

CLASS-VI

Sample Paper-2

ENTRANCE TEST CUM SCHOLARSHIP TEST

HS/P2

[Time: 3 Hours]

[Max Marks: 270]

A. General:

1. This booklet is a Question Paper containing 90 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: Mathematic).
2. Each Question carries +3 marks for correct answer and -1 mark for incorrect answer.

MAT

Direction (1-3)- Study the following information and answer the questions given below it.

There is a group of five persons K, G, H, R and J.

- (i) K, G and H are intelligent.
 - (ii) K, R and J are hard working.
 - (iii) R, H and J are honest and
 - (iv) K and J are honest and
 - (v) K, G and J are ambitious
1. Which of the following persons is neither hard working nor ambitious?
 (a) K (b) G (c) H (d) R
 2. Which of the following persons is neither honest nor hard working but is ambitious ?
 (a) K (b) G (c) R (d) H
 3. Five persons A, B, C, D and E are sitting in a row facing you such that D is on the left of C and B is on the right of E. A is on the right of C and B is on the left of D. If E occupies a corner position, then who is sitting in the centre?
 (a) A (b) B (c) C (d) D
 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
 5. Roshan ranked 11th from the top and thirty one from the bottom in a class. How many students are there in the class?
 (a) 42 (b) 43 (c) 41 (d) 40

DIRECTIONS (Qs. 6-7): In the following addition each of the letters denote a different integer. Each letter stands for the same integer throughout where ' P ' stands for 4 .

$$\begin{array}{r}
 M \quad N \quad O \quad P \\
 + \quad A \quad Q \quad R \quad P \\
 \hline
 Z \quad Z \quad Z \quad Z
 \end{array}$$

6. What is the value of the letter ' Z ' throughout?
 (a) 4 (b) 6
 (c) 8 (d) Cannot be determined
7. If the value of N is greater than 5 , then ' N ' stands for:
 (a) 6 (b) 7 (c) 8 (d) 6 or 7

Directions (8-9): What number/ character/letter should replace the question mark?

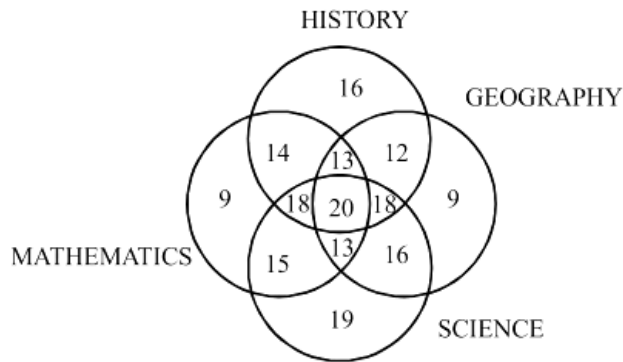
8. $72 \begin{array}{c} 9 \\ \circlearrowleft 13 \\ 60 \end{array} 28$ $48 \begin{array}{c} 41 \\ \circlearrowleft ? \\ 23 \end{array} 32$ $9 \begin{array}{c} 24 \\ \circlearrowleft 9 \\ 12 \end{array} 36$

- (a) 12 (b) 15 (c) 17 (d) 18

0	-1	-2
1	0	-1
2	?	0

9. (a) 1 (b) -1 (c) -2 (d) -4

Directions (10-12): Refer to the following Verndiagram:



10. The number of students who took any three of the above subjects was
 (a) 62 (b) 63 (c) 64 (d) 66
11. The number of students in total, who took history or Mathematics or Science, was
 (a) 183 (b) 190 (c) 424 (d) 430
12. The number of students who took both History and Geography among other subjects was
 (a) 62 (b) 63 (c) 65 (d) 66
13. A child is looking for his father. He went 90 metres in the East before turning to his right. He went 20 metres before turning to his right again to look for his father at his uncle's place 30 metres from this point. His father was not there. From here he went 100 metres to the North before meeting his father in a street. How far did the son meet his father from the starting point?
 (a) 80 metres (b) 100 metres (c) 140 metres (d) 260 metres
14. If A is to the south of B and C is to the east of B, in what direction is A with respect to C?
 (a) North-east (b) North-west (c) South-east (d) South-west
15. A, B, C and D are playing cards. A and B are partners. D faces towards North. If A faces towards west, then who faces towards south?
 (a) B (b) C (c) D (d) data inadequate
16. In the left hand side of the following equation which one of the four interchanges in signs and numbers would make the given equation correct?
 $(3 \div 4) + 2 = 2$
 (a) + and \div , 2 and 3 (b) + and \div , 2 and 4
 (c) + and \div , 3 and 4 (d) No interchanges, 3 and 4]
17. If A stands for +, B stands for $-$, C stands for \times , then what is the value of $(10C4) + (4C4)B6 = ?$
 (a) 60 (b) 56 (c) 50 (d) 20

