INSTRUCTIONS **NUMBER OF QUESTIONS : 100** **TIME : 2 Hrs**

1. ATTEMPT ALL QUESTIONS WITHIN THE TIME.
2. EACH QUESTION CARRIES 1 MARK
3. NO NEGATIVE MARKS.
4. DON'T DO ROUGH WORK ON QUESTION PAPER AND OMR.
5. USE BLACK (OR) BLUE PEN FOR BUBBLING ON OMR.

CORRECT METHOD OF BUBBLING

WRONG METHOD OF BUBBLING

INTO 9TH CLASS ICSE

MATHEMATICS

1. Which of the following is multiplicative identity

   1) $a+b=b+a$ 2) $a+(b+c)=(a+b)+c$

   3) $a+0=0+a=a$ 4) $a\times 1=1\times a=a$

2. Which of the following is not a rational number between $\frac{3}{4}$ and $\frac{7}{8}$

   1) $\frac{13}{16}$ 2) $\frac{5}{6}$ 3) $\frac{19}{13}$ 4) $\frac{19}{24}$

3. If $3^{3x-1}\div 9=27,$ then value of 'x'

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

4. In $-3x^5$, base is _____

   1) x 2) 5 3) $-3x$ 4) $3x$

5. $\left(1^{-1}+2^{-1}+3^{-1}+4^{-1}+.....+100^{-1}\right)^0=$ _____

   1) 100 2) 1 3) 0 4) -1

6. Number of digits in the square root of the number '27225'

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

7. Which of the following is both perfect square and perfect cube

   1) 64 2) 729 3) 4096 4) All the above

8. $\sqrt[3]{0.027}+\sqrt[3]{0.008}+\sqrt[3]{0.125}=$ _____

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

9. What is the value of A, B, C, in the following addition :

$$\begin{array}{rrr} & 2 & 7 & 5 \\ (+) & C & B & 9 \\ \hline & 4 & 6 & A \\ \hline \end{array}$$

1) A = 4, B = 6, C = 1 2) A = 8, B = 1, C = 6

3) A = 4, B = 8, C = 1 4) A = 6, B = 8, C = 1

10. Which of the following numbers are not divisible by '9'

1) 45387 2) 43242876 3) 3518 4) 123456789

11. If "67x19" is a multiple of '11', then possible value of 'x'

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

12. Set builder form of $\left\{1,\frac{1}{2},\frac{1}{3},\frac{1}{4},\frac{1}{5}\right\}$

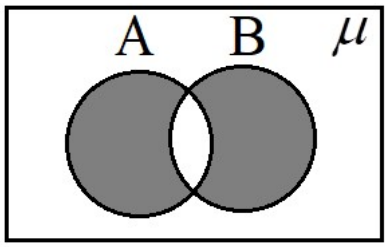
1) $\left\{x : x=\frac{1}{n}, n\in N, n\le 5\right\}$ 2) $\left\{x : x=\frac{1}{n}, n\in N, n<5\right\}$

3) $\{x : x\in N, x\le 5\}$ 4) $\left\{x : x=\frac{1}{n+1}, n\in N, n\le 5\right\}$

13. 'P' is set of factors of '5' 'Q' is set of factors of '25', 'R' is set of factors of '125' which one of the following is false

1) $P\subset Q$ 2) $Q\subset R$ 3) $R\subset P$ 4) $P\subset R$

14. Which of the following is Venn - diagram representation of



1) $(A\cup B)'$ 2) $(A\cap B)'$ 3) $A\Delta B$ 4) $A'\cup B'$

15. A number 4.0 is wrongly read as 4.48, what is the percentage error

1) 11% 2) 12% 3) 13% 4) 14%

16. The cost price of '10' articles is equal to the selling price of '9' articles. Then what is profit (or) loss percentage

1) Loss $11\frac{1}{9}\%$ 2) Profit $11\frac{1}{8}\%$ 3) Profit $11\frac{1}{9}\%$ 4) Loss $11\frac{1}{8}\%$

17. An article is sold at two successive discounts 50% each, what is the single equivalent discount as percent

1) 75% 2) 25% 3) 50% 4) 72%

18. At what rate of simple interest, the amount double itself in 10 years

1) 10% 2) 5% 3) 15% 4) 25%

19. A journey of 240km costs ₹4080, how much distance will cost ₹7344

1) 431km 2) 432km 3) 433km 4) 434km

20. A vertical pole of 2m 80cm high casts a shadow 1m 60cm long, at the same time what is the height of the pole which casts shadow of length 2m 50cm

