Class – VI

School Accelerated Program

ENTRANCE TEST CUM SCHOLARSHIP TEST (Sample Paper-2)

[Time: 1 Hour 50 Min] **[Max Marks: 400]**

A. General:

1. *This booklet is a Question Paper containing 100 questions.*
2. ***Blank Papers, Clipboards, Log Tables, slide rules, calculators, cellular phones, pagers and electronic gadgets** in any form are not allowed to be carried inside the examination hall.*
3. *The answer sheet, a machine-readable optical mark recognition sheet (OMR Sheet), is provided separately.*
4. *DO NOT TAMPER WITH THE OMR OR THE BOOKLET.*
5. *Please fill your roll number correctly in the OMR sheet (answer sheet).*
6. *Both Question Paper and OMR Answer Sheet will be submitted after completion of this examination.*

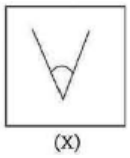
B. Question Paper Format and marking scheme:

1. *The Question Paper consists of five parts (Part I: MAT, Part II: Physics, Part III: Chemistry, Part IV: Biology, Part V: Mathematics).*
2. ***Each Question carries +4 marks for correct answer and -1 mark for incorrect answer.***

MAT

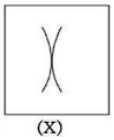
Direction (Qs. 1-2): In each of the following questions, you are given a figure (X) followed by four alternative figures (a), (b), (c) and (d) such that fig. (X) is embedded in one of them. Trace out the alternative figure which contains fig. (X) as its part.

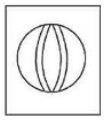
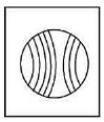
1.



(a)  (b)  (c)  (d) 

2.



(a)  (b)  (c)  (d) 

3. Jaya's position from the left in a row of students is 12th and Rekha's position from the right is 20th. After interchanging their positions Jaya becomes 22nd from the left. How many students are there in the row?

(a) 30 (b) 31 (c) 41 (d) 34

4. Manish ranked sixteenth from the top and twenty-ninth from the bottom among those who has passed an examination. Six boys did not participate in the examination and five failed in it. How many boys were there in the class?

(a) 40 (b) 44 (c) 50 (d) 55

Directions (Q5): Following question is based on the following alphabet series

Z Y X W V U T S R Q P O N M L K J I H G F E D C B A

5. Which alphabet comes immediately before the sixth alphabet from the right extreme of the given alphabets?

(a) E (b) F (c) G (d) U

6. In the given question there are two statements followed by two conclusions numbers I & II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

Statements: All pens are roads. All roads are houses.

Conclusions:

I. All houses are pens. II. Some houses are pens.

(a) Only I is true (b) Only II is true

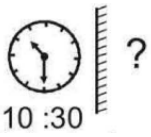
(c) Both are true (d) Both are false

7. Find the correct option for the mirror image for the following question.

DREAM ?

(a) MAERD (b) ꓤRƎAM (c) MAƎRꓤ (d) MAƎRD

8. Rotate the mirror image of the given clock 90° clockwise and the time will be.



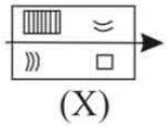
(a) 4: 45 (b) 5: 45 (c) 1:30 (d) 2:30

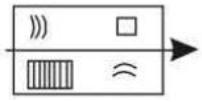
9. Find the correct option for the water image for the following question.

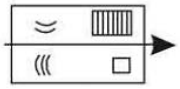
(a) PꓶƎDϽE (b) ЬꓶƎDϽE

(c) ЬꓶEDϽE (c) ЬꓶƎDϽE

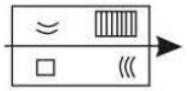
10. Find the correct option for the water image for the following question.



(a) 

(b) 

(c) 

(d) 

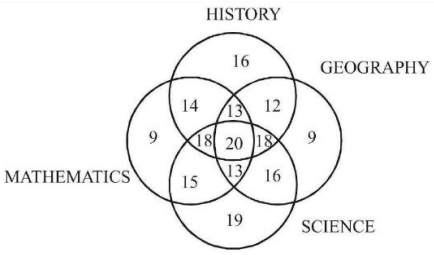
11. If in a certain code, HAT is 782, RABBIT is 681192 . Then how will HABIT be coded as ?

(a) 78139 (b) 78192 (c) 68192 (d) 78129

12. If REASON is coded as 5 , BELIEVED as 7 , what is the code number of GOVERNMENT?

(a) 6 (b) 8 (c) 9 (d) 10

Directions (Qs. 13-14) Refer to the following Venn diagram :



13. The number of students who took any three of the above subjects was

(a) 62 (b) 63 (c) 64 (d) 66

14. The number of students in total, who took History or Mathematics or Science, was

(a) 183 (b) 190 (c) 424 (d) 430

Directions (Qs. 15-16) Read the following information carefully to answer the questions.

