

## **SAMPLE PAPER FOR 9<sup>TH</sup> CLASS**

**Time: 1 Hr**

**Max Marks : 200**

**THE TEST CONSISTS OF TWO SECTIONS : (TOTAL 50 QUESTIONS)**

**SECTION A : MAT**

**20 Questions**

**SECTION B : SAT**

**30 Questions**

### **INSTRUCTIONS TO CANDIDATE**

- Each subject in this paper consists of multiple choice questions with only one correct answer. **+4 marks** will be awarded for correct answer and **-1 mark** for wrong answer.
- Please read the instructions given for each question carefully and fill the correct answer against the question numbers on the answer sheet in the respective subject.
- Use blue or black ball point pen or H.B. pencil to darken the appropriate circle & mark should completely fill the circle.
- The Question paper contains blank spaces for your rough work. No additional sheet will be provided for rough work.
- Blank papers, Clipboards, Log Tables, Slide rule, Calculators, Cellular phones, Pagers and Electronic gadgets in any form are not allowed.
- Write your Name, Roll Number in the block at the top of the Answer Sheet. Also write your Name & Registration No. in the space provided on this cover page of question paper.
- **This test paper is just an indicative of the actual test, The pattern of the actual test may vary.**

Name: \_\_\_\_\_ Students ID: \_\_\_\_\_

## SECTION - A (MAT)

**Directions : (Q1-2) Read the information given below to answer the questions that follow :**

- (i) There is a group of five girls  
(ii) Kamini is second in height but younger than Rupa.  
(iii) Pooja is taller than Monika but younger in age.  
(iv) Rupa and Monika are of the same age but Rupa is tallest between them.  
(v) Neelam is taller than Pooja and elder to Rupa.
1. If they are arranged in descending order of their ages, who will be in the fourth position?  
(A) Monika or Rupa (B) Monika  
(C) Kamini (D) None of these
2. To answer the question "Who is the youngest person in the group", which of the following statements is superfluous?  
(A) only (i) (B) only (v)  
(C) only (ii) (D) either (i) or (iv)
3. Find the one that does not belong to the group.  
(A) GT7 (B) IR9  
(C) CX3 (D) JP10
4. IF ACID is coded as 21 23 3 24. How will you code 'DEBT'?  
(A) 24 25 22 14 (B) 24 23 20 12  
(C) 9 12 8 7 (D) 24 20 8 12

**Directions : (Q5) In the following question, the symbols @, ©, \$, % and # are used with the meanings as illustrated below :**

'A\$B' means 'A is not smaller than B'

'A#B' means 'A is not greater than B'

'A@B' means 'A is neither smaller than nor equal to B'

'A©B' means 'A is neither smaller than nor greater than B'

'A%B' Means 'A is neither greater than nor equal to B'

Now in each of the following questions assuming the given statements to be true, find which of the three conclusions I, II and III given below them is/ are definitely true and give your answer accordingly.

5. Statement : M@J, J\$T, T©N

Conclusions : I. N#J

II. T%M

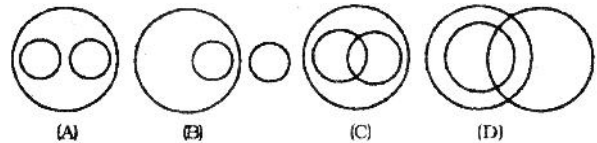
III. M@N

(A) only I and II are true

(B) Only II and III are true

(C) only I and III are true (D) all are true

**Directions : (Q6) There are four diagrams representing different relations among the three items. Each circle represents one item and the size of the circle has nothing to do with the item. You are to pick up the figure from the four diagrams that illustrates the relationship among the given items better than any other diagram.**

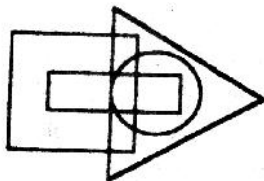


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Space for Rough work

6. Clown, Entertainers, Fathers  
 (A) A (B) B  
 (C) C (D) D

**Directions : (Q7-8) The triangle stands for sportsmen. The circle stands for cricketers. The rectangle stands for boys. The square stands for non-urban. Study the diagram carefully and answer each question.**



7. In the above diagram which one of the following statements is true?  
 (A) All non urban persons are sportsmen  
 (B) There are boys who are sportsmen and do not play cricket  
 (C) All urban boys are not sportsmen  
 (D) All urban boys play cricket
8. In the above diagram which one of the following statements is true?  
 (A) There are some non urban non boys who are sportsmen but not cricketers.  
 (B) There are some urban boys who are not cricketers but who are sportsmen.  
 (C) There are non - cricketer sportsmen among the non urban boys.  
 (D) There are some urban boys who are not cricketers

9. In the following series, how many such odd numbers are there which are divisible by 3 or 5, then followed by odd numbers and then also followed by even numbers?