1) 4.175m 2) 4.275m 3) 4.375m 4) 4.475m

21. 3 men and 4 boys can complete a certain amount of work in 28days. Where as 4 men and 6 boys can complete the same work in 20days. Then number of days required by 7men and 6 boys to complete same work

1) 12days 2) 13days 3) 15days 4) 14days

22. If $a = 3x - 5y,\ b = 6x + 3y,\ c = 2y - 4x$ then $a + b - c$

1) $13x + 4y$ 2) $13x - 4y$ 3) $12x + 4y$ 4) $12x - 4y$

23. The adjacent sides of a rectangle are $x^2 - 4x + 7$ and '$x - 2$'. Then what is the area of rectangle

1) $x^3 - 6x^2 + 15x - 14$ 2) $x^3 + 6x^2 + 15x + 14$

3) $x^3 - 6x^2 - 15x + 14$ 4) $x^3 + 6x^2 - 15x - 14$

24. The remainder when $2x^3 - 8x^2 + 5x - 8$ is divided by $x - 2$

1) -13 2) 14 3) -14 4) 13

25. $(a+b)^2 - (a-b)^2 =$ _____

1) $4ab$ 2) $-4ab$ 3) $2(a^2 + b^2)$ 4) $-2(a^2 + b^2)$

26. If $a + \frac{1}{a} = 2$ then $a^{2024} + \frac{1}{a^{2024}} =$ _____

1) 4 2) 2024 3) 2 4) 1

27. If $a + b + c = 9$ and $a^2 + b^2 + c^2 = 29$ then value of $ab + bc + ca =$ _____

1) 52 2) 26 3) 81 4) 29

28. Area of square is $x^2 - 10x + 25$ then side of square is _____

1) $x + 5$ 2) $x - 5$ 3) $x - 10$ 4) $x + 10$

29. Two consecutive even numbers are such that half of the larger exceeds one-fourth of the smaller by '5' what is the smaller number

1) 16 2) 17 3) 18 4) 19

30. If $\frac{1}{x-1} + \frac{2}{x-2} = \frac{3}{x-3}$ then $x =$ _____

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

31. Solution set : $30-4(2x-1)<30$ (Where $x \in N$)

1) {2, 3, 4, 5,…..}
2) {……$-3, -2, -1, 0$}
3) {1, 2, 3, 4, ……}
4) {1, 2, 3, 4}

32. Statement – (A) : If $a>b$ then $\frac{1}{a}<\frac{1}{b}$ (where $a,b \in z^+$)

Statement – (B) : If $a<b$ then $\frac{1}{a}<\frac{1}{b}$ (where $a,b \in z^-$)

1) Both statements are true
2) Both statements are false
3) Statement 'A' is true, 'B' is false
4) Statement 'A' is false, 'B' is true

33. Number of sides of Do-Decagon is _____

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

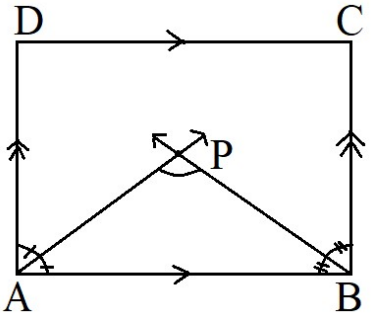
34. The ratio of the number of sides of two regular polygons is 1 : 2, and the ratio of the sum of interior angles is 3 : 8, number of sides of each polygon is _____

1) 5, 6
2) 5, 10
3) 6, 12
4) 8, 16

35. Which of the following quadrilateral, diagonals are perpendicular

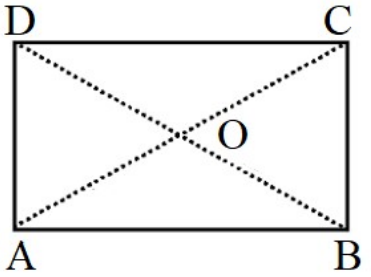
1) Square
2) Rhombus
3) Kite
4) All the above

36. In the figure, $\underline{|APB}$



1) 60^0
2) 90^0
3) 120^0
4) 80^0

37. 'ABCD' is a rectangle, OA = $2x + 6$, OD = $3x + 3$ then value of 'x'



