and ii is correct 4) Only ii and iii are corect

11. **Assertion (A) :** Whether the object is falling towards or moving away from the earth, the direction of acceleration is always towards the earth.

Reason (R) : The value of 'g' near earth's surface is $9.8\ m/s^2$.

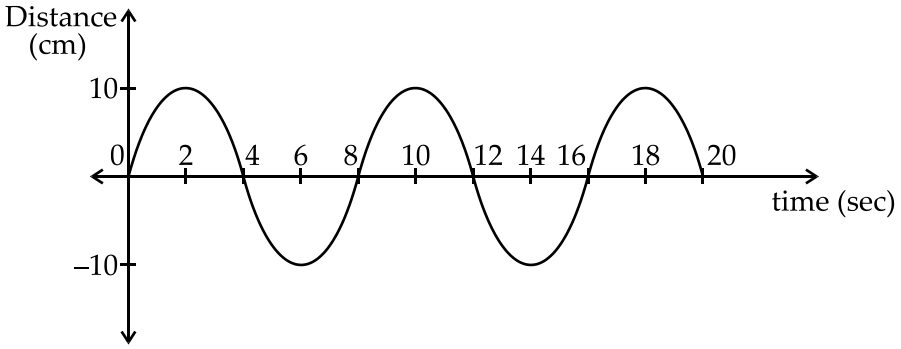
1) A and R both correct and R is correct explanation of A.
2) A and R both correct but R is not correct explanation of A.
3) A is correct, R is incorrect
4) A is incorrect, R is correct

Space for rough work

12. An object just floats in water. If common salt is added in water, then
    1) volume of the immersed part in the liquid decreases.
    2) object sinks
    3) object first sinks and then floats up
    4) cannot be determined

13. The ratio of density of a substance to the density of water at 4°C is called as
    1) relative mass
    2) specific gravity
    3) relative volume
    4) relative weight

14. The transverse wave is shown below. What is the time period and amplitude of the given wave ?



    1) Time period = 4 s; amplitude = 5 cm
    2) Time period = 8 s; amplitude = 10 cm
    3) Time period = 4 s; amplitude = 10 cm
    4) Time period = 8 s; amplitude = 5 cm

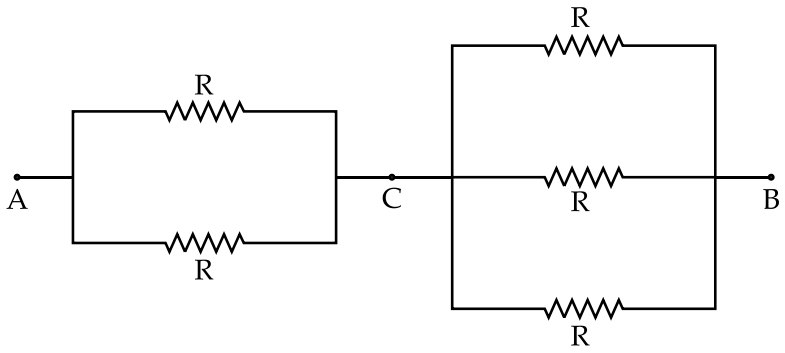
15. Which of the following statements is / are **correct** ?
    i) Velocity of sound in vaccum is 330 m/s.
    ii) A longitudinal wave is made up of crest and trough.
    iii) A transverse wave is made up of compression and rarefraction.
    1) Only i correct
    2) Only i and ii correct
    3) Only ii and iii correct
    4) None of the above

16. A 20 watt heater just keeps 400 g of molten metal at its melting point. The heater is switched off and the temperature starts falling after 5 minutes. Its latent heat of fusion of the metal is (in $J\ g^{-1}$)
    1) $15\ J\ g^{-1}$
    2) $9\ J\ g^{-1}$
    3) $17\ J\ g^{-1}$
    4) $5\ J\ g^{-1}$

17. During very cold nights, some water pipe lines burst due to
    1) less expansion
    2) severe contraction
    3) anomalous expansion
    4) high energy

Space for rough work

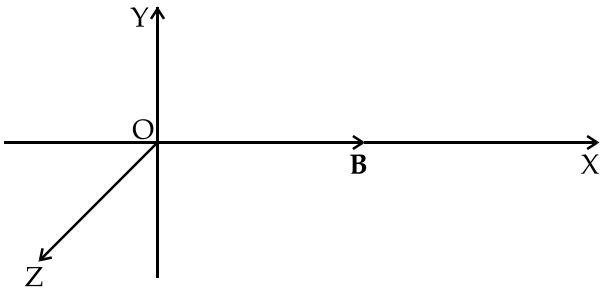
18. A set five identical resistances are arranged as shown in the figure.
Find the ratio of resistance between the points AB to AC.



1) $\frac{1}{2}$
2) $\frac{2}{3}$
3) $\frac{5}{3}$
4) $\frac{2}{1}$

19. In a room, if current in the circuit suddenly increases, to prevent the damage likely to happen to the electronic devices, we use
1) Switch
2) Bulb
3) Resistor
4) Miniature circuit breakers

20. In a region, a uniform magnetic field **B** is directed along +ve X-axis. If some particles are released in the magnetic field at the origin, match the appropriate or suitable directions for the force experienced by the particles.