12, 19, 21, 3, 25, 18, 35, 20, 22, 21, 45, 46, 47, 48, 9, 50, 52, 54, 55, 56

- (A) Zero (B) Four  
 (C) One (D) Two

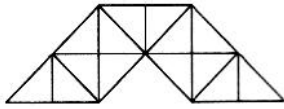
**Directions : (Q10-11) Each of the problem below consists of a question and three statements, I, II and III given below it. Read all the statements carefully and seek all possible combinations which could be sufficient for answering the question. A single statement or statements with least combinations which could be sufficient for answering the question would be your answer.**

10. In which year was Tarun born?  
 I. Tarun is six years older than Rabin.  
 II. Rabin's brother was born in 1982.  
 III. Tarun's brother is two years younger than Rabin's brother who was eight years younger than him.  
 (A) I and III only (B) II and III only  
 (C) All I, II and III (D) I and II only
11. Who among P, Q, R, S and T is in the middle while standing in a line?  
 I. Q is to the right of T.  
 II. S is between P and T.  
 III. Q is between T and R.  
 (A) I and II only (B) II and III only  
 (C) I and III only (D) All I, II, III

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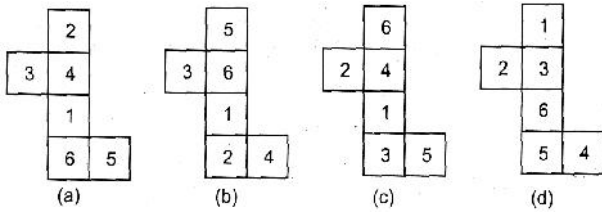
Space for Rough work

12. How many triangles are there in the following figure?



- (A) 25 (B) 20  
(C) 31 (D) 29

13. The six faces of a cube have been marked with numbers 1, 2, 3, 4, 5 and 6, respectively. The surfaces of the cube have been unfolded and this unfolded position of the cube has been shown in four different figures (A), (B), (C) and (D). Choose the figure that will be formed when the cube is unfolded.



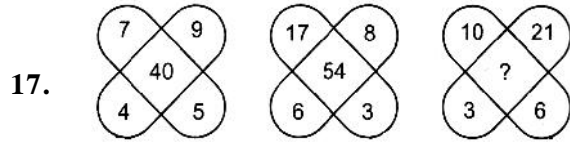
- Directions : (Q14-15) A solid cuboid 8 cm long, 6cm broad and 5 cm high is painted red on two adjacent sides and black on the sides opposite to the red and green at the top and bottom. It is cut into 240 smaller cubes of one cubic cm each. Answer the following questions based on the above statement?**

14. How many cubes have at least one side painted?  
(A) 100 (B) 120  
(C) 138 (D) 168
15. How many cubes are painted on one or two sides but not on three sides

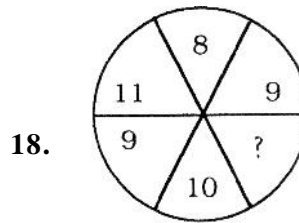
- (A) 140 (B) 150  
(C) 155 (D) 160

16. Today is Thursday. The day after 59 days from today will be  
(A) Sunday (B) Monday  
(C) Tuesday (D) Wednesday

**Direction : (Q17-18) Find the missing number .**



17. (A) 60 (B) 62  
(C) 64 (D) 66



18. (A) 7 (B) 10  
(C) 12 (D) 14

**Directions : (Q19-20) Complete the series :**

19. 11 24 67 122 219 ?  
(A) 300 (B) 325  
(C) 316 (D) 340
20. 1, 2, 6, 3, 5, 9, ? 10, 13  
(A) 5 (B) 6  
(C) 8 (D) 10

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Space for Rough work

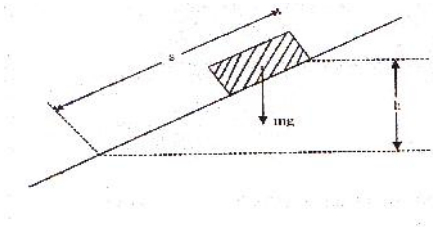
## SECTION-B (SAT)