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

38. Which of the following is polyhedron

1) Cone
2) Sphere
3) Cylinder
4) Cube

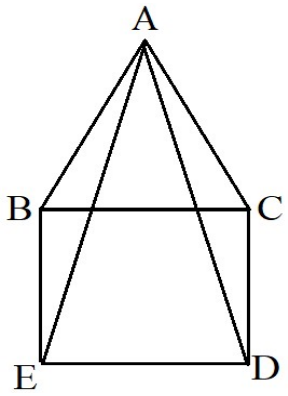
39. Tetrahedron is also called as _____

1) Square pyramid
2) Triangular pyramid
3) Pentagonal pyramid
4) Hexagonal pyramid

40. One of the diagonal of a rhombus is equal to it's sides. Then smallest angle of rhombus

1) 30^0 2) 60^0 3) 120^0 4) 50^0

41. ΔABC is equilateral triangle and BCDE is a square then $\angle BEA$ is _____



1) 30^0 2) 15^0 3) 60^0 4) 90^0

42. If $ab+bc+ca=0$ then $\frac{1}{a^2-bc}+\frac{1}{b^2-ca}+\frac{1}{c^2-ab}$

1) 0 2) 1 3) 3 4) $a+b+c$

43. Degree of $1+2x+3x^2+4x^3+.....$ (2025terms)

1) 2024 2) 2025 3) 2023 4) 2022

44. If $47.2506 = 4A+\frac{7}{B}+2C+\frac{5}{D}+6E$ then $(5A+3B+6C+D+3E)$ is _____

1) 53.603 2) 153.603 3) 53.6003 4) 153.6003

45. $\frac{1}{(1+\sqrt{2})}+\frac{1}{(\sqrt{2}+\sqrt{3})}+\frac{1}{(\sqrt{3}+\sqrt{4})}+.....+\frac{1}{(\sqrt{99}+\sqrt{100})}$

1) 1 2) 5 3) 9 4) 10

46. If $x=y^a, y=z^b,$ and $z=x^c$ then abc = _____

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

47. Value of $2-\left[3-\left\{6-\left(5-\overline{4-3}\right)\right\}\right]$

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

48. The H.C.F. and L.C.M. of two numbers 'x' and 'y' are respectively 3 and 105 if $x+y=36,$ then $\frac{1}{x}+\frac{1}{y}$ = _____

1) 35 2) $\frac{3}{5}$ 3) $\frac{4}{35}$ 4) $\frac{1}{35}$

49. In a division sum, the divisor is ten times the quotient and five times the remainder. If the remainder is '46' the dividend is _____

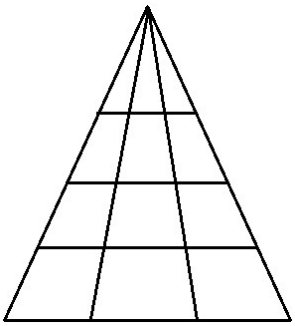
1) 4236 2) 4306 3) 4336 4) 5336

50. How many palindromic numbers between 100 and 200

1) 11 2) 10 3) 15 4) 100

ARITHMETIC AND LOGICAL REASONING QUESTIONS:

51. Number triangles and formed in the figure

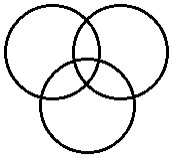
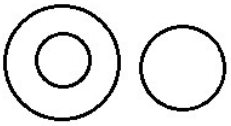
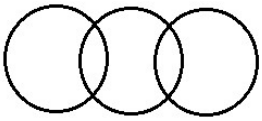


1) 12 2) 15 3) 24 4) 25

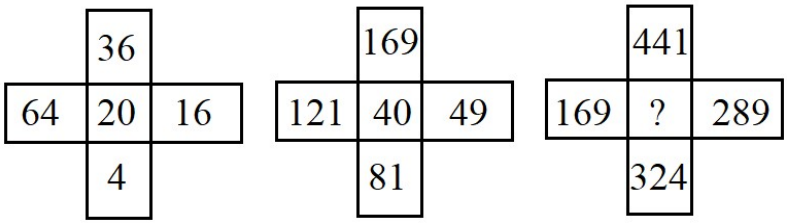
52. The ratio of velocities of hour hand and minute hand of a clock is _____