(i) ' $A\$B$ ' means ' A ' is mother of ' B ' (ii) ' $A \# B$ ' means ' A ' is father of ' B '

(iii) ' $A @ B$ ' Means ' A ' is husband of ' B ' (iv) ' $A\%B$ ' means ' A ' is daughter of ' B '

15. P@Q$M# T indicates what relationship of P with T

(a) Paternal grandmother (b) Maternal grandmother

(c) Paternal grandfather (d) Maternal grandfather

16. Which of the following expressions indicates ' R is the sister of H '?

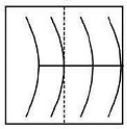
(a) H $ D @ F # R (b) R%D@ F$H (c) $R\$D@F\#H$ (d) $H\%D@F\$R$

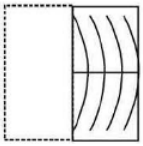
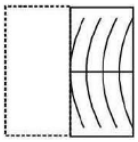
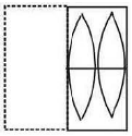
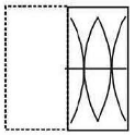
17. Deepak said to Nitin, " That boy playing football is the younger of the two brothers of the daughter of my father's wife "How is the boy playing football related to Deepak ?

(a) Son (b) Brother (c) Cousin (d) Niece

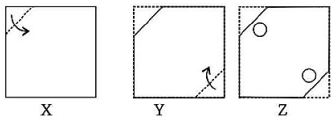
18. In the following question, find from amongst the four response figures, the one which resembles the pattern formed when the transparent sheet, carrying a design, is folded along the dotted line.

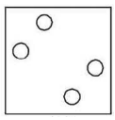
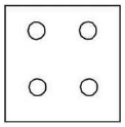
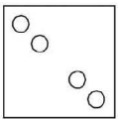
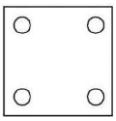
Transparent Sheet



(a)  (b)  (c)  (d) 

19. Consider the three figures, marked X, Y, and Z showing one fold in X, another in Y and the cut in Z. From amongst the four alternative figures a, b, c and d, select the one showing the unfolded position of **Z**.



(a)  (b)  (c)  (d) 

Direction (Qs. 20-22) : Complete the series

20. $\frac{1}{81}, \frac{1}{54}, \frac{1}{36}, \frac{1}{24}, ?$

(a) $\frac{1}{52}$ (b) $\frac{1}{9}$ (c) $\frac{1}{16}$ (d) $\frac{1}{18}$

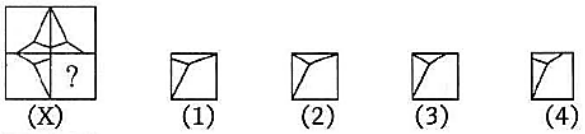
21. 3,5,5,19,7,41,9, ?

(a) 71 (b) 61 (c) 72 (d) 69

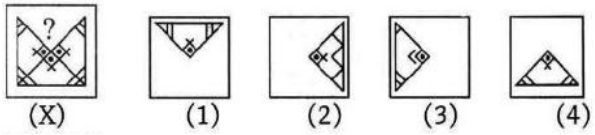
22. Q1F S2E U6D W21C?

(a) Y 66 B (b) Y 88 B (c) Z 88 B (d) Y 44 B

Direction (Qs. 23-24) : In each of the following questions, select a figure from amongst the four alternatives, which when placed in the blank space of fig. (X) would complete the pattern.

23. 

(a) 1 (b) 2 (c) 3 (d) 4

24. 

(a) 1 (b) 2 (c) 3 (d) 4

25. Sunita ranked 11^{th} from the top and 27^{th} from the bottom in a class. How many students are in the class?

(a) 38 (b) 28 (c) 40 (d) 37

26. Sarita is at 27^{th} position from the top in a class of 43 students. What is her rank from the other side?

(a) 16^{th} (b) 17^{th} (c) 15^{th} (d) 21^{st}

Direction (Qs. 28-29) : In each of these questions, four terms are given. While three of them are identical in some way, one is different from the rest. Select the odd one as your answer.

