



School Level Examination
SLE 2024

SET:

I



MATHEMATICS

Subject Code:

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Total Questions: 40

Total Marks: 40

Time: 1 hour

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED TO DO SO

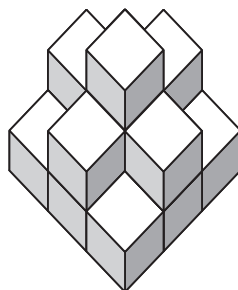
- All questions are compulsory.
- Read the instructions on the **ANSWER SHEET** and fill in your **NAME, CLASS** and **OTHER INFORMATION**.
- To mark your choice of answer by darkening the circles in the **ANSWER SHEET**, use a **BLUE/BLACK BALL PEN** only.
- You **MUST** record your answers on the **ANSWER SHEET** only.
- There are **40 MULTIPLE CHOICE QUESTIONS**. Each question carries **ONE** mark. Use the information provided to choose the **BEST** possible answer among the four options. On your **ANSWER SHEET** fill in the circle that matches your answer.
- Marks are **NOT** deducted for incorrect answers.
- Return the **ANSWER SHEET** to the invigilator at the end of the examination.
- You are **NOT** allowed to use a calculator. You may use a ruler and spare paper for rough work.

GRADE 8

This question paper contains a total of 40 questions divided into three sections – A, B and C.

Section A (Logical Reasoning)

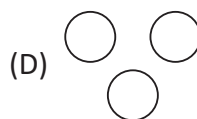
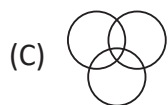
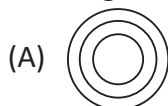
1. Count the number of cubes in the given figure.



- (A) 12 (B) 17
(C) 10 (D) 15
2. There are four towns P, Q, R and T. Q is to the South-west of P, R is to the East of Q and South-east of P, and T is to the North of R in a line with Q and P. In which direction is T located from P?
- (A) East (B) South-east
(C) North (D) North-east
3. Observe the magic square, and find the values of P, Q, and R.

4	9	P
Q	7	3
6	R	10

- (A) $P = 5, Q = 8, R = 8$ (B) $P = 8, Q = 11, R = 5$
(C) $P = 11, Q = 5, R = 8$ (D) $P = 11, Q = 8, R = 5$
4. Select a venn diagram from the given options which best illustrates the relation amongst “Boys, Athletes and Singers”?



5. Choose the alternative which closely resembles the mirror image of the given combination.

JUDGEMENT

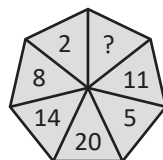
(A) TNEMEGDUJ

(B) TNEMEGDUL

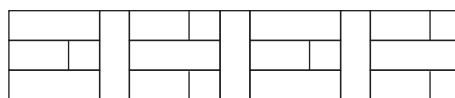
(C) TNEMEGDUL

(D) LUGGEMENT

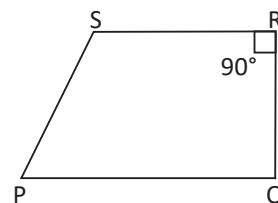
6. In the figure given below, find the value of '?'.



- (A) 18 (B) 19
(C) 17 (D) 12
7. Four pairs of words are given. Find the odd one out.
- (A) 65th anniversary : Diamond Jubilee (B) 50th anniversary : Golden Jubilee
(C) 40th anniversary : Ruby Jubilee (D) 25th anniversary : Silver Jubilee
8. How many rectangles congruent to the rectangle () are there in the following diagram?