1) 1 : 12 2) 12 : 1 3) 1 : 24 4) 24 : 1

53. Which of the following Venn-diagram represents "Professors, Authors, Females"

1)  2)  3)  4) 

54. Find the missing number, if the same rule is followed in all the three figures



1) 16 2) 62 3) 69 4) 70

55. If 'SKIN' is coded as 'TJJM', then in the same way 'FACE' is coded as _____

1) EBDF 2) GZDD 3) GZDF 4) EZDD

56. What is the next number in the series : 93, 309, 434, 498, ?

1) 52 2) 525 3) 533 4) 534

57. Pointing to a photograph, Ramya said "He is the only son of father of my sister's brother" How is that person related to Ramya

1) Brother 2) Uncle 3) Father 4) Cousin

58. Water image of the word 'TIRUMALA' is

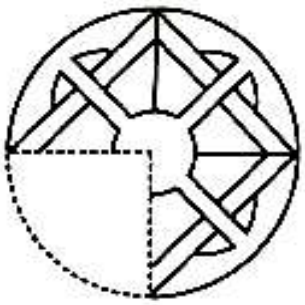
1) ⊥ I ꓤ W ∀ L ∀ 2) ⊥ I ꓤ ∩ W ∀ L ∀

3) ⊥IRUWALA 4) ⊥ I ꓤ U W ∀ L ∀

59. If 'A' stands for '+', 'B' stands for '−', 'C' stands for 'X' and 'D' stands for '÷' then 28 B 14 D 2 C 7 A 24 = _____

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

60. Select a figure from the options, which when placed in the blank space of fig. (X) would complete the pattern



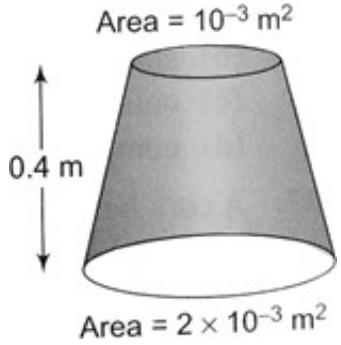
1)  2)  3)  4) 

PHYSICS

61. The molecules move only within the boundary in

1) Liquids 2) Gases 3) Solids 4) None of the above

62. A uniformly tapering vessel is filled with a liquid of density $900\,kg/m^3$. The force that acts on the base of the vessel due to the liquid is $(g = 10ms^{-2})$



1) 3.6 N 2) 7.2 N 3) 9.0 N 4) 14.4 N

63. A ray of light passing through the centre of curvature of a spherical mirror, after reflection

1) Passes through the focus 2) Passes through the pole

3) Becomes parallel to the principal axis 4) Retraces its own path

64. Boiling takes place from

1) The surface of the liquid 2) Throughout the liquid

3) Mid-portion of liquid 4) None of the above

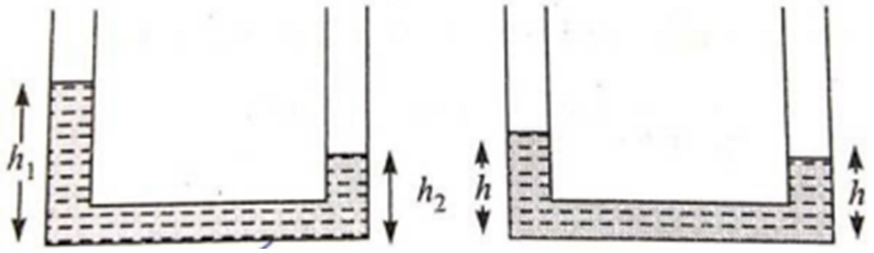
65. A weight lifter lifts 300kg from the ground to a height 2m in 3 seconds the average power generated by him is {Take g = 9.8m/s^2}

1) 5880W 2) 4410W 3) 2205W 4) 1960W

66. The density of aluminium is 2.7g cm^{-3} and that of brass 8.4g cm^{-3}. The correct statement is

1) Equal masses of aluminium and brass have equal volumes
2) The mass of a certain volume of brass is more than the mass of equal volume of aluminium
3) The volume of a certain mass of brass is more than the volume of equal mass of aluminium
4) Equal volumes of aluminium and brass have equal masses

67. Two identical cylindrical vessels with their bases at same level each contains a liquid of density ρ. The height of the liquid in one vessel is h_1 and that in the other vessel is h_2. The area of either base is A. The work done by gravity in equalizing the levels when the two vessels are connected is



