Class – VII

School Integrated Program

ENTRANCE TEST CUM SCHOLARSHIP TEST

[Time: 2 Hours] **[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 electronicgadgets 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 providedseparately.*
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.*

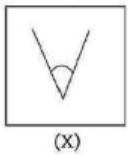
B. *Question Paper Format and marking scheme:*

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

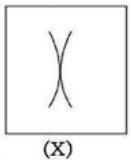
Direction (Qs. 1-2): In each of the following questions, you are given a figure (*X*) followed by four alternative figures (a), (b), (c) and (d) such that fig. (X) is embedded in one of them. Trace out the alternative figure which contains fig. (*X*) as its part.

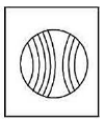
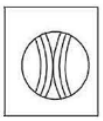
1.



(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

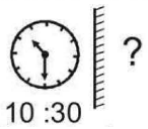
(c) Both are true (d) Both are false

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

DREAM | ?

(a) MAEЯD (b) ꓷЯƎAM (c) MAƎЯꓷ (d) MAƎЯD

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



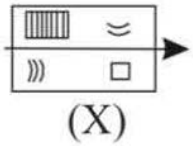
(a) 4: 45 (b) 5: 45 (c) 1:30 (d) 2:30

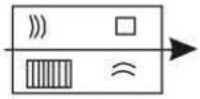
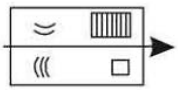
9. Find the correct option for the water image for the following question.

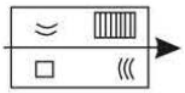
(a) PΓƎDϽE (b) ЬΓƎDϽE

(c) ЬΓEDϽE (c) ЬΓƎDϽE

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



(a)  (b) 

(c)  (d) 

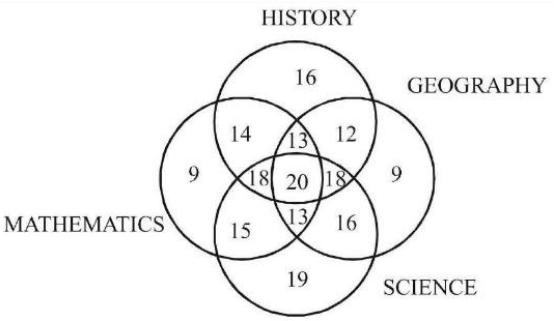
11. If in a certain code, HAT is 782, RABBIT is 681192 . Then how will HABIT be coded as ?

(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 '?

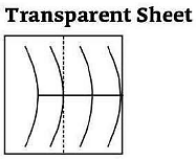
(a) H $ D @ F # R (b) R%D@ F$H

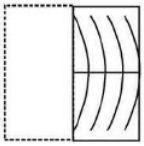
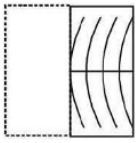
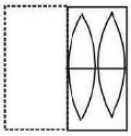
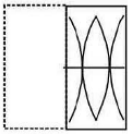
(c) $R\$D@F\#H$ (d) $H\%D@F\$R$

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 ?

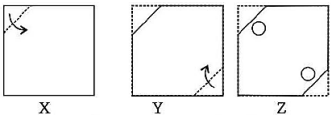
(a) Son (b) Brother (c) Cousin (d) Niece

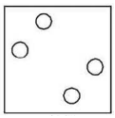
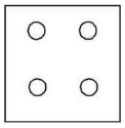
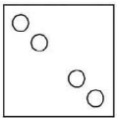
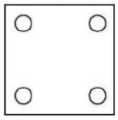
18. In the following question, find from amongst the four response figures, the one which resembles the pattern formed when the transparent sheet, carrying a design, is folded along the dotted line.



(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) $\frac{1}{18}$

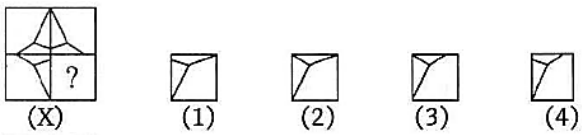
21. 3,5,5,19,7,41,9, ?

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

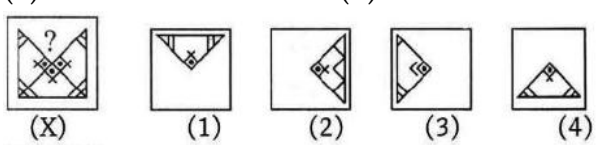
22. Q1F S2E U6D W21C?