21. Which of the following describes the liquid phase –  
(A) It has a definite shape but not a definite volume  
(B) It has a definite shape but not a definite volume  
(C) It has a definite volume but not a definite shape  
(D) It has neither a definite shape nor a definite volume
22. A mixture of sulphur and iron filings is heated strongly to obtain a residue. Which of the following is not a characteristic property of the residue –  
(A) It can be separated into sulphur and iron filings by physical methods.  
(B) Its composition does not change from one part to another.  
(C) Its properties are entirely different from those of sulphur and iron filings.  
(D) Its appearance is different from those of sulphur and iron filings.
23. As the pressure of a system changes, boiling points can change in what direction –  
(A) Increase (B) Decrease  
(C) Both (A) and (B) (D) Neither (A) and (B)
24. In making a semiconductor, silicon crystals can be prepared in which one atom out of  $10^8$  is an impurity. If such a crystal weight 1 mg, how many atoms of the impurity does the crystal contain ? (Atomic weight : Si = 28.08)  
(A)  $2 \times 10^{19}$  (B)  $2 \times 10^{11}$   
(C)  $2 \times 10^{14}$  (D)  $8.6 \times 10^{26}$
25. The total number of neutrons in dipositive zinc ions with mass number 70 is –  
(A) 34 (B) 40  
(C) 36 (D) 38
26. While performing cathode ray experiments, it was observed that there was no passage of electric current under normal conditions. Which of the following can account for this observation –  
(A) dust particles are present in air  
(B) carbon dioxide is present in air  
(C) air is a poor conductor of electricity under normal conditions  
(D) None of the above
27. Atom X has 27 protons, 29 neutrons, and 27 electrons. Atom Y has 27 protons, 30 neutrons, and 27 electrons. Atoms X and Y are –  
(A) isobars (B) isomers  
(C) isotopes (D) isotherms
28. A small block slides without friction down an inclined plane starting from rest. Let  $S_n$  be the distance travelled from time  $t = n - 1$  to  $t = n$ . Then  $\frac{S_n}{S_{n+1}}$  is  
(A)  $\frac{2n-1}{2n}$  (B)  $\frac{2n+1}{2n-1}$   
(C)  $\frac{2n-1}{2n+1}$  (D)  $\frac{2n}{2n+1}$
29. What force is needed to speed up a frictionless 60kg cart from 4.0 meters per second to 6.5 meters per second in 3.0 seconds?  
(A) 50N (B) 100N  
(C) 5N (D) 20N
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Space for Rough work

30. A 750 kg. rocket, at rest in outer space, propels itself forward by ejecting 45 kg. of hot gas, which leaves the nozzle at 85 meters per second. The change in the momentum of the fuel is –
- (A) 3825 kg m/s                      (B) 3025 kg m/s  
(C) 3725 kg m/s                      (D) 3125 kg m/s
31. A satellite of the earth is revolving in a circular orbit with a uniform speed  $v$ . If the gravitational force suddenly disappears, the satellite will –
- (A) Continue to move with velocity  $v$  along the original orbit  
(B) Move with a velocity  $v$ , tangentially to the original orbit  
(C) Fall down with increasing velocity  
(D) Ultimately come to rest somewhere on the original orbit
32. With what speed must a ball be thrown down for it to bounce 10m higher than its original level ? Neglect any loss in energy against air resistance and in collision with the ground –
- (A) 5 m/s                                      (B) 14 m/s  
(C) 20 m/s  
(D) The information given is incomplete
33. The work done against gravity in moving the block a distance  $s$  up the slope is –



- (A) mh                                      (B) mgs  
(C) ms                                      (D) mgh
34. Rotation of crops help in
- (A) Attacking insects  
(B) Altering chemical nature of soil  
(C) Improving soil fertility  
(D) Proliferating weed.
35. Kranti, Pusa Agarni and Pusa bold are improved varieties of
- (A) Urad bean                              (B) Sunflower  
(C) Chick Pea                              (D) Mustard
36. Which of the following have been artificially selected ?
- (A) Broccoli                              (B) Cabbage  
(C) Cauliflower                              (D) All of these
37. Opuntia weed can be eradicated by
- (A) Gambusia                              (B) Cochineal insect  
(C) Grass carp                              (D) Both (A) and (B)
38. Which of the following poultry bird lays maximum number of eggs annually ?
- (A) ILS-82                              (B) B-77  
(C) HH-260                              (D) IBL-80
39. Which of the following is the fastest growing carp ?
- (A) Catla                                      (B) Rohu  
(C) Mrigal                                      (D) Singhara
40. Which one of the following is not a draught animal ?
- (A) Camel                                      (B) Elephant  
(C) Sheep                                      (D) Horse