1) $(h_1 - h_2)g\rho$ 2) $(h_1 - h_2)gA\rho$ 3) $\frac{1}{2}(h_1 - h_2)^2 gA\rho$ 4) $\frac{1}{4}(h_1 - h_2)^2 gA\rho$

68. A cylindrical jar has radius '*r*'. to what height '*h*' should it be filled with a liquid so that the force exerted by the liquid on the sides of the jar equal to force exerted on the bottom

1) $h = \frac{r}{2}$ 2) $h = r$ 3) $h = 2r$ 4) $h = 4r$

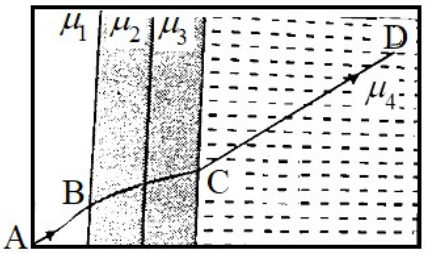
69. A body of mass 4kg is lies over a horizontal surface. The normal reaction between the body and the surface is [g=10m/s^2]

1) 20N 2) 40N 3) 10N 4) 30N

70. If the water falls from a dam into a turbine wheel at 19.6 m below. Then the velocity of the water at the turbine is (Take g = 9.8m/s^2)

1) 9.8m/s 2) 39.2m/s 3) 19.6m/s 4) 98m/s

71. A ray of light passes through four transparent media with refractive indices $\mu_1, \mu_2, \mu_3 \text{ and } \mu_4$ as shown in the figure. The surfaces of all media are parallel. If the emergent ray CD is parallel to the incident ray AB, we must have



1) $\mu_1 = \mu_2$ 2) $\mu_2 = \mu_3$ 3) $\mu_4 = \mu_1$ 4) $\mu_3 = \mu_4$

72. The density of aluminium is $2.7 g cm^{-3}$. Express it in kg m^{-3}

1) 27×10^{-4} 2) 270 3)2700 4) 2.7×10^{4}

73. Which of the following will sink or float on water? (Density of water = 1g cm^{-3})

a) Body A having density 500kg m^{-3} b) Body B having density 2520kg m^{-3}

c) Body C having density 1100kg m^{-3} d) Body D having density 0.85g cm^{-3}

	Sink	**Float**
1)	a, c, d	b
2)	a, c	b,o
3)	b, a	c, d
4)	b, c	a, d

74. The image formed by a concave mirror is of the same size as the object, if the object is placed

1) At the focus

2) Between the pole and the focus

3) Between the focus and the centre of curvature

4) At the centre of curvature

75. The feet of lizards act like

1) Moving pads 2) Drilling pads 3)Suction pads 4) None of the above

76. Three liquids of densities $d, 2d$ and $3d$ are mixed in equal proportions of weights. The relative density of the mixture is

1) $\frac{11d}{7}$ 2) $\frac{18d}{11}$ 3) $\frac{13d}{9}$ 4) $\frac{23d}{18}$

77. If the KE of a body is increased by 300% then its momentum will increases by

1) 200% 2) 100% 3) $\sqrt{300}\%$ 4) 175%

78. A ball of mass 0.2kg moves with a velocity of 20m/s and it stops in 0.1sec. Then force on the ball is

1) 40N 2) 20N 3)4N 4) 2N

79. A body of mass 2kg moves in a circle of radius 4cm with uniform speed 10m/s calculate the work done by the centripetal force

1) 0J 2) 5000J 3)50J 4) None of these

80. The ratio of maximum and minimum resultant of two forces is 7 : 1 the ratio of the two forces are respectively

1) 1 : 7 2) 4 : 3 3)8 : 1 4) 6 : 7

81. Which of the following statement is incorrect
1) Solids have definite shape, definite volume and definite mass.
2) Liquids have definite mass, definite shape and volume
3) Gases are highly compressible and diffuse very fast
4) In case of liquids, the particles are not very closely packed. The intermolecular forces of attraction are not as strong as in the case of solids

82. **Assertion (A) :** camphor, iodine, Ammonium chloride are examples for sublimated compounds.
Reason (R) : because such solids have stronger intermolecular forces of attraction in comparision to other solids
1) Both A and R are true and R is the correct explanation of A.
2) Both A and R are true and R is not the correct explanation of A.
3) A is true but R is false.
4) A is false but R is true.