	Column - I		**Column - II**
A)	Protons at high speed along +ve Z-axis	i)	–Z-axis
B)	Protons at low speed along +ve Y-axis	ii)	+Z-axis
C)	Electrons at low speed along –ve Y-axis	iii)	No deflection
D)	Neutrons along +ve Z-axis	iv)	+Y-axis
		v)	–Y-axis

1) A → v, B → iv, C → iii, D → ii
2) A → i, B → ii, C → iii, D → iv
3) A → iv, B → i, C → i, D → iii
4) A → iii, B → ii, C → iv, D → i

Space for rough work

21. Match the column - I with column - II.

	Column - I		**Column - II**
A)	Fleming's left hand rule	i)	Direction of magnetic field
B)	Ohm's law	ii)	Experimental law
C)	Right hand thumb rule	iii)	Direction of magnetic force
		iv)	Direction of current

1) A - iii, B - ii, C - i & iv
2) A - iii, B - ii, C - i & ii
3) A - i, B - iii, C - ii & iv
4) A - i, B - iii, C - ii & iv

22. The critical angle for a pair of denser medium and air can be $\frac{\pi}{4}$ radian or 45°, then the speed of light in the denser medium can be $\frac{x}{\sqrt{x-1}} \times 10^8$ ms^{-1}, then x is

1) 1
2) 2
3) 3
4) 5

23. For a thin lens, a light ray passing through optic centre leaves undeviated, according to the ..... .

1) Lens law
2) Mirror law
3) Law of light and glass
4) Snell's law

24. A point source of light is placed in a water fountain, if light rays are coming out of the water then it follows ..... .

where 'i' is angle of incidence,

'c' is critical angle

1) i = c
2) i < c
3) i > c
4) i ≥ c

25. Ratio of unit of acceleration to the unit of velocity gives unit of which of the following physical quantity?

1) time
2) frequency
3) distance
4) dimensionless

Space for rough work

Section-B : Chemistry

26. The angular momentum of an electron in n^{th} orbit is given by

1) nh
2) $\frac{h}{2\pi n}$
3) $\frac{nh}{2\pi}$
4) $\frac{\pi^2 h}{2}$

27. Which is correct molecular formula in which N (Oxidation state –2), and hydrogen (Oxidation state +1)?

1) NH_3
2) NH
3) N_2H_3
4) N_2H_4

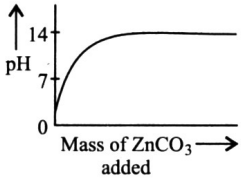
28. **Assertion (A) :** Sodium chloride is an ionic compound.
Reason (R) : Chemical compound formed by mutual sharing of electron between two combining atoms is covalent compound.

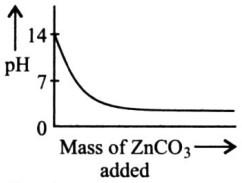
1) Both A and R are correct and R is correct explanation of A.
2) Both A and R are correct but R is not correct explanation of A.
3) A is correct and R is incorrect.
4) Both A and R are incorrect.

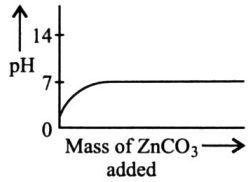
29. **Statement - I :** Global temperature is gradually increases due to green house effect.
Statement - II : CO_2, SO_2, N_2O are green house gases.

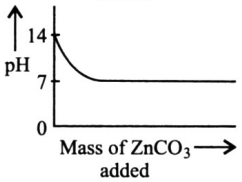
1) Both statement - I and statement II are correct.
2) Both statement - I and statement II are incorrect.
3) Statement - I is correct and statement II is incorrect.
4) Statement - I is incorrect and statement II is correct.

30. Which of the following graph shows the change in pH when zinc carbonate is added to hydrochloric acid until it is in excess ?

1) 

2) 

3) 

4) 

31. 10 ml of a solution of 10^{-2} M NaOH is found to be completely neutralised by 8 ml of a given solution of HCl. If we take 20 ml of the same solution of NaOH, the amount of HCl solution required to neutralise it will be

1) 4 ml
2) 8 ml
3) 12 ml
4) 16 ml

Space for rough work

32. Which one of the following pair of atom is most unlikely to form ionic bond ?

1) Na and Cl
2) Mg and F
3) Al and F
4) Al and Cl

33. Match the column - I with column - II.

	Column - I (Compound)		**Column - II (Type of compound)**
A)	$K_2[HgI_4]$	i)	Complex salt
B)	$CaOCl_2$	ii)	Double salt
C)	$Ca(OH)NO_3$	iii)	Mixed salt
D)	$K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$	iv)	Basic salt

	(A)	**(B)**	**(C)**	**(D)**
1)	i	iii	ii	iv
2)	i	iii	iv	ii
3)	iii	i	iv	ii
4)	ii	iv	iii	i

34. Arrange the following ions in the ascending order of tendency to get discharged at the respective electrodes.

A) Copper
B) Potassium
C) Iron
D) Zinc
E) Hydrogen

1) A > B > C > D > E
2) B > D > C > E > A
3) D > B > C > E > A
4) B > C > D > E > A

35. Oxidation state of iron in sodium nitroprusside $Na_2[Fe(CN)_5(NO)]$ and in brown ring $[Fe(H_2O)_5NO]SO_4$ complex are respectively

1) +2, +2
2) +3, +3
3) +2, +1
4) +3, +2

36. Match the extraction process listed in column - I with metals listed in column - II.

	Column - I		**Column - II**
A)	Self reduction	i)	Lead
B)	Carbon reduction	ii)	Silver
C)	Complex formation and displacement by metal	iii)	Copper
D)	Decomposition of iodide	iv)	Boron