DIRECTIONS (Qs. 18-19): 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'

18. P@Q\$M#T indicates what relationship of P with T
 (a) Paternal grandmother (b) Maternal grandmother
 (c) Paternal grandfather (d) Maternal grandfather
19. 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

DIRECTIONS (20-21): Find the correct option for the mirror images for the following questions.

20. DREAM ?
 (a) MAERD (b) DREAM (c) MAERD (d) DREAM
21. NEWS ?

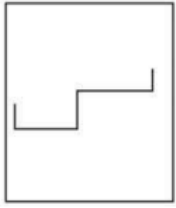
(a) NEWS

(b) SWEN

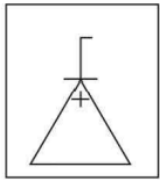
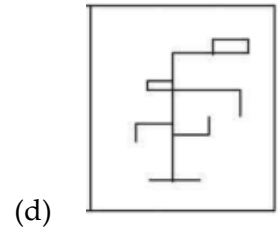
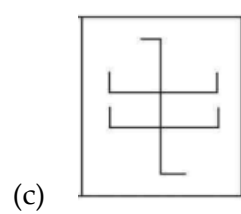
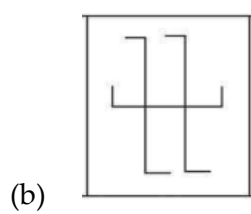
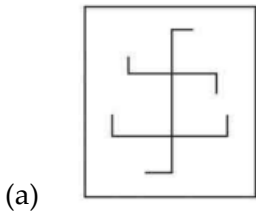
(c) SWEN

(d) NEWS

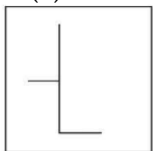
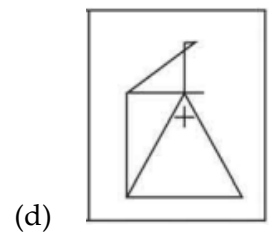
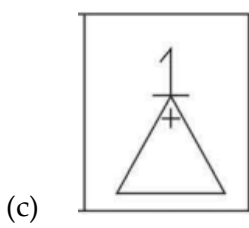
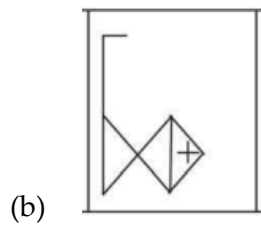
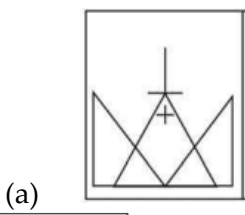
DIRECTIONS – 22-24: In each of the following questions, you are given a figure (X) followed by four alternative figures (1), (2), (3), (4) such that fig. (X) is embedded in one of them. Trace out the alternative figure which contains fig. (X) as its part.



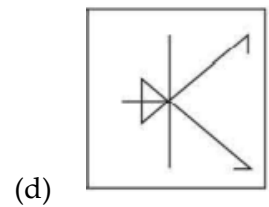
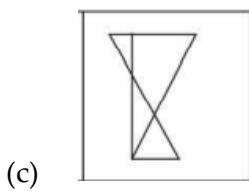
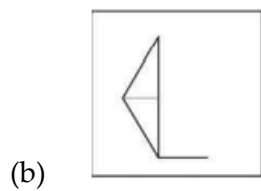
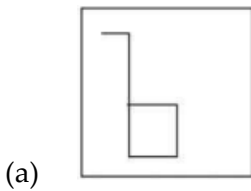
22. (X)



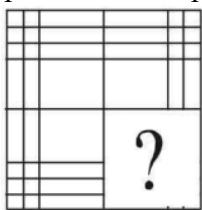
23. (X)



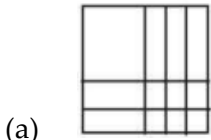
24. (X)



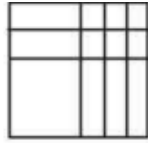
DIRECTIONS-25-26: In each of the following questions, select a figure from the four alternatives, which when placed in the space where the question mark is shown in figure (X) would complete the figure.



