MATRIX OLYMPIAD 2021–22

Class 7th

Total Questions : 120   **Maximum Marks : 480**   **Time : 3 Hrs.**

PAPER PATTERN & MARKING SCHEME									
Subject	Reasoning		Physics		Chemistry		Biology	Maths	
Question type	SCQ	INT	SCQ	INT	SCQ	INT	SCQ	SCQ	INT
No. of ques.	20	10	10	5	10	5	15	30	15
Marks per ques.	4	4	4	4	4	4	4	4	4
Negative marks per ques.	1	0	1	0	1	0	1	1	0
SCQ - Single correct answer type questions & INT - Integer answer type questions									

INSTRUCTIONS – 1:

A. The question paper consists of **5 parts (1. Reasoning & Mental ability 2. Physics 3. Chemistry 4. Biology 5. Mathematics).** Please fill the **OMR** answer Sheet accordingly and carefully.

B. This questions paper contains **85 single correct type questions** and **35 Integer answer type questions.**

C. Please ensure that the Question Paper you have received contains All the questions in each Section and Pages. If you found some mistake like missing questions or pages then contact immediately to the Invigilator.

INSTRUCTIONS – 2:

1. Part – 1 contains **20 Single correct type questions** and **10 Integer type questions.**

2. Part – 2 and 3 contains **10 Single correct type questions** and **5 Integer type questions.**

3. Part – 4 contains **15 Single correct type questions.**

4. Part – 5 contains **30 Single correct type questions** and **15 Integer type questions.**

5. Indicate the correct answer for each question by filling appropriate bubble in your answer sheet.

6. Use of Calculator, Log Table, Slide Rule and Mobile is not allowed.

OMR filling instructions for SCQ.   **OMR filling instructions for INT.**

Part – 1 contains 20 Single correct type questions and 10 Integer type questions.

Question No. 1 – 20 are of Single Correct Answer Type Question.

Four options are given in each question out of which only **one** option is correct.

1. If 687 + 509 = 560897, then 619 + 703 = ?

   (A) 760931   (B) 760891   (C) 760139   (D) 760193

2. Which of the following Venn diagrams correctly depicts the relationship among "Yak, Zebra, Bear"?

3. A person if facing North-West. He turns 45° in the clockwise direction and then 135° in the anticlockwise direction. Which direction is he facing now?

   (A) South-West   (B) North-West   (C) North-East   (D) South-East

4. Anil introduces Rohit as the son of the only brother of his father's wife. How is Rohit related to Anil?

   (A) Cousin   (B) Son   (C) Uncle   (D) Son-in-law

5. Letters of the word given below have been jumbled up. You are required to construct the word. Each letter has been numbered. Choose the option which gives the correct order of the letters as indicated by the numbers to form the word.

   R T A O U H
   1 2 3 4 5 6

   (A) 1, 3, 4, 5, 6, 2   (B) 2, 3, 6, 4, 5, 1   (C) 3, 5, 2, 6, 4, 1   (D) 6, 3, 2, 4, 5, 1

Space for Rough Work

6. In a certain code MEDICO is coded as DEMOCI, write code for PICNIC

(A) ICICPN   (B) CIPCIN   (C) PNICIC   (D) CCIINP

7. Standing on a platform, Amit told Sunita that Aligarh was more than ten kilometres but less than fifteen kilometres from there. Sunita knew that it was more than twelve but less than fourteen kilometres from there. If both of them were correct, which of the following could be the distance of Aligarh from the Platform ?

(A) 11 km   (B) 12 km   (C) 13 km   (D) 14 km

8. Which of the following cubes can be formed using the net ?

(A)

(B)

(C)
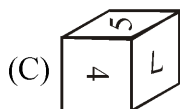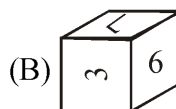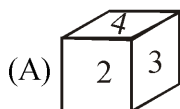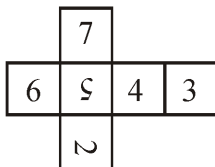
(D) All of the above उपरोक्त सभी