1) A → i, iii B → ii, iii C → i D → ii, iv
2) A → i, iii B → i, iii C → ii D → iv
3) A - i, iii B → iv C → i D → i, ii
4) A → i, ii B → i, iii C → iii D → iv

37. Which among the following is an oxide ore of lead ?

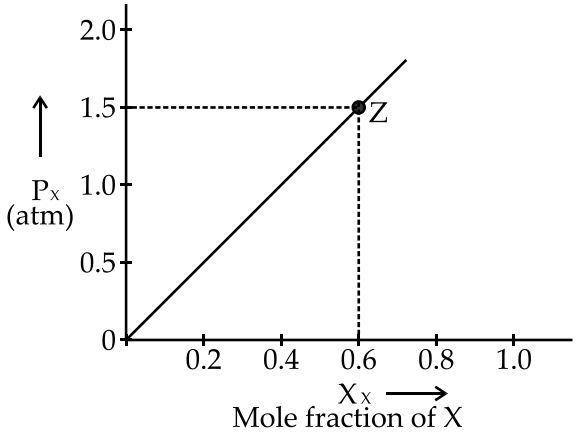
1) lead ochre
2) galena
3) anglesite
4) dolomite

Space for rough work

38. In Mendeleev's periodic table, gaps were left for the elements to be discovered later, which of the following element found to be a place in the periodic table ?
    1) Scandium
    2) Gallium
    3) Germanium
    4) All of these

39. **Assertion (A) :** The given trend is increasing order of metallic character Na < K < Rb < Cs.
    Reason (R) : Non metallic character increases along a period and decreases down the group.
    1) Both A and R are correct and R is correct explanation of A.
    2) Both A and R are correct but R is not correct explanation of A.
    3) A is correct and R is incorrect.
    4) Both A and R are incorrect.

40. 'Omkar' studies how pressure varies with mole fraction of a gas X in combination with non-reacting gas Y. He plotted a graph as shown. What is the partial pressure of gas Y at point Z ?



    1) 1 atm
    2) 1.5 atm
    3) 2.0 atm
    4) 2.5 atm

41. A cylinder is filled with equal number of molecules of O_2, CO_2 and He. When leakage occurs,
    1) Helium gas escapes to maximum extent.
    2) Oxygen gas escapes to a minimum extent.
    3) All gases escapes to same extent.
    4) Carbondioxide gas escapes to maximum extent.

42. The molarity of solution obtained by mixing 750 ml of 0.5 M HCl with 250 ml of 2 M HCl solution is
    1) 1.825
    2) 2.025
    3) 1.625
    4) 0.875

43. Consider the reactions,

    i) $\frac{1}{2}N_2 + \frac{3}{2}H_2 \longrightarrow NH_3$
    ii) $N_2 + 2H_2 \longrightarrow N_2H_4$

    for fixed 14 g of nitrogen the ratio of other element in NH_3 and N_2H_4 is
    1) $\frac{3}{2} : 2$
    2) $\frac{1}{2} : 2$
    3) 2 : 1
    4) 3 : 2

Space for rough work

44. How many methylene units are extra in the structural formula of the fourth member than the second member of homologous series of alcohol ?
1) 0 2) 1
3) 2 4) 3

45. The soap molecule has
1) Hydrophobic hydrocarbon tail and hydrophilic ionic head
2) Hydrophilic hydrocarbon tail and hydrophoic ionic head
3) Hydrophobic hydrocarbon tail and hydrophobic ionic head
4) Hydrophilic hydrocarbon tail and hydrophilic ionic head

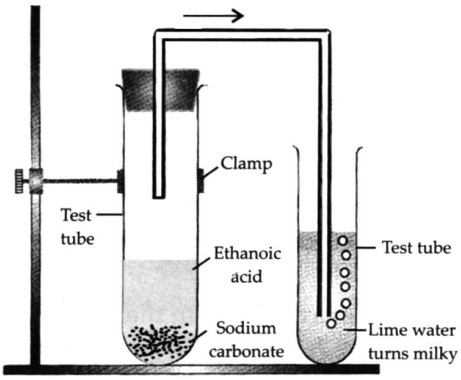
46. Match the column I and column II and select **correct** option from the given codes :

	Column - I		**Column - II**
A)	$C_2H_5OH \longrightarrow H_3C-COOH$	i)	Conc. H_2SO_4, 170°C
B)	$C_2H_5OH \longrightarrow CH_2=CH_2$	ii)	H_2, Ni
C)	$CH_4 \longrightarrow CH_3Cl$	iii)	Alkaline $KMnO_4$
D)	$H_2C=CH_2 \longrightarrow CH_3-CH_3$	iv)	Cl_2, sunlight

1) A - i, B - iii, C - ii, D - iv 2) A - iv, B - iii, C - ii, D - i
3) A - i, B - ii, C - iii, D - ii 4) A - iii, B - i, C - iv, D - ii

47. Denaturated spirit is the mixture of
1) Ethanol and ethanoic acid 2) Ethanol and methanol
3) Acetic acid and methanol 4) Methanol and propanal

48. The apparatus arranged as shown in the figure. Place sodium carbonate powder in big test tube pour 10 ml acetic acid and pass the gas and observe the changes taking place in two test tube, the bubbles seen in small test tube is due to formation of



1) H_2S gas
2) O_2 gas
3) CO_2 gas
4) H_2 gas

49. **Statement - I :** Plastic containers are favoured for food storing.
Statement - II : Plastic containers are non reactive towards food.
1) Both statement - I and statement II are correct.
2) Both statement - I and statement II are incorrect.
3) Statement - I is correct and statement II is incorrect.
4) Statement - I is incorrect and statement II is correct.