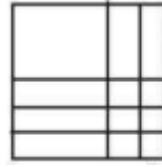
25. (X)



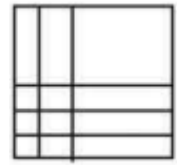
(a)



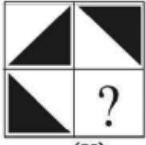
(b)



(c)



(d)



(x)

26.



(a)



(b)



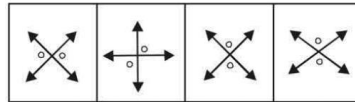
(c)



(d)

DIRECTIONS (27-28): Choose the figure which is different from the others

27. Problem figure:



(1)

(2)

(3)

(4)

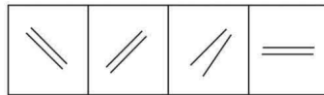
(a) (1)

(b) (2)

(c) (3)

(d) (4)

28. Problem figure:



(1)

(2)

(3)

(4)

(a) (1)

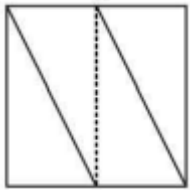
(b) (2)

(c) (3)

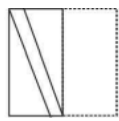
(d) (4)

DIRECTIONS - (29-30); In each one of the following questions, 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.

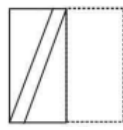
29. Transparent Sheet



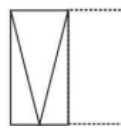
Responses figure



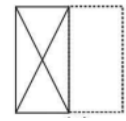
(a)



(b)

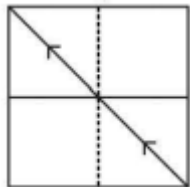


(c)

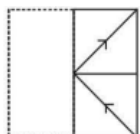


(d)

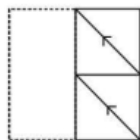
30. Transparent Sheet



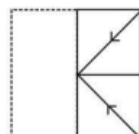
Responses figure



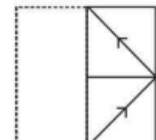
(a)



(b)



(c)



(d)

PHYSICS

31. On a hot day, beach sand is hotter than the ocean water because of difference in
(a) texture (b) conductivity (c) colour (d) specific heat
32. The primary mode of heat transfer in a solid is
(a) conduction (b) conduction and convection
(c) convection (d) radiation
33. To measure short intervals of time, we use a
(a) stop watch (b) pendulum dock (c) wrist watch (d) none of these
34. The time period of a simple pendulum depends on
(a) the displacement of the bob (b) the mass of the bob
(c) the length of the string (d) none of these
35. Tornado is a form of
(a) wind (b) thunderstorm (c) cyclone (d) None of these
36. The presence of water vapour in air is called
(a) humidity (b) liquefied air (c) hydrated air (d) None of these
37. Which of the following appliances is not based on the principle of heating effect of current?
(a) electric bell (b) electric kettle (c) electric bulb (d) electric heater
38. The direction in which compass needle will point, when a wire carrying a current is held under it and the current is flowing from north to south, will be:
(a) east (b) west (c) north (d) south
39. Two mirrors are kept at 60° to each other and a body is placed in the middle. The total number of images formed is-
(a) 3 (b) 4 (c) 5 (d) 6
40. When light travels from one medium to another, there is no change in its -
(a) velocity (b) amplitude (c) frequency (d) wavelength

CHEMISTRY

41. The correct ascending order of gases as per their composition in air is
(a) oxygen < carbon dioxide < nitrogen. (b) hydrogen < oxygen < nitrogen.
(c) nitrogen < hydrogen < oxygen. (d) oxygen < carbon dioxide < hydrogen.
42. Which of the following can reduce air pollution on roads?
(a) The widening of roads. (b) Having more traffic lights on roads.
(c) Having less traffic lights on roads. (d) Reducing the number of vehicles on roads
43. Clothes dry faster when there is _____ water vapour in air.
(a) Less (b) More
(c) Either less or more (d) None of these
44. Filtration is a method to separate the components of a
(a) solution
(b) mixture of a liquid and an insoluble substance
(c) Both (a) & (b)
(d) Pure substance
45. Which gas is responsible for fizz in soft drinks?
(a) Oxygen (b) Hydrogen (c) Nitrogen (d) Carbon dioxide
46. Iodine can be recovered from tincture of iodine by the process of
(a) filtration (b) distillation (c) evaporation (d) decantation
47. An iron nail is kept in each of the following liquids. In which case would it lose its shine and appear dull?
(a) Mustard oil (b) Soft drink (c) Coconut oil (d) Kerosene