- (A) 6 (B) 7
(C) 9 (D) 15
- Section B (Subject Specific)**
9. What is the absolute value of $\left(-1 + \frac{1}{3} - \frac{1}{9}\right)$?
- (A) $\frac{-7}{9}$ (B) $\frac{9}{-7}$
(C) $\frac{9}{7}$ (D) $\frac{7}{9}$
10. If $\frac{2x}{5} - 2 = 5 - \frac{3x}{5}$, then $\frac{6x}{7} + 4 =$ _____.
- (A) 10 (B) 22
(C) 35 (D) 28
11. Diagonals of which of the following quadrilaterals do not bisect it into two congruent triangles?
- (A) rhombus (B) trapezium
(C) square (D) rectangle
12. In the given figure, PQRS is a trapezium, $PQ \parallel SR$, $QR = RS$, and $\angle QRS = 90^\circ$. If $QR = 24$ cm and $PS = 25$ cm, then find the length of PQ.
- (A) 30 cm (B) 22 cm
(C) 31 cm (D) 25 cm



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13. A coin is tossed three times. The number of possible outcomes is _____.
(A) 8 (B) 6
(C) 4 (D) 3
14. The value of $\sqrt{610 + \sqrt{212 + \sqrt{169}}}$ is _____.
(A) 12 (B) 18
(C) 20 (D) 25
15. Which of the following can be a perfect square?
(A) A number ending in 3 or 7 (B) A number ending with odd number of zeros
(C) A number ending with even number of zeros (D) A number ending in 2
16. The marked price of a blanket is ₹3,000. After two successive discounts, it is sold for ₹1620. If the first discount is 40%, then the rate of the second discount is _____.
(A) 6% (B) 10%
(C) 15% (D) 20%
17. The volume of a cubical tank, if the cost of painting its outer surface is ₹3,240 at the rate of ₹15/sq. m, is _____.
(A) 216 m^3 (B) 64 m^3
(C) 125 m^3 (D) None of these
18. The observation having the maximum frequency in the data 1, 2, 3, 1, 4, 6, 5, 3, 2, 3, 5, 3, is
(A) 1 (B) 2
(C) 3 (D) 6
19. The compound interest on ₹20,480 at $6\frac{1}{4}\%$ per annum for 2 years 73 days is _____.
(A) ₹2,829 (B) ₹3,000
(C) ₹2,929 (D) ₹3,131
20. Which of the following is the coefficient of y^2 in $(3 - y)^2$?
(A) 3 (B) 1
(C) -6 (D) -1
21. A metallic sheet is of dimensions 72 cm $\times$ 54 cm. A square of 12 cm is cut off from each corner and an open box is made of the remaining sheet. The volume of the box is _____.
(A) 17280 cm^3 (B) 8640 cm^3
(C) 12960 cm^3 (D) 51840 cm^3

22. Find the value of $\frac{(3^4)^4 \times 9^6}{(27)^7 \times 3^9}$.

(A) 27

(B) 3

(C) $\frac{1}{9}$

(D) 1

23. Which of the following is true for x and y ?

(A) x and y vary directly.

(B) There is no variation between x and y .

(C) x varies y either directly or inversely.

(D) x and y vary inversely.

x	2	36	9	24	$14\frac{2}{5}$
y	72	4	16	6	10

24. If $57y^3(50y^2 - 98)$ is divided by $38y^2(5y + 7)$, then remainder is _____.

(A) 0

(B) 3

(C) 49

(D) None of these

25. The area of the four walls in a room is 120 m^2 . The length of the room is $1\frac{1}{2}$ times the breadth. If the height of the room is 3 m, then the area of the floor is _____.

(A) 84 m^2

(B) 72 m^2

(C) 96 m^2

(D) 108 m^2

26. Match the Column A with that of Column B.

Column A	Column B
(i) (0, 5)	(p) Coordinates of origin.
(ii) (3, 6)	(q) The ordinate is equal to abscissa.
(iii) (0, 0)	(r) The distance from x -axis is 5.
(iv) (5, 5)	(s) y -coordinate is double of x -coordinate.

(A) (i)-(r), (ii)-(s), (iii)-(q), (iv)-(p)

(B) (i)-(s), (ii)-(r), (iii)-(p), (iv)-(q)

(C) (i)-(p), (ii)-(q), (iii)-(r), (iv)-(s)

(D) (i)-(r), (ii)-(s), (iii)-(p), (iv)-(q)

27. A contractor undertook to do a certain piece of work in 15 days. He employed certain number of men, but 4 of them were absent from the very first day, the rest could finish the work in 20 days. The number of men originally employed was _____.