50. Charcoal does not produce a flame because.
1) it is solid fuel 2) it does not vapourise
3) it is black in colour 4) it has very high calorific value

Space for rough work

Section-C : Mathematics

51. **Statement - I :** The H.C.F. of polynomial $12a^3b^4c^2$, $18a^4b^3c^3$ and $24a^6b^2c^4$ is $6a^6b^4c^4$

Statement - II : L.C.M. of $\frac{\pi}{2}$ and $\frac{\pi^2}{2}$ is $\frac{\pi^2}{2}$.

1) Statement - I is true, Statement - II is false.
2) Statement - I is false, Statement - II is true.
3) Both statements are true.
4) Both statements are false.

52. If the system of equation $(2p+q+1)x+qy=5$ and $(p+2q)x+(p+3q-1)y=10$ has infinite many solutions then the value of $p+q$.

1) 1
2) –1
3) 0
4) none of these

53. If α and β are the zeros of the polynomial $p(x)=x^2+4x+3$ and $1+\frac{\beta}{\alpha}$ and $1+\frac{\alpha}{\beta}$ are the roots of the quadratic equation $px^2+qx+r=0$ then the value of $p+q-r$ =

1) 0
2) 1
3) 29
4) –29

54. The reduction of the expression $\frac{2x}{x^4+x^2+1}+\frac{1}{x^2+x+1}$ is

1) $\frac{3x}{x^4+x^2+1}$
2) $\frac{x}{x^2-x+1}$
3) $\frac{1}{x^2-x+1}$
4) none of these

55. Let α and β are roots of the equation $2x^2-2x-5=0$, then the value of $\alpha^3-\beta^3$ =

1) $\frac{2497}{2}$
2) $\frac{2499}{2}$
3) $\frac{2411}{2}$
4) none of these

56. If $\frac{12}{3+\sqrt{5}-2\sqrt{2}}=1+\sqrt{a}+\sqrt{b}-\sqrt{c}$, then the value of $a+b-c$ =

1) 12
2) 13
3) 11
4) 10

57. Let $f(x)=ax^2+bx+c$ is a quadratic polynomial in 'x' and leaves remainders 6, 11 and 18 respectively when divided by $(x+1)$, $(x+2)$ and $(x+3)$ then which of the following statement is correct

1) $f(x)=0$ has two distinct real roots
2) $f(x)=0$ has two equal real roots
3) $f(x)>0;\ \forall\ x\in R$
4) $f(x)<0;\ \forall\ x\in R$

Space for rough work

58. If the value of $\lambda = \dfrac{(0.3)^{\frac{1}{3}} \cdot \left(\frac{1}{27}\right)^{\frac{1}{4}} \cdot (9)^{\frac{1}{6}} \cdot (0.81)^{\frac{2}{3}}}{(0.9)^{\frac{2}{3}} \cdot (3)^{\frac{-1}{2}} \cdot \left(\frac{1}{3}\right)^{-2} \cdot (243)^{\frac{-1}{4}}}$ and the value of $\mu = (3^{-1} - 2^{-1})^{-1} + (5^{-1} - 6^{-1})^{-1}$, then the value of $10\lambda + \mu$ is

1) 25 2) 27
3) 24 4) none of these

59. If $\dfrac{a}{b+c} = \dfrac{b}{c+a} = \dfrac{c}{a+b} = k$ and $a+b+c \neq 0$ then $k =$

1) 1 2) $\dfrac{1}{2}$
3) $\dfrac{3}{4}$ 4) none of these

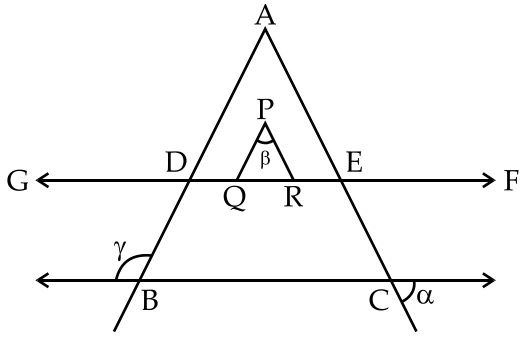
60. If $x = \dfrac{1}{\sqrt{2}} + \dfrac{1}{2} + \dfrac{1}{2\sqrt{2}} + ... + \infty$, then qudratic equation having roots $x + \dfrac{1}{x}$ and $x - \dfrac{1}{x}$ is

1) $x^2 + 2\sqrt{2}x + 1 = 0$ 2) $x^2 - 2\sqrt{2}x + 2 = 0$
3) $x^2 + 2\sqrt{2}x - 1 = 0$ 4) $2x^2 - 4\sqrt{2}x + 3 = 0$

61. If $S_1 = \dfrac{1}{1.2} + \dfrac{1}{2.3} + \dfrac{1}{3.4} + \dfrac{1}{4.5} + ... + \dfrac{1}{99.100}$ and $S_2 = 2 \,.\, 4 \,.\, 8 \,.\, 16$ ..... upto n terms, such that $S_1 = \dfrac{99}{100} S_2$ then $n =$