27. (a) Hat (b) Bag (c) Purse (d) Basket

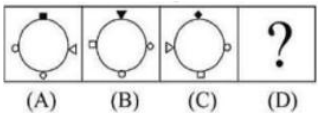
28. (a) Pen (b) Calculator (c) Pencil (d) Ink

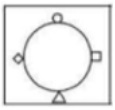
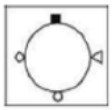
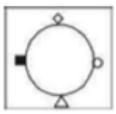
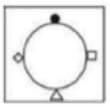
29. Find which one word cannot be made from the letters of the given word.

UNCONSCIOUS

(a) SON (b) COIN (c) SUN (d) NOSE

30. In the following question, a figure series is given out of which the last figure is missing, Find which one would complete the series.



(a)  (b)  (c)  (d) 

PHYSICS

31. Convert 2 cm into km.

(a) 0.00002 (b) 0.002 (c) 0.0002 (d) 0.2

32. Motion of strings of a guitar shows

(i) oscillatory motion (ii) vibratory motion

(iii) random motion (iv) rotational motion

(a) (i) and (ii) (b) (i) and (iii) (c) (ii) and (iii) (d) (ii) and (iv)

33. Read the given statements and select the correct option,

Statement 1: The displacement of a body may be zero, though distance can be finite.

Statement 2: If a body moves such that finally it arrives at initial point, then displacement is zero while distance is finite.

(a) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.

(b) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.

(c) Statement 1 is true and statement 2 is false.

(d) Statement 1 is false and statement 2 is true.

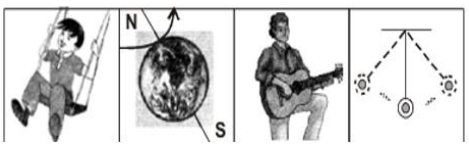
34. One centimetre on a scale is divided into 20 equal divisions. The least count (minimum value) of this scale is

(a) 20 cm (b) 1 mm (c) 0.1 mm (d) 0.5 mm

35. While measuring the length of a wooden box, the reading at one end is 1.5 cm and the other end is 4.7 cm. What is the length of the wooden box?

(a) 4.7 cm (b) 1.5 cm (c) 3.2 cm (d) 6.2 cm

36. What is common in the motions exhibited in the figures?



(a) All motions are periodic (b) All motions are oscillatory

(c) All motions are rotational (d) All motions are uniform

37. Which of the following does not express a time interval?

(a) A day (b) A second

(c) A school period (d) Time of the first bell in the school

38. The distance between Delhi and Mumbai is usually expressed in units of

(a) Decametre (b) Metre (c) Centimetre (d) Kilometre

39. Which of the following is not a standard unit of measuring length?

(a) Millimetre (b) Centimetre (c) Kilometre (d) Handspan

40. What is a reference point in the context of measuring distance?

(a) The starting point of an object's journey

(b) A fixed point used to describe the position of an object

(c) The object in motion

(d) The endpoint of a journey

41. Teamwork in science is important because it:

(a) Makes experiments fun (b) Brings together ideas

(c) Saves money (d) Helps hide errors

42. Recycling works by separating materials based on:

(a) Colour (b) Properties (c) Prices (d) Age

43. Water boils at:

(a) 0°C (b) 50°C (c) 100°C (d) 25°C

44. Science helps farmers by explaining:

(a) Seasons (b) Plant growth

(c) Market rates (d) Bee behaviour

45. Science is described as:

(a) Practical only (b) Systematic study

(c) Only about experiments (d) Only about nature

CHEMISTRY

46. Boojho found a bag containing the following materials

(i) Mirror (ii) Paper stained with oil (iii) Magnet (iv) Glass spectacles

Help Boojho in finding out the material(s) which is/are opaque.

(a) (i) only (b) (iv) only (c) (i) and (iii) (d) (ii) and (iv)

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

(a) Glass tumbler (b) Mirror (c) Muslin cloth (d) Aluminium foil

48. What are the characteristics of metals?

(a) Good conductors of electricity and heat, solid at room temperature; transparent shine brightly when polished.

(b) Good conductors of electricity and heat; solid at room temperature; opaque except in extremely thin films; do not shine at all when polished.

(c) Bad conductors of electricity and heat; solid at room temperature; opaque except in extremely thin films.

(d) Good conductors of electricity and heat; solid at room temperature; opaque except in extremely thin films; shine brightly when polished.

49. Which of the following is not an example of matter?

(a) Water (b) Air (c) Thought (d) Diamond

50. Which of the following materials is not soluble in water?

(a) Sugar (b) Chalk powder (c) Salt (d) Vinegar

51. In which state of matter does the material have a defined volume but no defined shape?

(a) Solid (b) Liquid (c) Gas (d) All of the above

52. Priya took a metal spoon, a wooden spoon, a plastic spoon and a glass rod. She dipped one end of each item into boiling water for five minutes and then touched the end extending outside the water. What were her observations and the inference regarding conduction of heat by these items?