(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

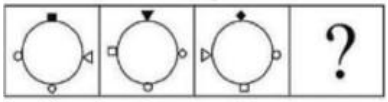
28. (a) Pen (b) Calculator (c) Pencil (d) Ink

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

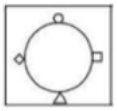
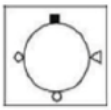
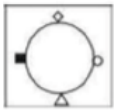
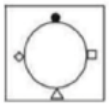
UNCONSCIOUS

(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)

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

PHYSICS

31. The image of an object formed by a device is always virtual and same size. This device is_____.

(a) Plane mirror (b) Concave mirror

(c) Convex lens (d) Concave lens

32. A magnet does not lose its property if it is _____.

(a) Heated (b) Hammered

(c) Dropped from a height (d) Wetted with water

33. Which of the options is correct

(a) Distance is the length of path covered by the particle to move from initial to final point

(b) Displacement is the shortest distance between the initial and final point

(c) If a particle moves on a closed curve the distance travelled is always greater than the displacement.

(d) All of them

34. If the particle covers 20000 meters in 5 hours. What is the speed of the particle.

(a) 2km/hr (b) 3km/hr

(c) 4km/hr (d) None of these

35. What happens when a bar magnet is broken into two pieces?

(a) Each piece will have only one pole

(b) Each piece will have both north and south poles

(c) The pieces will lose their magnetism

(d) The pieces will repel each other

36. Two students, while sitting across a table, looked down on the top surface. They noticed that they could see their own and each other's image. The tabletop is likely to be made of

(a) Unpolished wood (b) Red stone

(c) Glass sheet (d) Wood top covered with cloth

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

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

38. If the particle covers equal distance in equal time, then it is called

(a) Circular motion (b) Uniform motion

(c) Non uniform Motion (d) None of these

39. The north pole of the earth's magnet is near the geographical

(a) West (b) East (c) North (d) South

40. If the simple pendulum takes 2 minutes to complete 20 oscillations. What is the time period of the simple pendulum.

(a) 2s (b) 1.5s (c) 3s (d) None of these

41. Which of the following thermometers has a kink?

(a) Laboratory thermometer (b) Clinical thermometer

(c) Both (a) and (b) (d) Digital thermometer

42. Rahul and Vaishali measured their body temperature Sonu found his to be 98.6°F and Ria recorded 37°C.Which of the following statement is true?

(a) Rahul has a higher body temperature than Vaishali.

(b) Rahul has a lower body temperature than Vaishali.

(c) Both have normal body temperature

(d) Both are suffering from fever

43. For every one degree rise in Celsius scale. What is corresponding increase in fahrenheit scale.

(a) 0.2°F (b) 1.8°F

(c) 0.55°F (d None of these

44. Which of the following conversions is/are incorrect?

(i) 10 decades =1 century (ii) 100 centuries =1 millennium

(iii) 100 inches =2.54 metres (iv) 100 millimetres = 10 centimetres

(a) (ii) only (b) (iv) only

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

45 The S.I. unit of length is

(a) Km (b) Meter (c) cm (d) mm

CHEMISTRY

46. Dust and smoke in air are examples of harmful:

(a) Elements (b) Compounds (c) Matter (d) Pollutants

47. Air pressure near Earth's surface is higher because air density:

(a) Increases with height (b) Decreases with height

(c) Remains same (d) Varies randomly

48. Which of these is non-lustrous?

(a) Gold (b) Copper (c) Paper (d) Iron

49. Which material is opaque?

(a) Frosted glass (b) Window glass (c) Wooden door (d) Thin plastic

50. Why is frosted glass translucent, not transparent?

(a) Scatters light but doesn't allow clear vision (b) Lets all light through

(c) Doesn't allow any light (d) Absorbs light

51. Why do earthworms help soil?

(a) Remove nutrients (b) Increase erosion

(c) Loosen and turn soil (d) Add water

52. Which of the following is not matter?

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

53. Wind, water, and sunlight are categorized as:

(a) Non renewable (b) Renewable

(c) Inexhaustible (d) Both (b) and (c)

54. Which of the following is a non renewable resource?

(a) Water (b) Coal (c) Wind (d) Air

55. Forests help prevent:

(a) Soil erosion (b) Floods (c) Loss of biodiversity (d) All of these

56. Burning fossil fuels releases:

(a) Oxygen (b) Carbon dioxide and smoke

(c) Nitrogen (d) Pure water

57. Which gas is required for burning?

(a) Nitrogen (b) Oxygen (c) Carbon dioxide (d) Argon

58. Which two gases contribute to acid rain?

(a) Nitrogen & sulphur (b) Nitrogen & oxygen

(c) Sulphur & magnesium (d) Oxygen & argon

59. Van Mahotsav is celebrated to:

(a) Plant trees (b) Save water

(c) Celebrate wildlife (d) Educate about soil

60. Air typically contains about 21% of which gas?

(a) Nitrogen (b) Oxygen (c) Carbon dioxide (d) Argon

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 least integer lying between -10 and -15 is

(a) -10 (b) -11 (c) -15 (d) -14

77. The additive inverse of a negative integer

(a) is always negative (b) is always positive (c) is the same integer (d) zero

78. Amulya and Amar visited two places A and B respectively in Kashmir and recorded the minimum temperatures on a particular day as $-4°C$ at A and $-1°C$ at B. Which of the following statement is true?