1) 100 2) 10
3) 5 4) not possible

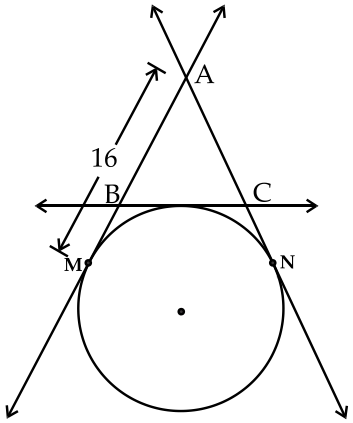
62. In the given figure; $\overline{GF} \,||\, \overline{BC}$, $\overline{AB} \,||\, \overline{PQ}$ and $\overline{AC} \,||\, \overline{PR}$. If $\angle\alpha = 40°$, $\angle\gamma = 110°$ then $\angle\beta =$



1) 70° 2) 80°
3) 60° 4) 50°

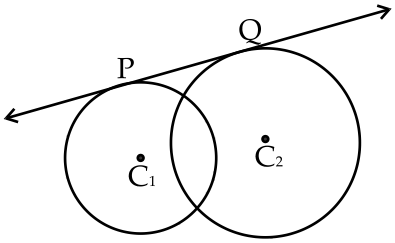
Space for rough work

63. In the given figure; $l(AM) = 16$ then the semiperimeter of the ΔABC is



1) 8 2) 16
3) 32 4) 12

64. Let two circle having centers C_1 and C_2 with radius a and b respectively as shown in figure, $l(C_1C_2) = d$ then the length of PQ is



1) $\sqrt{d^2 + a^2 - b^2}$ 2) $\sqrt{d^2 - a^2 - b^2}$
3) $\sqrt{d^2 + (a-b)^2}$ 4) $\sqrt{d^2 - (b-a)^2}$

65. The value of $\dfrac{\sin^2 x - \sin^2 x \cos^2 x + \cos^4 x}{\cos^2 x - \sin^2 x \cos^2 x + \sin^4 x}$ is

1) $\tan^2 x$ 2) $\cot^4 x$
3) 1 4) $\cot^2 x$

66. Using $\tan(A-B) = \dfrac{\tan A - \tan B}{1 + \tan A \tan B}$, find '$x$' from $\tan 50° + \tan 20° = \tan 70° - x$.

1) $\tan 30°$ 2) $\tan 20°$
3) $\tan 0°$ 4) $\tan 50°$

67. If $\cot\theta + \cos\theta = m$ and $\cot\theta - \cos\theta = n$ then $\dfrac{m^2 - n^2}{2}$ =

1) $4\sqrt{mn}$ 2) $2\sqrt{mn}$
3) $4\,mn$ 4) $2\,mn$

68. A child consumed an ice-cream of inverted right-circular conical shape from the top and left only 34.3% of the cone for her mother. If the hight of the ice-cream cone was 7 cm. What was the height of the remaining ice-cream cone.

1) 4.7 cm 2) 4.8 cm
3) 4.9 cm 4) 4.0 cm

69. A solid toy is in the form of a hemisphere surmounted by a right circular cone. Hight of the cone is 3 cm and the diametre of the cone is 6 cm, if a right circular cylinder circumscribes the solid. Find how much more space will it cover ?

1) 27 cm^3 2) 18 cm^3
3) 9 cm^3 4) none of these

Space for rough work

70. The area of the triangle formed by the lines $x+y-2=0$, $2x-3y+4=0$ and x-axis is

1) $\frac{8}{7}$ sq. unit
2) $\frac{16}{5}$ sq. unit
3) 15 sq. unit
4) 8 sq. unit

71. If P, Q are two point whose co-ordinate are $(at^2, 2at)$, $\left(\frac{a}{t^2}, \frac{-2a}{t}\right)$ respectively and point S having co-ordinate $(a, 0)$ then $\frac{1}{SP}+\frac{1}{SQ}$ =

1) $\frac{1}{a}$
2) $\frac{1}{a^2}$
3) $\frac{t^2}{t^2 4}$
4) $\frac{1}{t^2}$

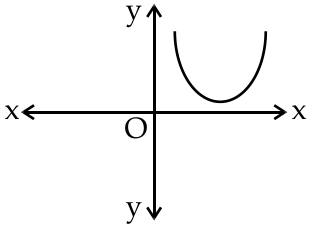
72. The one number is selected from the first 70 natural numbers then the probability that the number is a solution of $x^2+2x>4$ is

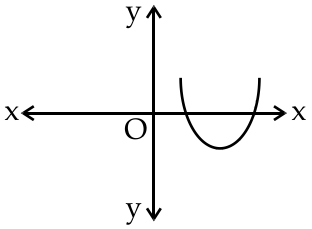
1) $\frac{69}{70}$
2) $\frac{1}{70}$
3) $\frac{2}{70}$
4) 0

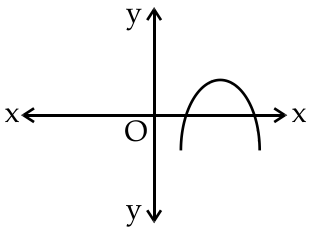
73. If 5 is added to each and every item of the data, then the mean of the new data is
1) 5 times to the original mean
2) Increased by 5 to the original mean
3) Equal to original mean
4) none of these