(a) All the items become hot, hence all are good conductors of heat.

(b) Metal and plastic spoons becomes hot, hence metals and plastic are good conductors of heat while wood and glass are bad conductors.

(c) Metal and wooden spoons become hot at the other end which was outside water, hence metals and wood are good conductors of heat.

(d) Only metal spoon becomes hot hence metals are good conductors of heat while wood, plastic and glass are bad conductors.

53. Select an incorrect reason for separating components of a mixture.

(a) To separate two or more different but useful components.

(b) To remove undesirable and useless components.

(c) To remove pure or harmless components.

(d) To obtain pure sample of a substance.

54. Which of the following statements is/are correct?

I. Larger solid particles can be separated from smaller ones by filtration.

II. Cream can be separated from milk by churning.

III. A mixture of mud and water can be separated by loading, sedimentation and decantation.

IV. Grains can be separated from stalks by threshing.

(a) I and II only (b) II and IV only

(c) I, II and III only (d) II, III and IV only

55. Paheli asked for a glass of water from Boojho. He gave her a glass of ice cold water. Paheli observed some water droplets on the outer surface of the glass and asked Boojho how these droplets of water were formed. Which of the following should be Boojho's answer?

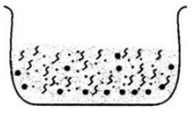
(a) Evaporation of water from the glass.

(b) Water that seeped out from the glass.

(c) Evaporation of atmospheric water vapour.

(d) Condensation of atmospheric water vapour.

56. Nisha poured a mixture of salt, iron filings, sand and flour into a container.



Which of the following substances can be separated from the mixture by using a magnet?

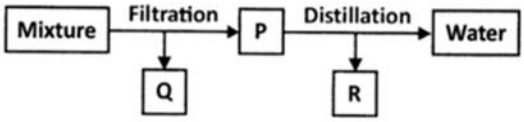
(a) Salt (b) Flour (c) Sand (d) Iron filings

57. A mixture contains three different substances X, Y and Z. They are of the same size, cubical in shape and yellow in colour. X particles are very heavy, insoluble, non-magnetic and contribute 50% of the mixture. Y particles are very light, insoluble, non-magnetic and contribute 40% of the mixture. And Z particles are iron pieces. Which of the following methods can separate X, Y and Z?

(a) Winnowing, Magnetic separation (b) Magnetic Separation, Handpicking

(c) Sieving, Magnetic separation. Filtration (d) Handpicking, Sublimation, Sieving

58. What could the mixture be?



(a) Water + sand + glass
(b) Oxygen + hydrogen + salt
(c) Stones + rice + water
(d) Chalk powder + sugar + water

59. ' X ' is a separation technique used only when the components of a solid-solid mixture have different sizes. Identify ' *X* '.

(a) Winnowing
(b) Sieving
(c) Threshing
(d) Magnetic separation

60. Which process takes place in a washing machine while clothes are being dried.

(a) Magnetic separation
(b) Filtration
(c) Evaporation
(d) Centrifugation

BIOLOGY

61. Which of the following is an aquatic animal?

(a) Lion (b) Elephant (c) Dolphin (d) Tiger

62. Which of these is an example of a shrub?

(a) Mango tree (b) Rose plant (c) Grass (d) Coconut tree

63. Which of these animals can live both on land and in water?

(a) Crocodile (b) Elephant (c) Parrot (d) Dog

64. Which animal uses gills to breathe?

(a) Frog (b) Dog (c) Fish (d) Snake

65. Which animal has a long trunk to help it drink water and pick up food?

(a) Giraffe (b) Elephant (c) Kangaroo (d) Lion

66. Which type of habitat do camels live in?

(a) Mountains (b) Oceans (c) Deserts (d) Forests

67. Which feature helps a fish to swim easily in water?

(a) Legs (b) Wings (c) Streamlined body (d) Hard shell

68. What do plants provide to animals?

(a) Shelter
(b) Oxygen
(c) Food
(d) All of the above

69. Which one of the following food items does not provide dietary fibre?

(a) Whole grains (b) Whole pulses (c) Fruits and vegetables (d) Milk

70. Junk foods are high in _____.

(a) Vitamins (b) Minerals (c) Sugar and fat (d) Roughage

71. Which of the following is a balanced meal?

(a) Only rice
(b) Only fruits
(c) A mix of carbohydrates, proteins, and fats
(d) Only junk food