(A) 18

(B) 25

(C) 20

(D) 16

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28. The product of three consecutive natural numbers, the first of which is an even number, is always divisible by
- (A) 12 (B) 24
(C) 8 (D) All of these

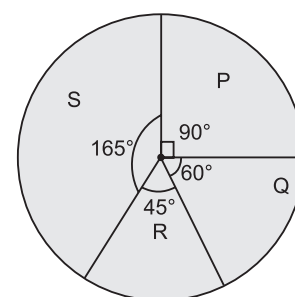
Instruction: Q. 29 to 33 are two-key based questions having four options A, B, C and D out of which TWO are correct.

29. Choose the incorrect statements.
- (A) The data arranged in ascending or descending order of size is called data array.
(B) The lower limit of class 10 – 20 is 20.
(C) The class mark of 25 – 35 is 30.
(D) There is no difference between bar graph and histogram.
30. Choose the correct statement.
- (A) The cube root of 0.1728 is 0.12.
(B) If x^2 ends with 9, then x^3 ends with 3 or 7.
(C) The least number amongst $(0.4)^2$, $\sqrt{0.25}$, $\sqrt[3]{0.008}$ and 0.28 is $(0.4)^2$.
(D) The prime factorisation of 512 is $8 \times 8 \times 8$.
31. The factors of $(x + 2)(x^2 + 25) - 10x^2 - 20x$ are _____.
- (A) $(x + 5)$ (B) $(x + 2)^3$
(C) $(x + 2)$ (D) $(x - 5)^2$
32. Suresh works twice as fast as Mahesh. If they together complete the work in 18 days, then Suresh alone can complete it in _____ days, and Mahesh alone can complete it in _____ days.
- (A) 24 (B) 27
(C) 48 (D) 54
33. Select the correct results.
- (A) Area of the rhombus = $\frac{1}{2} \times$ product of two diagonals
(B) Surface area of a cube = $4a^2$, where a = side of the cube
(C) Lateral surface area of the cylinder = $2\pi r(r + h)$
(D) Area of trapezium = $\frac{1}{2} \times$ height $\times$ (sum of the length of the parallel sides)

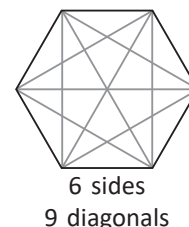
Section C (Competency Enhancement)

34. A, B and C working separately, can do a work in 2 days, 3 days and 4 days respectively. If they all work together and earn ₹3,900 for the whole work, find the ratio in which A, B and C divide the money?
- (A) 2 : 3 : 4 (B) 6 : 4 : 3
(C) 4 : 6 : 3 (D) 3 : 4 : 6
35. Rama wishes to make a solid square with the help of 6600 small cubes. After arranging them, she found that some of them were left over. How many small cubes were left?
- (A) 61 (B) 49
(C) 39 (D) 48

Parties P, Q, R and S contested an election. Their shares in votes polled are shown in the given pie chart. If 3,66,000 votes were polled in all, answer the questions 36 and 37.



36. The difference of the votes of parties P and R is _____.
(A) 91,500 (B) 45,750
(C) 46,000 (D) None of these
37. The total votes in favour of party P and Q in % is _____.
(A) 40% (B) $40\frac{1}{3}\%$
(C) $41\frac{2}{3}\%$ (D) $41\frac{1}{3}\%$
38. If $2AB + CCA = 698$ and there is no carry over in addition, find the value of $A + B + C$.
(A) 14 (B) 11
(C) 12 (D) 13
39. The number of diagonals in a polygon of n sides is $\frac{n(n-3)}{2}$.
If the number of diagonals in any polygon is 54, then the number of sides in the polygon is _____.
(A) 15 (B) 10
(C) 12 (D) 14
40. If quotient = $3x^2 + 5x - 8$, remainder = -5 and divisor = $2x + 3$, then dividend is _____.
(A) $6x^3 + 19x^2 - x - 29$ (B) $6x^3 + 19x^2 - x + 29$
(C) $6x^3 - 19x^2 - x + 29$ (D) $6x^3 + 19x + x - 29$



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