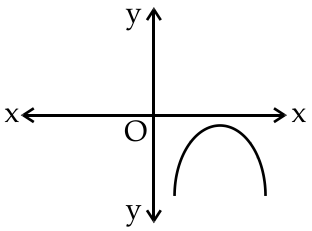
74. If $\frac{\log_2 a}{4}=\frac{\log_2 b}{6}=\frac{\log_2 c}{3k}$ and $a^3b^2c=1$ then k is
1) positive integer
2) negative integer
3) irrational number
4) prime number

75. Which of the following nature of graph of the quadratic expression $p(x)=ax^2+bx+c$ such that $a>0$ and $\Delta<0$ (where, $\Delta=b^2-4ac$) is

1) 

2) 

3) 

4) 

Space for rough work

Section-D : Basic Mathematics & Mental Ability

76. If sum of the squares of zeroes of the quadratic polynomial $f(x) = x^2 - 8x + k$ is 40, the value of k is

1) 10 2) 12

3) 14 4) 16

77. The pair of equations $3x + 4y = k$ and $9x + 12y = 6$ has infinitely many solutions if

1) $k = 2$ 2) $k = 6$

3) $k \neq 2$ 4) $k = 3$

78. Which term of the A.P. 20 17, 14, ... is first negative term ?

1) 8^{th} 2) 6^{th}

3) 9^{th} 4) 7^{th}

79. $\Delta ABC \sim \Delta DEF$ such that AB = 9.1 cm and DE = 6.5 cm. If the perimeter of ΔDEF is 25 cm, then what is the perimeter of ΔABC

1) 35 cm 2) 28 cm

3) 42 cm 4) 40 cm

80. If the centroid of the triangle formed by the points (a, b), (b, c) and (c, a) is at the origin, then $a^3 + b^3 + c^3$ is equal to

1) abc 2) 0

3) $a + b + c$ 4) $3abc$

81. If $\sqrt{3}\tan\theta = 3\sin\theta$, then $\sin^2\theta - \cos^2\theta$ is equal to

1) $\sqrt{3}$ 2) $\frac{2}{3}$

3) $\frac{1}{3}$ 4) $\frac{1}{\sqrt{3}}$

82. In two concentric circles, if chords are drawn in the outer circle which touch the inner circle, then

1) all chords are of different lengths.

2) all chords are of same length.

3) only parallel chords are of same length.

4) only perpendicular chords are of same length.

83. A pendulum swings through an angle of 30° and describes an arc 8.8 cm in length. The length of the pendulum is :

1) 15 cm 2) 16 cm

3) 15.5 cm 4) 16.8 cm

Space for rough work

84. The volume of a cube is 2744 cm^3. Its surface area is

1) 196 cm^2 2) 1176 cm^2

3) 784 cm^2 4) 588 cm^2

85. Two numbers are in the ratio of 15 : 11. If their H.C.F. is 13, then numbers will be

1) 195 and 143 2) 190 and 140

3) 185 and 163 4) 185 and 143

86. The probability of getting at least one tail in 4 throws of a coin is

1) $\frac{1}{16}$ 2) $\frac{1}{4}$

3) $\frac{15}{16}$ 4) $\frac{1}{8}$

87. If $x=\sqrt{7+4\sqrt{3}}$, then $x+\frac{1}{x}=$

1) 4 2) 6

3) 3 4) 2

88. $\frac{\log_{10}225}{\log_{10}15}=\log_{10}x$ then $x=$

1) 10 2) 10^2

3) 10^3 4) 10^4

89. If + stands for ×, – for ÷, × for – and ÷ for +, find the value of 26 + 74 – 4 × 5 ÷ 2.

1) 220 2) 376

3) 478 4) 488

90. In a code langulage, STARK is written as LBFMG and MOBILE is written as TNRSPJ. How is BLAME written in that code ?

1) TSFRJ 2) RPFTJ

3) NJFTP 4) TSFGJ

91. 'P # Q' means 'P is the fahter of Q'; 'P + Q' means 'P is the mother of Q'; 'P – Q' means 'P is the brother of Q'; 'P * Q' means 'P is the sister of Q'. If A + B # C – D, then A is D's

1) father 2) grandmother

3) sister 4) grandfather

Space for rough work

92. In a row of boys, A is fifteenth from the left and B is fourth from the right. There are three boys between A and B. C is just left of A. What is C's position from the right ?

1) 9 2) 10

3) 12 4) 13

93. Muskan would like to complete all her homework before 10 p.m. in order to watch an important TV programme. She has 40 minutes assignment in each of her five prepared subjects. What is the latest time at which she can start and still complete her homework in time for the programme ?

1) 6.30 p.m. 2) 6.40 p.m.

3) 7.10 p.m. 4) 7.20 p.m.

94. In a town, 65% people watched the news on television, 40% read a newspaper and 25% read a newspaper and watched the news on television also. What percent of the people neither watched the news on television nor read a newspaper ?

1) 5 2) 10

3) 15 4) 20

95. Of the six members of a panel sitting in a row, A is to the left of D, but on the right of E. C is on the right of E, but is on the left of B who is to the left of F. Which two members are sitting right in the middle ?

1) A and C 2) C and B

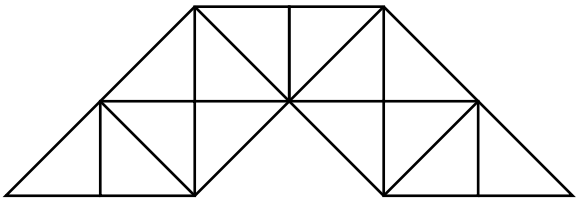
3) D and B 4) D and C

96. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre, and A and P are at the ends. R is sitting on the left of A. Then who is sitting on the right of P ?