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*Space for Rough work*

41. When simplified the product

$$\left(1 + \frac{1}{2}\right)\left(1 + \frac{1}{3}\right)\left(1 + \frac{1}{4}\right)\dots\dots\dots\left(1 + \frac{1}{n}\right) \text{ becomes}$$

(A) n (B)  $\frac{n-1}{2}$

(C)  $\frac{n+1}{2}$  (D)  $\frac{n}{2}$

42.  $\frac{x+1}{(x-1)(x-2)(x-3)} =$

(A)  $\frac{1}{x-1} + \frac{1}{x-2} + \frac{1}{x-3}$

(B)  $\frac{3}{x-1} + \frac{1}{x-2} + \frac{1}{x-3}$

(C)  $\frac{1}{x-1} - \frac{3}{x-2} + \frac{2}{x-3}$  (D) None of these

43. The triangle, whose vertices are (2, 1), (2, -2) and (5, 1) is –

- (A) Right angled triangle (B) Equilateral triangle  
(C) Isosceles (D) None of them

44. A man can do a piece of work in 30 hours. He and his son together finish it in 20 hours, the son along will finish it in

- (A) 60 hours (B) 50hours  
(C) 25 hours (D) 10 hours

45. If D is any point on the side BC of a  $\Delta ABC$ , then –

(A)  $AB + BC + CA > 2 AD$

(B)  $AB + BC + CA < 2AD$

(C)  $AB + BC + CA > 3 AD$

(D) None

46. ABCD is quadrilateral. If AC and BD are its diagonals then the –

(A) sum of the squares of the sides of the quadrilateral is equal to the sum of the squares of its diagonals.

(B) perimeter of the quadrilateral is equal to the sum of the diagonals

(C) perimeter of the quadrilateral is less than the sum of the diagonals

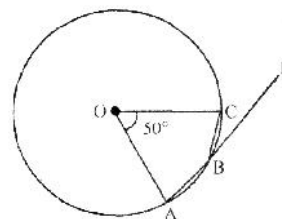
(D) perimeter of the quadrilateral is greater than the sum of the diagonals

47. In the parallelogram ABCD, the side AB is produced to the point X, so that  $BX = AB$ . The line DX cuts BC at E. Area of  $\Delta AED =$

(A) 2 x area ( $\Delta CEX$ ) (B) 1/2 x area ( $\Delta CEX$ )

(C) area ( $\Delta CEX$ ) (D) 1/3 x area ( $\Delta ABC$ )

48. In the diagram, O is the centre of the circle, The angles CBD is equal to -



(A)  $25^\circ$  (B)  $50^\circ$

(C)  $40^\circ$  (D)  $130^\circ$



Space for Rough work

49. A vessel contains a mixture of milk and water in the ratio 3 : 1. A certain part, say x, of the mixture is taken away from the vessel and an equal amount of water is now poured into the vessel. It is found that the amount of milk in the vessel is equal to that of water. Then the value of x is –
- (A)  $\frac{1}{4}$  (B)  $\frac{1}{3}$   
 (C)  $\frac{2}{3}$  (D)  $\frac{3}{4}$
50. A large basket of fruit contains 3 oranges, 2 apples and 5 bananas. If a piece of fruit is chosen at random, what is the probability of getting an orange or a banana –
- (A)  $\frac{4}{5}$  (B)  $\frac{1}{2}$   
 (C)  $\frac{7}{10}$  (D) None of the above

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**ANSWER KEY**

- |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1.  | (D) | 2.  | (A) | 3.  | (D) | 4.  | (A) | 5.  | (D) | 6.  | (D) | 7.  | (D) |
| 8.  | (A) | 9.  | (D) | 10. | (C) | 11. | (B) | 12. | (D) | 13. | (C) | 14. | (D) |
| 15. | (D) | 16. | (A) | 17. | (B) | 18. | (A) | 19. | (D) | 20. | (A) | 21. | (C) |
| 22. | (A) | 23. | (C) | 24. | (B) | 25. | (B) | 26. | (C) | 27. | (C) | 28. | (C) |
| 29. | (A) | 30. | (A) | 31. | (B) | 32. | (B) | 33. | (D) | 34. | (C) | 35. | (D) |
| 36. | (D) | 37. | (B) | 38. | (C) | 39. | (A) | 40. | (C) | 41. | (C) | 42. | (C) |
| 43. | (A) | 44. | (A) | 45. | (A) | 46. | (D) | 47. | (A) | 48. | (A) | 49. | (B) |
| 50. | (A) |     |     |     |     |     |     |     |     |     |     |     |     |