Space for Rough Work

9.   Find out which number stands for AB in the following operation

$$\begin{array}{r} A\ B \\ +7\ 2 \\ \hline 9\ 6 \end{array}$$

(A) 12   (B) 22   (C) 24   (D) 132

10.   Find the mirror image of REASONING from the options given below

(A) ᴙƎA꙲OꚡIꚡⅭ   (B) ꘎ꚡIꚡO꙲AƎᴙ   (C) ᴙƎA꙲OꚡIꚡⅭ   (D) ꘎ꚡIꚡO꙲AƎᴙ

11.   Which of the following designs can be made using 4 out of 5 given set of tiles ?
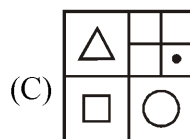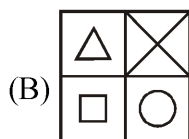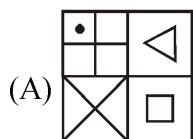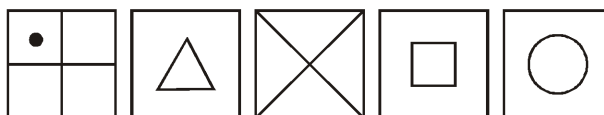
(A)   (B)   (C)   (D) All of these

Space for Rough Work

12.   There are three forms X, Y and Z of a sheet of paper. Figures X and Y respectively show the two consecutive folds of the sheet and the figure Z shows punch on the folded sheet. Choose one figure from the four option (A), (B), (C) and (D), that is similar to the unfolded form of the sheet Z.

(A)   (B)   (C)   (D)
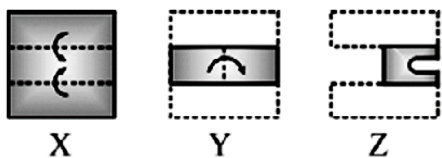
13.   Find the missing number in the number pattern given below.
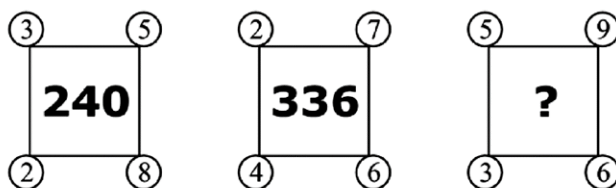
(A) 810   (B) 892   (C) 576   (D) 816

Space for Rough Work

14. Which would be the proper order of the following (in ascending order) ?

(a) Trillion (b) Thousand (c) Billion

(d) Hundred (e) Million

(A) a, b, d, c, e (B) a, e, c, b, d (C) d, b, c, e, a (D) d, b, e, c, a

15. Select the correct mirror image of Figure (X).

Figure (X)

(A) (B) (C) (D)
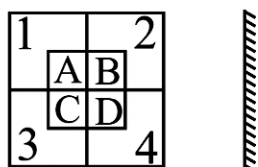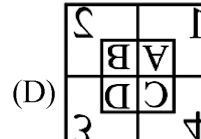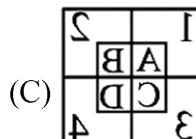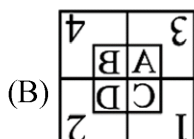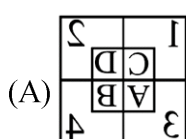
Space for Rough Work

16.   How many rectangles are there in the given figure ?
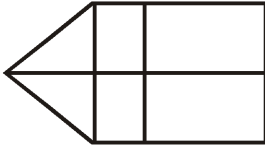
(A) 6   (B) 7   (C) 12   (D) 9

17.   How many squaress does the figure have ?

(A) 10   (B) 11   (C) 12   (D) 14

Space for Rough Work

Direction : Find the missing number in each of the following given series.

18. 90, 180, 12, 24, 100, 200, ?, 300, 50, 100, 25, 50, 6, 12

(A) 150 (B) 175 (C) 225 (D) 250

Direction : Find the missing number in each of the following given series.

19. $100, 50, 33\dfrac{1}{3}, 25, 20, ?,$

(A) 15 (B) $16\dfrac{1}{3}$ (C) $17\dfrac{2}{3}$ (D) $16\dfrac{2}{3}$

20. 2, 24, 81, ?, 375, 684

(A) 128 (B) 256 (C) 169 (D) 192

Space for Rough Work

Question No. 21 – 30 are of Integer Answer Type Question.

Answer of these question will come from **00** to **99**.

21. Find the next term : 8,13, 10, 15, 12, 17, 14. ?

22. Which number will come next in the following set of numbers ? 2, 5, 7, 12, 15, 17, 22

23. In the question, select the related letters from the given alternatives.

    BORE : 10 : : HOTEL : ?

24. How many P's come just after + sign in the following series ?

    PP05 + PP + MPN + P +

25. Ritu thinks of a number multiplies it by 5 and adds 10 to the result. Then she subtracts 1 form it and the result is 229. find the number

26. kim ranks 12th from the top in a Class of forty six. What will be her rank from the last ?