(a) A is cooler than B

(b) B is cooler than A

(c) There is a difference of $2°C$ in the temperature

(d) The temperature at A is $4°C$ higher than that at B.

79. When a negative integer is subtracted from another negative integer, the sign of the result

(a) is always negative

(b) is always positive

(c) is never negative

(d) depends on the numerical value of the integers

80. The number of positive factors of 84 is

(a) 10 (b) 18 (c) 14 (d) 12

81. Find the least number which, when divided by 12,16,24 and 36, leaves a remainder 7 in each case.

(a) 151 (b) 153 (c) 156 (d) 161

82. $\frac{1}{4}$ th of a pizza was eaten by Renu. The rest was equally distributed among 12 children. What part of the pizza did each of these children get?

(a) $\frac{1}{16}$ th (b) $\frac{1}{32}$ th (c) $\frac{3}{16}$ th (d) $\frac{1}{8}$ th

83. How many $\frac{1}{10}$ are in $\frac{6}{5}$?

(a) 8 (b) 5 (c) 12 (d) 1

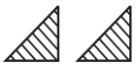
84. If X is the largest four-digit decimal number less than 1 using each of the digits 1, 5, 3 and 8 exactly once, then the value of X.

(a) 0.1853 (b) 0.8513

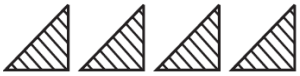
(c) 0.5831 (d) none of these

85. Sunil purchased $12\frac{1}{2}$ litres of juice on Monday and $14\frac{3}{4}$ litres of juice on Tuesday. How many litres of juice did he purchase together in two days?

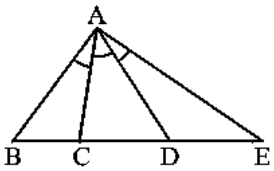
(a) $\frac{109}{4} Ltr$ (b) $27\frac{1}{4} Ltr$ (c) $27.25\ Ltr$ (d) All of these

86.  is $\frac{4}{5}$ th of a 'unit'. What will be $1\frac{3}{5}$?

(a)  (b) 

(c)  (d) 

87. An angle is said to be trisected by a trisector, if it is divided in the ratio of 2: 1 by the trisector. If in Fig, $\angle BAC = \angle CAD = \angle DAE$, how many trisectors are there for $\angle BAE$?



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

88. Sum of all positive factors of 84, which are the multiple of 7 is

(a) 113 (b) 189 (c) 196 (d) 112

89. How many different solutions are there to the letter SUMS?
Different letters stand for different digits, and no number begins with a zero.

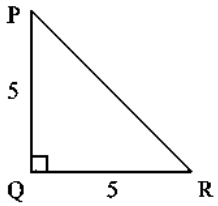
$$\begin{array}{r} JMC \\ +JMO \\ \hline SUMS \end{array}$$

(a) 2 (b) 4 (c) 6 (d) 8

90. Find the smallest three-digit number which is neither prime nor divisible by 2,3 or 5.

(a) 117 (b) 119 (c) 123 (d) 130

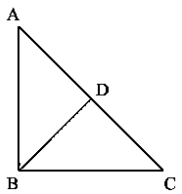
91. In Fig, $PQ = 5$ cm , $QR = 5$ cm and $PR = 5\sqrt{2}$ Then ΔPQR is



(a) a right triangle but not isosceles (b) an isosceles right triangle

(c) isosceles but not a right triangle (d) neither isosceles nor right triangle

92. In Fig, $AB = BC$ and $AD = DC$ and $\angle B = 90°$. The number of isosceles triangles in the figure is



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

93. (10 tens +11 hundred +12 ones) equals

(a) 1213 (b) 111012 (c) 101112 (d) 1212

94. If the sum of two angles is equal to an obtuse angle, then which of the following is not possible?

(a) one obtuse angle and one acute angle. (b) one right angle and one acute angle.

(c) two acute angles. (d) two right angles.

95. The number that must be added to the product of 23 and 13, to make it largest number of 3-digit is

(a) 750 (b) 700 (c) 770 (d) 740

96. The number of diagonals of a pentagon is

(a) 3 (b) 4 (c) 5 (d) 10

97. If 567567567 is divided by 567, then the quotient is

(a) 111 (b) 10101 (c) 1001001 (d) 3

98. Solve for $x : 4(x + 2) - 5 = 3(2x - 1) + 7$

(a) $\frac{1}{2}$ (b) 0 (c) $-\frac{1}{2}$ (d) 1

99. Ravi's age is three times the age of his younger sister. If the sum of their ages is 32 years, how old is Ravi?

(a) 8 (b) 16 (c) 24 (d) 32

100. A number is increased by 12 and the result is equal to five times the original number. Find the number.

(a) 1 (b) 3 (c) 5 (d) 7