72. Which nutrient is known as a body-building nutrient?

(a) Carbohydrates (b) Proteins (c) Fats (d) Minerals

73. Which of the following is a rich source of carbohydrates?

(a) Meat (b) Rice (c) Butter (d) Fish

74. Which region of India is known for dishes like dosa and idli?

(a) Punjab (b) West Bengal (c) Maharashtra (d) Tamil Nadu

75. Which cooking advancement is NOT part of modern methods?

(a) Gas stoves (b) Electric grinders

(c) Silbattas (d) Microwave ovens

MATHEMATICS

76. The difference between the smallest 3-digit number and the greatest 2-digit number is .

(a) 1 (b) 20 (c) 90 (d) 100

77. The population of a town is 86542892. If the number of females is 24596825, then find the number of males.

(a) 61946667 (b) 61956067 (c) 61946067 (d) 61966067

78. A number is divisible by both 5 and 12 . By which other number will that number be always divisible?

(a) 72 (b) 60 (c) 62 (d) 42

79. What least value should be given to * so that the number 653*47 is divisible by 11?

(a) 9 (b) 6 (c) 7 (d) 1

80. The HCF of two consecutive odd numbers is _____

(a) 2 (b) 0 (c) 4 (d) 1

81. The HCF of the denominator and the numerator of a fraction which is in its lowest form is

(a) 1 (b) 0

(c) Always an even number (d) Can't be determined

82. A number which has more than two factors is called a

(a) Composite number (b) Even number

(c) Odd number (d) Prime number

83. Which number should come in place of □ ?

$$\frac{4}{9}+\frac{7}{9}+\frac{\square}{9}=2\frac{1}{9}$$

(a) 7 (b) 1 (c) 8 (d) 9

84. What fraction of an hour is 40 minutes?

(a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{2}{3}$ (d) $\frac{1}{4}$

85. Simplify : $4\frac{3}{5}-2\frac{7}{9}-1\frac{2}{15}-\frac{2}{5}$

(a) $\frac{14}{45}$ (b) $\frac{13}{45}$ (c) $\frac{16}{45}$ (d) $\frac{12}{45}$

86. Aanya had $\frac{3}{4}L$ of milk. She used $\frac{1}{5}L$ to make a cup of tea. How much milk she has left with?

(a) $\frac{1}{4}$ L (b) $\frac{11}{20}$ L (c) $1\frac{1}{4}$ L (d) $\frac{1}{2}$ L

87. Ritu painted $\frac{2}{5}$ of the walls in her room. Her sister Rashmi helped and painted $\frac{3}{5}$ of the walls. How much did they paint together?

(a) $\frac{5}{10}$ (b) $\frac{6}{25}$ (c) $\frac{1}{5}$ (d) 1

88. 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

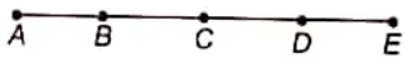
89. Which of the following can be measured?

(a) Line (b) Ray (c) Point (d) Line segment

90. Three or more lines are _____, if they pass through a common point.

(a) Parallel (b) Collinear (c) Concurrent (d) All of these

91. Number of line segments in the given figure is _____.



(a) 5 (b) 10 (c) 15 (d) 20

92. The polygon which is made up of least number of sides is a_____.

(a) Square (b) Triangle (c) Rectangle (d) None of these

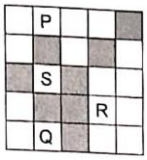
93. What type of angle is angle *X*?

(a) Acute (b) Obtuse (c) Right (d) Straight

94. A set of points which extends infinitely in both the directions is called _____.

(a) Line (b) Line segment (c) Point (d) None of these

95. Which of the following squares should be shaded to make the given figure symmetric?



(a) P and Q (b) P and S (c) Q and R (d) R and S

96. Which of the following shows a symmetric figure?

(a)  (b)  (c)  (d) 

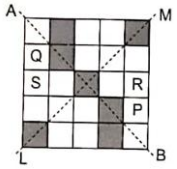
97. Which of the following is symmetrical about its diagonals?

(a) Square (b) Rectangle (c) Parallelogram (d) None of these

98. A rhombus is symmetrical about _____.

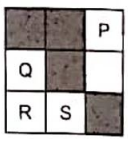
(a) The line joining the midpoints of its opposite sides
(b) Each of its diagonals
(c) Perpendicular bisector of each of its sides
(d) None of these

99. Which of the following square(s) must be shaded so that given figure is symmetric along both LM and AB ?



(a) R and S (b) P only (c) Q and P (d) Q only

100. Which square must be shaded so that the figure has a line of symmetry?



(a) P (b) Q (c) R (d) S