48. Why are paper bags preferred over plastic bags?
 (a) Paper bags are lighter. (b) Paper bags are stronger.
 (c) Paper bags are cheap. (d) Paper bags are biodegradable
49. The process of grouping the things on the basis of similar properties is called
 (a) roughness (b) classification (c) matter (d) arrangement
50. During the process of filtration, the solid particles remain on filter paper, these solid particles are called
 (a) Solution (b) Sediment (c) Filtrate (d) Residue

BIOLOGY

51. Honey bees are often seen sitting on flowers. Why do they do so?
 (a) They like flowers (b) They lay eggs on flowers
 (c) They suck nectar from flowers (d) All of these
52. Which is an example of an animal found in mountain region?
 (a) Leopard (b) Yak (c) Mountain goat (d) All of these
53. Which one of the following is a function of leaves?
 (a) Photosynthesis (b) Transpiration (c) Both (a) and (b) (d) Support fruits
54. Which one is the best for health?
 (a) Boiled seeds (b) Roasted seeds (c) Wet swollen seeds (d) Sprouted seeds
55. Sunken stomata are present in
 (a) aquatic plants (b) epiphytes
 (c) desert plants (d) mesophytes
56. Which is an aquatic adaptation?
 (a) Streamlined body (b) Light and hollow bones
 (c) Hair on body (d) Gills
57. Respiration in aquatic animals occurs by
 (a) lungs (b) gills (c) nostrils (d) legs
58. Leaf venation and type of root is correctly paired in
 (a) parallel venation, fibrous roots
 (b) parallel venation, taproot
 (c) no relation exists in leaf venation and type of roots
 (d) reticulate venation, fibrous roots
59. Which is a correct set of parts of a pistil?
 (a) Ovary, style and filament (b) Ovary style and stigma
 (c) Ovary, anther and filament (d) Filament and anther
60. Different organisms eat kinds of food.
 (a) same (b) Different (c) Both a and b (d) None

MATH

61. The product of the place values of two 2's in 529623 is
 (a) 4 (b) 40000 (c) 400000 (d) 40000000
62. The largest 4-digit number, using any one digit twice, from digits 5, 9, 2 and 6 is
 (a) 9652 (b) 9562 (c) 9659 (d) 9965
63. One million is equal to
 (a) 1 lakh (b) 10 lakh (c) 1 crore (d) 10 crore
64. A whole number is added to 25 and the same number is subtracted from 25. The sum of the resulting numbers is
 (a) 0 (b) 25 (c) 50 (d) 75

65. The number of triangles in adjacent Figure, is



- (a) 10 (b) 12 (c) 13 (d) 14

66. The middle number lying between -15 and 7 is

- (a) -5 (b) -4 (c) -3 (d) 0

67. The marks (out of 10) obtained by 28 students in a Mathematics test are listed as below:

8, 0, 3, 6, 5, 5, 5, 2, 4, 9, 7, 8, 3, 5, 8, 4, 1, 8, 10, 10, 2, 0, 8, 7, 8, 9, 1, 1

The number of students who obtained marks more than or equal to 5 is

- (a) 13 (b) 15 (c) 16 (d) 17

68. Which of the following statements is not true?

- (a) Both addition and multiplication are associative for whole numbers.
(b) Zero is the identity for multiplication of whole numbers.
(c) Addition and multiplication both are commutative for whole numbers.
(d) Multiplication is distributive over addition for whole numbers.

69. The number of 3-digit numbers that can be formed using the digits 3, 5 and 7 without repetition is.

- (a) 3 (b) 4 (c) 5 (d) 6

70. The sum of the successor and the predecessor of 100 is

- (a) 198 (b) 199 (c) 200 (d) 201

71. Modulus of a number x is denoted as $|x|$ and it gives the magnitude of a number.

For example, $|-1| = 1$ and $|1| = 1$.