27. If the code for 'G' = '20' then code for 'J' = ?

28. If the code for 'JH' is '18', then how will 'CH' be coded ?

29. 7, 27, 64, 125

    Which one is different form the others.

30. 21, 36, 49, 56, 91 find the odd one out.

Space for Rough Work

Part – 2 contains 10 Single correct type questions and **5 Integer type questions.**

Question No. 31 – 40 are of Single Correct Answer Type Question.

Four options are given in each question out of which only **one** option is correct.

31.   The illustration below shows a student approaching the door to a building.
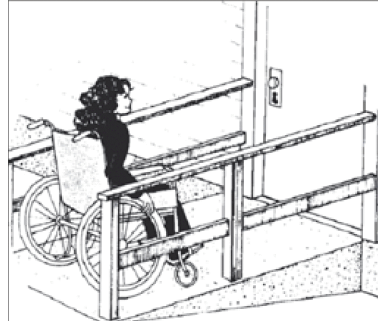
Which two simple machines are being used to enable the student to reach the door ?

(A) Inclined plane and pulley

(B) Lever and wheel-and-axle

(C) Pulley and lever

(D) Wheel-and-axle and inclined plane

Space for Rough Work

32.   The picture shows Raj pulling the car made of iron with a wand.

Which of these is probably inside the wand ?

(A)

(B)

(C)

(D)
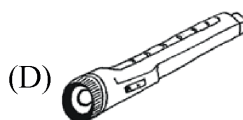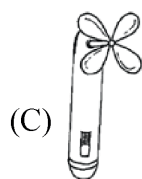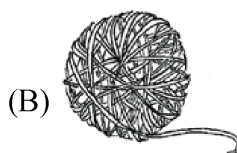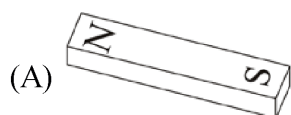
Space for Rough Work

33.   Alisha wants to build a machine for her technology class. To think of ideas, she drew four sketches of moving parts for her machine. Which design will work ?

(A)

(B)

(C)

(D)
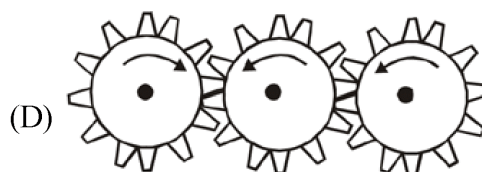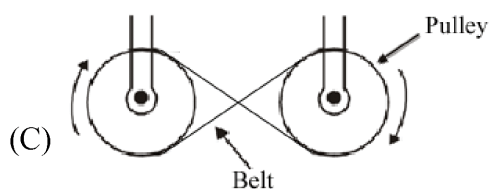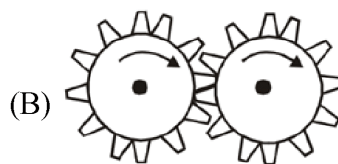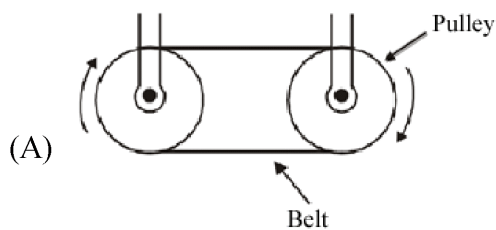
34.   Diamond is formed at...........

(A) High temperature and high pressure

(B) High temperature and low pressure

(C) Low temperature and high pressure

(D) Low temperature and low pressure

Space for Rough Work

35. Two cars X and Y are travelling in opposite directions on a narrow road as shown here. Four possible positions for placing a mirror are labelled D, E, F and G. In order to avoid an accident, a mirror could be placed at position _____
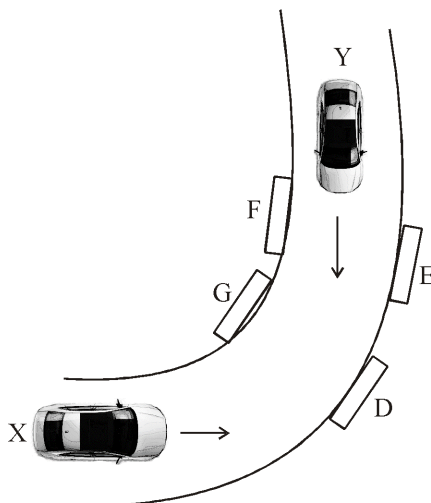
(A) E   (B) D   (C) G   (D) F

36. Eclipse occurs because of

(i) Light travels in straight line

(ii) The earth revolves around the sun and the moon revolves around the earth

(iii) The earth rotates on its axis

(iv) Moon reflects sunlight.