1) A 2) S

3) X 4) Z

97. Count the number of triangles in given figure.

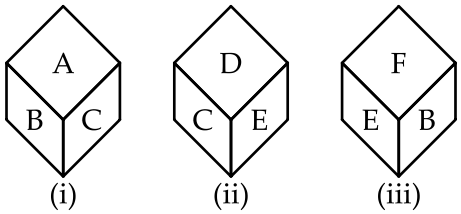


1) 23 2) 27

3) 29 4) 31

Space for rough work

98. The six faces of a dice have been marked with alphabets A, B, C, D, E and F respectively. This dice is rolled down three times. The three positions are shown as :



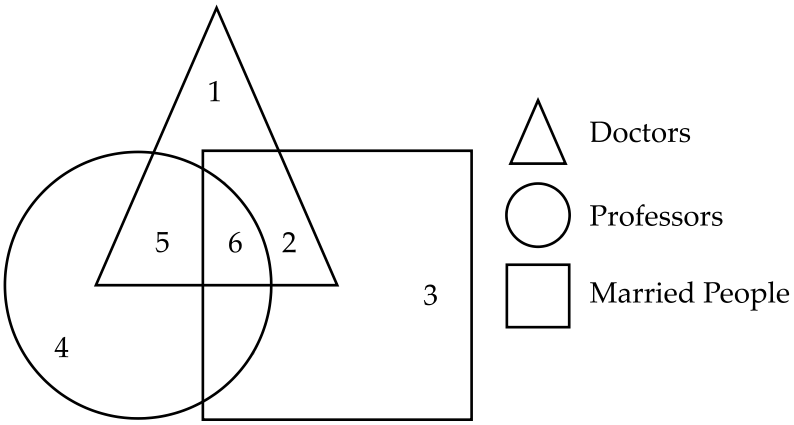
(i) (ii) (iii)

Find the alphabet opposite A.

1) C 2) D

3) E 4) F

99.

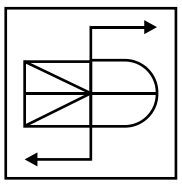


Which number indicates doctors who are not married ?

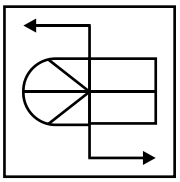
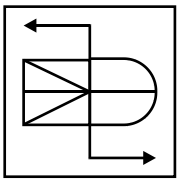
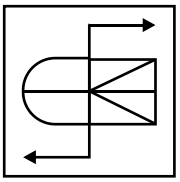
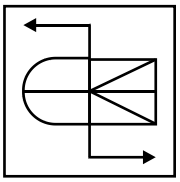
1) 6 2) 1

3) 4 4) 2

100. In the followig question, choose the correct mirror-image of the figure (X) from amongst the four alternatives (1), (2), (3) and (4) given along with it.



(X)

1)  2)  3)  4) 

Space for rough work

Space for rough work

SHIV CHHATRAPATI SHIKSHAN SANSTHA, LATUR

RAJARSHI SHAHU JR. SCIENCE COLLEGE, LATUR

Shahu Screening Test 2025

IMPORTANT DATES - STATE AND CBSE BOARD STUDENTS

SHAHU SCREENING TEST - 2025 (OFFLINE MODE ONLY) DATE : 23 March 2025	PCB GROUP - 10-00 AM TO 12-00 PM PCM GROUP - 02-30 PM TO 05-00 PM
ADMIT CARD ISSUE	20 March 2025.
Online Display of Provisional Answer Key	23-March-2025 : After 07-00 PM
Objections on Provisional Answer Key (Through Login)	25-March-2025 : UPTO 05-00 PM
Online Declaration - 1. Final Answer Key, 2. Copy of Candidate OMR Sheet, 3. Result of SCREENING TEST -2024 (Individual Login)	05-April-2025 After 02-00 PM
Parent Meeting of Selected Candidate	06-April-2025 : 11-00 AM
Admissions :- First Selected List	06-Apr to 09 April-2025 : 02 PM
Admisions : Second Selected List	10-April to 12-Apr -2025 : 02 PM

Date of Commencement of Classes will be declared in parent meeting

वरील तारखांमध्ये काही बदल झाल्यास वेबसाईट वर सूचना दिली जाईल.

March 23, 2025

ANSWER KEY
SCSS-ST-25
PCM Group

SET A

01. (2)	02. (2)	03. (2)	04. (3)	05. (2)	06. (1)	07. (1)	08. (2)	09. (2)	10. (4)
11. (2)	12. (1)	13. (2)	14. (2)	15. (4)	16. (1)	17. (3)	18. (3)	19. (4)	20. (3)
21. (1)	22. (3)	23. (4)	24. (2)	25. (2)	26. (3)	27. (4)	28. (2)	29. (3)	30. (3)
31. (4)	32. (4)	33. (2)	34. (2)	35. (3)	36. (2)	37. (1)	38. (4)	39. (2)	40. (1)
41. (1)	42. (4)	43. (4)	44. (3)	45. (1)	46. (4)	47. (2)	48. (3)	49. (1)	50. (2)
51. (4)	52. (1)	53. (4)	54. (3)	55. (4)	56. (2)	57. (3)	58. (2)	59. (2)	60.Bonus
61. (4)	62. (1)	63. (2)	64. (4)	65. (3)	66. (4)	67. (2)	68. (3)	69. (4)	70. (2)
71.Bonus	72. (1)	73. (2)	74. (2)	75. (1)	76. (2)	77. (1)	78. (1)	79. (1)	80. (4)
81. (3)	82. (2)	83. (4)	84. (2)	85. (1)	86. (3)	87. (1)	88. (2)	89. (3)	90. (2)
91. (2)	92. (1)	93. (2)	94. (4)	95.Bonus	96. (3)	97. (3)	98. (3)	99. (2)	100. (4)