83. Correct increasing order of kinetic energy for different states is
1) $gas > solid > liquid$ 2) $solid < liquid < gas$
3) $solid > gas > liquid$ 4) $gas < liquid > solid$

84. How many of the following statements/reactions are correct?
1) Matter can neither be created nor be destroyed in a chemical reaction.
2) $\underset{(aq)}{BaCl_2} + \underset{(aq)}{Na_2SO_4} \rightarrow \underset{(white\ ppt)}{BaSO_4} + 2\underset{(aq)}{NaCl}$
3) $2Mg + \underset{(air)}{O_2} \xrightarrow{heat} 2MgO$
4) The process by which a substance in liquid state changes in to a solid state is called solidification
1) 2 2) 1 3) 4 4) 3

85. How many moles of $BaSO_4$ are formed when 0.2 moles of $BaCl_2$ reacts with 0.2 moles of Na_2SO_4?
1) 0.2 2) 0.4 3) 0.6 4) 0.8

86. Which of the following is not a non periodic change
1) Earthquakes 2) Landslide
3) A person becoming sick 4) Changes of seasons

87. If 42 grams of backing soda $(NaHCO_3)$ is added to 30 grams of vinegar (CH_3COOH) solution. 41 grams of CH_3COONa, 9 grams of water and x grams of CO_2 is formed. Calculate the value of x ?
1) 44grams 2) 22grams 3) 88gams 4) 4.4grams

88. Which of the following is not an example for chemical change ?

1) Cooking of food 2) Burning of a cracker.

3) Rusting of iron 4) Freezing of water

89. Which of the following statement is incorrect?

1) Burning of wax to produce CO_2 and H_2O

2) Freezing of water is a physical change.

3) Common salt and NH_4Cl can be separated by sublimation method.

4) Burning of a piece of paper in to ash is a reversible change

90. Which of the following is not a characteristic of a chemical change?

1) Formation of new substances

2) The original substance cannot be obtained back by simple physical methods

3) Chemical properties of new substances are the same

4) The chemical formula of compound can change during a chemical change

91. The correct electronic configuration of Magnesium is

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

92. If the atomic number of an atom is 7 and mass number is 14, the number of neutrons will be $x \times 10^{-3}$: the value of x is _____

1) 7 2) 7000 3) 700 4) 70

93. Match the following

	Column –A (Name of radical)		**Column –B (Representation)**
i)	Bisulphate	(a)	HSO_3^-
ii)	Bisulphite	(b)	HSO_4^-
iii)	Sulphate	(c)	SO_3^{-2}
iv)	Sulphite	(d)	SO_4^{-2}

1) $i-b; ii-a; iii-d; iv-c$ 2) $i-a; ii-b; iii-d; iv-c$

3) $i-d; ii-b; iii-c; iv-a$ 4) $i-c; ii-b; iii-c; iv-a$

94. The number electrons present in p-orbitals of chlorine atom is x, and the number of electrons present in 3rd shell of calcium is y; The sum of $x+y$ is _____

1) 17 2) 18 3) 19 4) 21

95. Nucleus is composed of two kinds of sub atomic particles

1) Protons and neutrons 2) Electrons and neutrons

3) Protons and electrons 4) α-ray and electron

96. Which of the following method is used to separate mixture of kerosene oil and water

1) Distillation 2) Evaporation

3) By separating funnel 4) Sublimation

97. Identify Heterogeneous mixture among the following

1) Alcohol and water

2) Water and acetone

3) Sodium chloride and calcium carbonate

4) Ammonia and water

98. Which of the following is a pair of metalloid

1) As, Sb 2) He, Ar 3) N, Na 4) Ag, Ca

99. Chromatography can be used to separate

1) Colours in a dye 2) Drugs from blood

3) Pigments from natural colours 4) All the above

100. Match the following

	Column –A (Name)		**Column –B (Formula)**
i)	Sulphuric acid	(a)	SiO_2
ii)	acetic acid	(b)	CH_3COOH
iii)	Silver nitrate	(c)	H_2SO_4
iv)	Silicon dioxide	(d)	$AgNO_3$

1) $i-c; ii-b; iii-d, iv-a$ 2) $i-b; ii-c; iii-d, iv-a$

3) $i-a; ii-b; iii-c, iv-d$ 4) $i-c; ii-b; iii-d, iv-a$

THE END