The correct statement is/are :

(A) Only (ii)   (B) Only (i) and (ii)

(C) Only (ii) and (iv)   (D) Only (i), (ii) and (iv)

Space for Rough Work

37.   I. The ball is rolled straight on a floor in such way that it travels equal distances in equal intervals of time.

II. The ball attached to one end of the hanging spring from the roof is stretched down and released.

III. The ball is made to move on a circular track, and it is pushed regularly, such that it completes successive rounds in less time.

In which of the following cases, the given particle executes periodic motion ?

(A) I only   (B) II only   (C) I and II   (D) II and III

38.   Which of the following labelled parts of the plug in the given figure are bad conductors of electricity ?
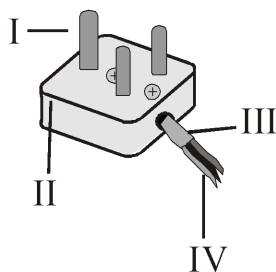
(A) III and IV   (B) II and III

(C) I and IV   (D) I and II

Space for Rough Work

39. Match the following column.

Column I

P. Wire

Q. Bulb

R. Switch

S. Battery

Column II

1.

2.

3.

4.

(A) P-3, Q-1, R-4,S-2
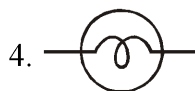
(B) P-3,Q-4,R-2,S-1

(C) P-4, Q-3, R-2,S-1

(D) P-4, Q-3, R-1, S-2

40. Study the arrangements of three magnets below :
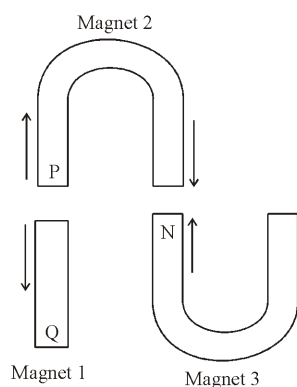
What could be the poles at P and Q ?

{where symbol N and S represent North pole and South pole of magnet}

(A) P-N, Q-N   (B) P-N,Q-S   (C) P-S, Q-N   (D) P-S, Q-S

Space for Rough Work

Question No. 41 – 45 are of Integer Answer Type Question.

Answer of these question will come from **00** to **99**.

41.   Ten coins are placed one above the other. Their total height was 4 cm and 6 mm. The thickness of each coin is.

42.   If there are 3 bar magnets, the total number of poles will be :

43.   Four ploting compasses are placed near a bar magnet. One compass appears like this $\left(\downarrow\right)$. What is a possible position for the compass ? (Ignore any effects of the Earth's magnetic field)
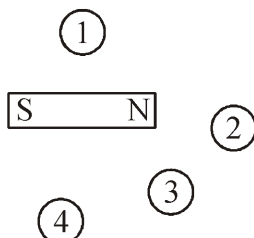
44.   2 decades are equal to _____ years.

45.   A thread of length 20 cm is made into square, then the length of its side is _____

Space for Rough Work

Part – 3 contains 10 Single correct type questions and 5 Integer type questions.

Question No. 46 – 55 are of Single Correct Answer Type Question.

Four options are given in each question out of which only one option is correct.

46. The fruit of cotton containing fibres and seeds is called as :

    (A) Fibre   (B) Lint   (C) Boll   (D) Pod

47. The clothes are made of thinner strands called :

    (A) Yam   (B) Thread   (C) Fibre   (D) fabric

48. Historians believe that cotton clothes were first warn in :

    (A) India   (B) Egypt   (C) China   (D) Europe

49. Winnowing is the method used to separate

    (A) Calf from grain   (B) Stones from rice   (C) Oil from water   (D) Salt from sand

50. The spinner in washing machine dries clothes works on the principle of :

    (A) Evaporation   (B) Sedimentation   (C) Filtration   (D) Separating funnel

51. While doing an activity in class, the teacher asked phalli to handover a translucent material. Which among the following materials will phalli pick and give her teacher?