March 23, 2025

ANSWER KEY
SCSS-ST-25
PCM Group

SET B

01. (1)	02. (1)	03. (2)	04. (2)	05. (4)	06. (2)	07. (2)	08. (2)	09. (3)	10. (2)
11. (1)	12. (3)	13. (3)	14. (4)	15. (3)	16. (2)	17. (1)	18. (2)	19. (2)	20. (4)
21. (2)	22. (2)	23. (4)	24. (1)	25. (3)	26. (4)	27. (4)	28. (2)	29. (2)	30. (3)
31. (3)	32. (4)	33. (2)	34. (3)	35. (3)	36. (1)	37. (4)	38. (4)	39. (3)	40. (1)
41. (2)	42. (1)	43. (4)	44. (2)	45. (1)	46. (1)	47. (2)	48. (3)	49. (4)	50. (2)
51. (2)	52. (3)	53. (2)	54. (2)	55.Bonus	56. (4)	57. (1)	58. (4)	59. (3)	60. (4)
61. (4)	62. (2)	63. (3)	64. (4)	65. (2)	66. (4)	67. (1)	68. (2)	69. (4)	70. (3)
71. (2)	72. (1)	73. (2)	74.Bonus	75. (1)	76. (3)	77. (2)	78. (4)	79. (2)	80. (1)
81. (2)	82. (1)	83. (1)	84. (1)	85. (4)	86. (2)	87. (1)	88. (2)	89. (4)	90.Bonus
91. (3)	92. (1)	93. (2)	94. (3)	95. (2)	96. (2)	97. (4)	98. (3)	99. (3)	100. (3)

March 23, 2025

ANSWER KEY
SCSS-ST-25
PCM Group

SET C

01. (1)	02. (3)	03. (4)	04. (2)	05. (2)	06. (1)	07. (3)	08. (3)	09. (4)	10. (3)
11. (2)	12. (4)	13. (2)	14. (2)	15. (1)	16. (1)	17. (1)	18. (2)	19. (2)	20. (4)
21. (2)	22. (2)	23. (2)	24. (3)	25. (2)	26. (4)	27. (2)	28. (3)	29. (1)	30. (2)
31. (1)	32. (4)	33. (4)	34. (3)	35. (1)	36. (2)	37. (1)	38. (4)	39. (2)	40. (1)
41. (4)	42. (4)	43. (2)	44. (2)	45. (3)	46. (3)	47. (4)	48. (2)	49. (3)	50. (3)
51.Bonus	52. (1)	53. (2)	54. (2)	55. (1)	56. (4)	57. (2)	58. (3)	59. (4)	60. (2)
61. (4)	62. (3)	63. (2)	64. (4)	65. (1)	66. (2)	67. (3)	68. (2)	69. (2)	70.Bonus
71. (4)	72. (1)	73. (4)	74. (3)	75. (4)	76. (3)	77. (3)	78. (3)	79. (2)	80. (4)
81. (2)	82. (1)	83. (2)	84. (4)	85.Bonus	86. (3)	87. (2)	88. (2)	89. (3)	90. (1)
91. (3)	92. (2)	93. (4)	94. (2)	95. (1)	96. (2)	97. (1)	98. (1)	99. (1)	100. (4)

March 23, 2025

ANSWER KEY
SCSS-ST-25
PCM Group

SET D

01. (2)	02. (4)	03. (2)	04. (2)	05. (1)	06. (2)	07. (2)	08. (2)	09. (3)	10. (2)
11. (1)	12. (3)	13. (4)	14. (2)	15. (2)	16. (2)	17. (4)	18. (2)	19. (1)	20. (1)
21. (1)	22. (3)	23. (3)	24. (4)	25. (3)	26. (2)	27. (1)	28. (4)	29. (2)	30. (1)
31. (3)	32. (4)	33. (2)	34. (3)	35. (3)	36. (4)	37. (2)	38. (3)	39. (1)	40. (2)
41. (2)	42. (3)	43. (2)	44. (4)	45. (4)	46. (1)	47. (4)	48. (4)	49. (3)	50. (1)
51. (4)	52. (3)	53. (2)	54. (4)	55. (1)	56. (4)	57. (1)	58. (4)	59. (3)	60. (4)
61.Bonus	62. (1)	63. (2)	64. (2)	65. (1)	66. (2)	67.Bonus	68. (2)	69. (2)	70. (3)
71. (4)	72. (2)	73. (3)	74. (4)	75. (2)	76. (3)	77. (2)	78. (2)	79. (3)	80. (1)
81. (2)	82. (1)	83. (1)	84. (1)	85. (4)	86. (3)	87. (3)	88. (3)	89. (2)	90. (4)
91. (2)	92. (1)	93. (4)	94. (3)	95. (2)	96. (2)	97. (1)	98. (2)	99. (4)	100.Bonus