Now, P is neither positive nor negative, $Q = -|-9|$ and R is the absolute value of -13 .

Which of the following is the value of $P + Q + R$?

- (a) 21 (b) 22 (c) 4 (d) -4

72. The HCF of which of the following pairs of composite numbers is different from that of the others? (Odd one out)

- (a) 12, 18 (b) 24, 30 (c) 18, 30 (d) 18, 45

73. Which of the following is not divisible by 9?

- (a) 345672 (b) 278901 (c) 46938 (d) 96435

74. What part of the given figure is shaded?



- (a) $2/3$ (b) $1/3$ (c) $1/2$ (d) $2/5$

75. Which of the following statements is not true?

- (a) The HCF of two distinct prime numbers is 1
(b) The HCF of two co prime numbers is 1
(c) The HCF of two consecutive even numbers is 2
(d) The HCF of an even and an odd number is even.

76. If P is a 5-digit number and Q is the number formed by reversing the digits of P , then find the difference between the place values of the digits in the 100 place.

- (a) 1 (b) 9 (c) 0 (d) Cannot say

77. In a school, there are 720 students out of which two-thirds are girls and the rest are boys.

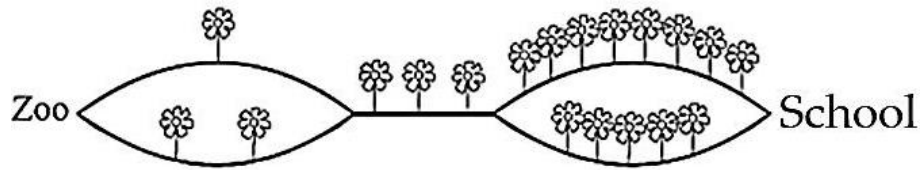
Three fourths of the numbers of boys are players. The number of boys who are not players is

- (a) 75 (b) 25 (c) 30 (d) 60

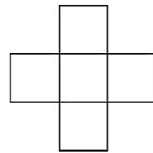
78. The number of distinct prime factors of the largest 4-digit number is

- (a) 2 (b) 3 (c) 5 (d) 11

79. The number of distinct factors of the smallest 5-digit number is
 (a) 32 (b) 34 (c) 36 (d) 49
80. If the number $7254 * 98$ is divisible by 22, the digit at * is
 (a) 1 (b) 2 (c) 6 (d) 0
81. Bhavna goes directly from the zoo to school and counts the Sunflowers along the way. Which of the following numbers can he not obtain this way?



- (a) 9 (b) 10 (c) 11 (d) 12
82. The least positive number which when divided by 10, 15 and 20 leaves a remainder 3.
 (a) 33 (b) 63 (c) 93 (d) 123
83. The numbers 1, 4, 7, 10 and 13 should be written into the squares so that the sum of the three numbers in the horizontal row is equal to the sum of the three numbers in the vertical column. What is the largest possible value of these sums?



- (a) 18 (b) 20 (c) 24 (d) 22
84. When Kitty the cat is very lazy and sits around the whole day, she drinks 60 ml of milk. When she chases mice she drinks a third more milk. In the past two weeks, she has chased mice on every second day. How much milk has she drunk in the past two weeks?
 (a) 840 ml (b) 980 ml (c) 1050 ml (d) 1120 ml
85. In the school for animals there are 3 cats, 2 ducks, 2 sheep and some dogs. The teacher counted the legs of all the animals, and got 44. How many dogs go to the school?
 (a) 6 (b) 5 (c) 4 (d) 3
86. The largest number which always divides the sum of any pair of consecutive odd numbers is
 (a) 2 (b) 4 (c) 6 (d) 8
87. The number of common prime factors of 75, 60, 105 is
 (a) 2 (b) 3 (c) 4 (d) 5
88. Which of the following is not divisible by 7?
 (a) $6^5 + 1$ (b) $6^{11} + 1$ (c) $6^6 + 1$ (d) $6^6 - 1$
89. Which of the following numbers is divisible by 11?
 (a) 1011011 (b) 1111111 (c) 22222222 (d) 3333333
90. Grey and white pearls are threaded on a piece of string.



- Monika wants to have 5 grey pearls. However, she can only pull off pearls from the end of the string. Therefore she has to pull off some white pearls as well. What is the minimum number of white pearls she has to pull off, to get 5 grey pearls?
 (a) 2 (b) 3 (c) 4 (d) 5