    (A) Glass fumbler   (B) Mirror   (C) Muslin Cloth   (D) Aluminium foil

52. If you pour a few drops of petrol on your palm, it will fed cool as the petrol evaporates. This changes is a/an

    (A) Endothermic reaction   (B) Exothermic reaction

    (C) Chemical reaction   (D) Slow reaction

Space for Rough Work

53. Statement-I : A change which can be reversed is called a reversible change.

Statement-II : Falling of leaves from a tree is reversible change

(A) Both statement I and II are correct

(B) Both statement I and II are incorrect.

(C) Statement I is correct and statement II is incorrect.

(D) Statement I is incorrect and statement II is correct.

54. In water cycle which process in not included.

(A) Condensation   (B) Evaporation   (C) Precipitation   (D) Respiration

55. Read the following statements and select the correct option.

Statement-I :- Composition of air is constant.

Statement-II :- Nitrogen and oxygen constitute 99% of air.

(A) Both statement I and II are correct.

(B) Statement I is correct and statement II is incorrect.

(C) Statement I is incorrect and statement II is correct.

(D) Both statement I and II are incorrect.

Space for Rough Work

Question No. 56 – 60 are of Integer Answer Type Question.

Answer of these question will come from **00** to **99**.

56. Which of following is insoluble in water?

    sugar, salt, kerosene, oxygen

57. Which of following materials will you identify as transparent?

    Magnifying Glass, mirror, Stainless steel haunt, Glass tumbler.

58. Which of following are examples of periodic change?

    Simmering of a pendulum change of seasons, Gluons, Stores, Sewing, Rusting of iron.

59. Which of the following is a synthetic fibre?

    Nylon, Rayon, Cotton, Wool, silk.

60. Which of following are elements?

    Gron, Silver, Carbon dioxide, Oxygen, Boron.

Space for Rough Work

Part – 4 contains 15 Single correct type questions.

Question No. 61 – 75 are of Single Correct Answer Type Question.

Four options are given in each question out of which only **one** option is correct.

61. The various colours of flowers are due to

    (A) Chloroplast   (B) Leucoplast   (C) Chromoplast   (D) None of these

62. The plant which traps and feeds on insects is :

    (A) Cuscuta   (B) China rosa   (C) Pitcher plant   (D) Rose

63. Plants take carbon dioxide from the atmosphere mainly through their :

    (A) Roots   (B) Stem   (C) Flowers   (D) Leaves

64. Nucleoplasm is continuous with cytoplasm through

    (A) Centriole   (B) Golgi apparatus   (C) Nuclear pores   (D) Endoplasmic reticulum

65. Which of the following is not a part of digestive system?

    (A) Mouth cavity   (B) Stomach   (C) Food pipe   (D) Wind pipe

66. The largest gland in our body is :

    (A) Liver   (B) Salivary gland   (C) Pancreas   (D) Gallbladder

67. Find out incorrect sentence.

    (A) Parenchymatous tissues have intercellular spaces

    (B) Collenchymatous tissues are irregularly thickened at corners

    (C) Apical and intercalary meristems are permanent tissues

    (D) Meristematic tissues, in its early stage, lack vacuoles

Space for Rough Work

68. Sometimes when we do heavy exercise, anaerobic respiration takes place in our muscle cells. What is produced during this process?

(A) alcohol and lactic acid

(B) alcohol and CO_2

(C) lactic acid and CO_2

(D) lactic acid only

69. In the following figure of respiratory system organs labelled by 1 and 2 are respectively:
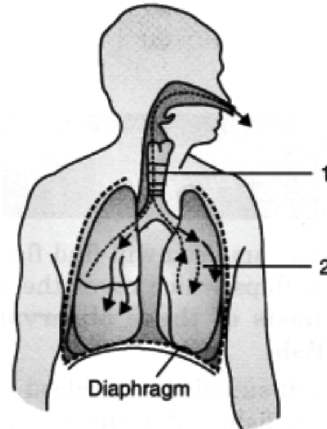
(A) Tracheae, Lungs

(B) Lungs, Tracheae

(C) Nasal cavity, Lungs

(D) Lungs, Nasal cavity

70. Which of the following is the main circulatory fluid in our body ?

(A) Plasma

(B) Lymph

(C) Blood

(D) None of these

Space for Rough Work

71. Which one of the following contains haemoglobin?

    (A) RBC   (B) WBC   (C) Platelets   (D) None of these

72. Stomata controls

    (A) The loss of food material from the plant

    (B) The loss of water from the plant

    (C) The loss of air from the plant

    (D) The loss of energy from the plant

73. Vegetative propagation in potato takes place by

    (A) Leaves   (B) Stem   (V) Root   (D) Seed

74. In yeasts reproduction occurs by

    (A) Fragmentation   (B) Binary fission

    (C) Budding   (D) Spore formation

75. Which one of the following is not a wild animal?

    (A) Bear   (B) Bison   (C) Jackal   (D) Goat

Space for Rough Work

Part – 5 contains 30 Single correct type questions and **15 Integer type questions.**

Question No. 76 – 105 are of Single Correct Answer Type Question.

Four options are given in each question out of which only **one** option is correct.

76. The L.C.M. of two numbers is 45 times their H.C.F. if one of the numbers is 125 and the sum of H.C.F. and L.C.M. is 1150, the other number is

  (A) 215   (B) 220   (C) 225   (D) 235

77. If a = – 2, b = 3 and c = 4, then the value of $a^3 + b^3 + 3a^2c - 4bc^3$ is -

  (A) 107   (B) – 107   (C) 701   (D) – 701

78. If $\dfrac{x}{4} - \dfrac{x-3}{6} = 1$, then x is equal to -

  (A) 12   (B) 6   (C) 3   (D) 4

79. 25% of a number is less than 18% of 650 by 19. The number is –

  (A) 392   (B) 356   (C) 293   (D) 318

80. Ratio of boys to the girls in a class is 5 : 4. Which of the following cannot be the number of students in the class ?

  (A) 45   (B) 72   (C) 108   (D) 98

Space for Rough Work

81. Find out the marks in Hindi from pie diagram, if the total marks be 540.
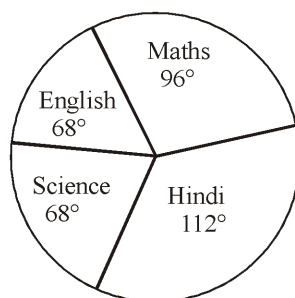
(A) 168   (B) 126   (C) 102   (D) 144

82. A watch is sold for Rs. y at 10% loss. Cost price of the watch is –

(A) Rs. $\dfrac{100 \times y}{90}$ (B) Rs. $\dfrac{90 \times y}{100}$ (C) Rs. $\dfrac{100 \times y}{100}$ (D) Rs. $\dfrac{110 \times y}{100}$

83. Simplify : $2x - [3y - \{2x - (y - x)\}]$
(A) $5x + 4y$ (B) $5x - 4y$ (C) $-5x - 4y$ (D) $-5x + 4y$

84. The present ages of Peter & Jony are in the ratio of 4 : 3, four years later, their ages will be in the ratio of 6 : 5, what are their present ages?
(A) 8, 9   (B) 6, 9   (C) 8, 6   (D) 5, 9

Space for Rough Work

85. Jacob bought a scooter for certain sum of money. He spent 10% of the cost on repairs and sold the scooter for a profit of Rs. 1100. How much did he spend on repairs if he made a profit of 20%

   (A) Rs. 400   (B) Rs. 440   (C) Rs. 500   (D) Rs. 550

86. The mean of first five prime numbers is -

   (A) 3   (B) 3.6   (C) 7   (D) 5.6

87. Maya goes 35 km east from a point A to point B. From B she moves 30 km west along the same road. If the distance travelled in the west direction is respresented by a negative integer, how will you represent the distance travelled in the east ? By which integer will you represent her final position from A ?

   (A) Positive integer, 5 km   (B) Negative integer, 3 km

   (C) Positive integer, 2 km   (D) Negative integer, 8 km

88. A fair dice has faces numbered 0, 1, 7, 3, 5 and 9. If it is thrown, the probability of getting an odd number is.

   (A) 1   (B) $\dfrac{2}{3}$ (C) $\dfrac{5}{6}$ (D) $\dfrac{1}{6}$

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89. From his home, Rahul walks $\dfrac{6}{7}$ km towards school and then returns $\dfrac{5}{6}$ km on the same way towards his home to reach a landmark. At what distance will he be now from his home ?

(A) $\dfrac{1}{42}$ km   (B) $\dfrac{1}{43}$ km   (C) $\dfrac{30}{42}$ km   (D) $\dfrac{11}{42}$ km

90. Match the following.

	Column – I	Column – II
(i)	The additive inverse of 2	(a) 0
(ii)	The greatest negative integer	(b) – 2
(iii)	The smallest integer greater than every negative integer	(c) 2
(iv)	Sum of predecessor and successor of 1	(d) – 1

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

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

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91. The value of $3\frac{1}{12} - \left[1\frac{3}{4} + \left\{2\frac{1}{2} - \left(1\frac{1}{2} - \frac{1}{3}\right)\right\}\right]$ is _____.

(A) $\frac{1}{2}$ (B) 2   (C) 1   (D) 0

92. If the area of a rectangle is equal to the area of square and length of th rectangle is equal to the perimeter of the square, then the breadth of rectangle is _____.

(A) Side ÷ 2   (B) (Side)^2 ÷ 2   (C) Side ÷ 4   (D) Side ÷ 3

93. An angle has :

(A) One vertex and one arm   (B) One vertex and two arms

(C) Two vertex and Two arms   (D) None of these

94. Which of the following statements is not true ?

(A) 5128 – (–2459) > (–687) – (–1040)   (B) –584 – (347) < 960 – (728)

(C) 6250 + (–3012) > 6240 – (–217)   (D) –888 + (3002) > 1001 – (–13)

95. Find out the variable and constant in the expression 20x – 11y.

(A) 20, 11 are constants, –x, y are variables

(B) –20, 11 are constants, x, y are variables

(C) 20, (–11) are constants, x, y are variables

(D) None of these

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96.   The product of the predecessor and successor of the largest 4 – digit number formed from the digits 3, 0, 8, 2 is ____.

(A) 69222939   (B) 6922399

(C) 96222399   (D) 69222399

97.   There are six poles on a side of a 1 km 200 m long straight road such that there is a pole at the starting and end point of the road. If the poles are equally spaced, then what isthe distance between each consecutive pole ?

(A) 200 m   (B) 210 m

(C) 230 m   (D) 240 m

98.   If a new number is formed by interchanging the tens and thousands place digits of 8727, then what is the relation between them ?

(A) New number is greater than original number.

(B) New number is smaller than original number.

(C) New number is equal to the original number.
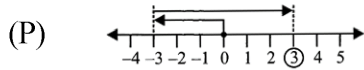
(D) Can't be determined.

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99. Which of the following statements is CORRECT ?

(i) A sector is the region in the interior of a circle enclosed by an arc on one side and a pair of radii on the other two sides.

(ii) A segment of a circle is the region in the interior of the circle enclosed by an arc and a chord.

(A) Both (i) and (ii)   (B) Only (i)   (C) Only (ii)   (D) Neither (i) nor (ii)
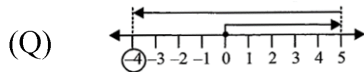
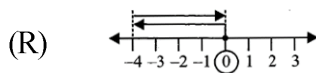100. Match the following.

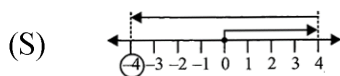| **Column – I**	**Column – II**
(P)	(i) $5 - 9$
(Q)	(ii) $4 - 8$
(R)	(iii) $-3 + 6$
(S)	(iv) $-4 + 4$

(A) (P) → (i); (Q) → (iii); (R) → (iv); (S) → (ii)

(B) (P) → (iii); (Q) → (i); (R) → (iv); (S) → (ii)

(C) (P) → (iv); (Q) → (iii); (R) → (ii); (S) → (i)

(D) (P) → (ii); (Q) → (iv); (R) → (i); (S) → (iii)

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101. What should be placed in the empty space '?' so that the sum of fractions on each side of the triangle is same ?
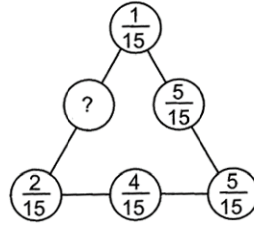
(A) $\dfrac{7}{15}$ (B) $\dfrac{9}{15}$ (C) $\dfrac{6}{15}$ (D) $\dfrac{8}{15}$

102. Select the correct option which makes the given expression true.

$$12.5 + 5\dfrac{3}{8} + 8\dfrac{1}{8} + 9\dfrac{4}{5} \ \square \ 2.9 + 15 - 6.88 + 11.08$$

(A) <   (B) >

(C) =   (D) Can't be determined

103. The ratio of the volume of water in Bottle P to the volume of water in Bottle Q is 3 : 4. Rajeev drank 40 mL of the water from Bottle P and the ratio then became 13 : 20. How much water was there in bottle P at first ?
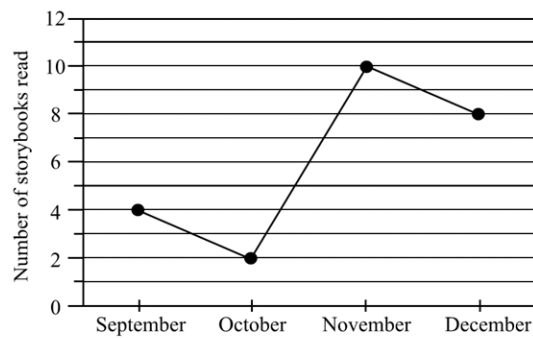
(A) 60 mL   (B) 80 mL   (C) 300 mL   (D) 400 mL

Space for Rough Work

104. Express the number of storybooks that Mohit read in December as a fraction of the total number of storybooks read in four months.

(A) 1   (B) $\dfrac{1}{2}$ (C) $\dfrac{1}{3}$ (D) 2

105. What do you mean by a regular quadrilateral?

(A) A rectangle   (B) A rhombus   (C) A square   (D) A trapezium
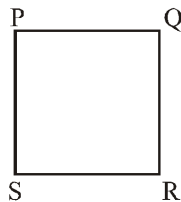
Space for Rough Work

Question No. 106 – 120 are of Integer Answer Type Question.

Answer of these question will come from **00** to **99**.

106. A man bought some oranges at Rs. 10 per dozen and bought the same number of oranges at Rs. 8 per dozen. He sold these oranges at Rs. 11 per dozen and gained Rs. 120. The total number of oranges bought by him was (in dozens)–

107. In the given figure, PQ ∥ RS and $\angle QRT$ is right angle. Find the value of x
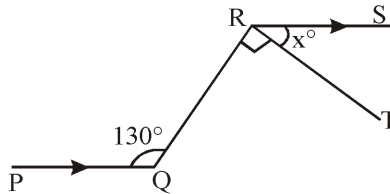
108. PQRS is a square. If $PQ = \left(\dfrac{2}{3}x + 1\right)$ cm and QR = 9 cm, what is the value of x ?

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109. Find the value of p, if the median of following observations is 48

     14, 17, 33, 35, p − 5, p + 7, 57, 63, 69, 80.

     The above observation are in ascending order –

110. A box is to be fillled with mangoes, each weighing $\dfrac{1}{10}$ kg. The weight of the box should not exceed

     $\dfrac{3}{5}$ kg. Find the maximum number of mangoes that can be put inside the box.

111. The diagonals of a rhombus measure 16 cm and 30 cm, then its perimeter is :

Space for Rough Work

112. A bag contains an equal number of one rupee, 50 paisa and 25 paisa coins respectively. If the total value is Rs. 35, how many coins of each type are there?

113. Find the value of a + b + c, if 373a is divisible by 9, 473b is divisible by 11 and 371c is divisible by 6.

114. How many of the following letters have at least one line of symmetry?
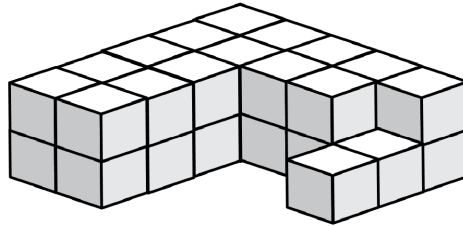
OLYMPIAD

115. The given figure is formed by three squares. A, B, C and D are the mid-points of the sides of the big square. W, X, Y and Z are the mid-points of the sides of the medium square. The big square is of side 16 cm. Find the unshaded area.
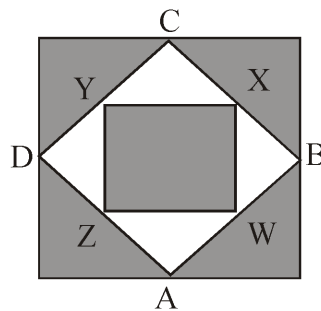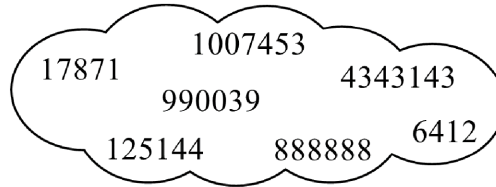

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116. How many unit cubes are required to make it a cuboid ?

117. How many of the given numbers are NOT divisible by 11?

1007453
17871   4343143
990039
125144   888888   6412

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118. What is the multiplicative identity element in the set of whole numbers?

119. If the mode of 22, 21, 23, 24, 21, 20, 23, 26, x and 26 is 23, then x is _____.

120. The sum of an angle and one-third of its supplementary angle is 90°. Find the angle.

Space for Rough Work