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MATHEMATICS

(Special)

Full Marks : 100

Pass Marks : 30

Time : 3 hours

(Lower grade Mathematics for Candidates with special
learning disabilities)

The figures in the margin indicate full marks for the questions

GENERAL INSTRUCTIONS :

- (i) All questions are compulsory.
- (ii) The question paper consists of 35 questions divided into four Sections A, B, C and D.
- (iii) Section—A contains 10 questions of 1 mark each, Section—B is of 10 questions of 2 marks each, Section—C is of 10 questions of 4 marks each and Section—D is of 5 questions of 6 marks each.
- (iv) In Question Nos. **1** to **7** of Section—A, there are four answers marked (A), (B), (C) and (D). Only one of these answers is correct. The letter indicating the correct answer should be written in capital in the answer book.
- (v) Use of electronic device is not permitted.

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SECTION—A

(Marks : 10)

(Question Nos. 1 to 10 carry 1 mark each)

1. The value of $\frac{3}{4} - \frac{1}{2}$ is
- (A) $\frac{3}{8}$
- (B) $\frac{3}{4}$
- (C) $\frac{6}{4}$
- (D) $\frac{8}{3}$
2. If x is a rational number, a and b are integers, then the value of $(x^a \cdot x^b)$ is
- (A) $x^{(a \cdot b)}$
- (B) $x^{(a + b)}$
- (C) $x^{\frac{a}{b}}$
- (D) x^{ab}
3. Raj buys a book for ₹ 200 and sells it for ₹ 230. The profit is
- (A) ₹ 200
- (B) ₹ 230
- (C) ₹ 30
- (D) ₹ 430

(3)

4. The value of $\frac{48}{8}$ is

- (A) 8
- (B) 8
- (C) 6
- (D) 6

5. The circumference of a circle with radius r is

- (A) $2r$ units
- (B) $2r$ square units
- (C) r^2 square units
- (D) r^2 units

6. The standard form of $\frac{6}{36}$ is

- (A) 36
- (B) 6
- (C) $\frac{1}{6}$
- (D) None of the above

7. The value of $36419 \div 10$ is

- (A) $3641 \cdot 9$
- (B) $36 \cdot 419$
- (C) $3 \cdot 6419$
- (D) $0 \cdot 36419$

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8. State whether the following statements are *True* or *False* :

$$\frac{1}{2} \times 2 = 1$$

(a) Rational numbers can be represented on a number line.

(b) If x be a rational number other than zero, then $x^0 = 0$.

9. Fill in the blanks :

$$\frac{1}{2} \times 2 = 1$$

(a) In proportion, we compare the size of a part to the ____.

(b) ____ = Amount – Simple interest.

10. Define mean of data.

SECTION—B

(Marks : 20)

(Question Nos. 11 to 20 carry 2 marks each)

11. Express 0.75 into percentage.

12. Subtract $\frac{3}{4}$ from $\frac{7}{8}$.

13. Find the length of a square whose perimeter is 36 cm.

Or

Find the circumference of the circle whose diameter is 20 cm.

(Use $\frac{22}{7}$)

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14. Express $\frac{40}{160}$ in the standard form.
15. Find the mean of 32, 30, 23, 25, 30 and 28.
16. Simplify $2^0 \cdot 5^2$.
- Or*
- Find the value of 13.63×1.1 .
17. Find the mode of the group data 3, 4, 3, 5, 3, 6, 3, 8 and 4.
18. Evaluate $36791 \div 100$.
19. Find the diameter of the circle whose circumference is 396 m.
(Use $\frac{22}{7}$)
20. Simplify $\frac{4}{9} - \frac{7}{8}$.

SECTION—C

(Marks : 40)

(Question Nos. 21 to 30 carry 4 marks each)

21. A bridge is to be constructed in three phases. $\frac{2}{9}$ part of the bridge was completed in phase-I and $\frac{5}{14}$ in phase-II. How much part of the bridge remains to be completed in phase-III?
22. A book costs ₹ 96. Mahesh bought 60 books. By mistake the accountant at the store made the bill by calculating the cost of the books to be ₹ 5 less for each. What is the difference in this bill from what it would have been in reality?

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23. Simplify $\frac{1}{2} - \frac{1}{3} + \frac{5}{4}$.

24. The ratio of boys and girls attending a school assembly is 7 : 8. If there are 640 girls in the assembly, how many boys are there?

Or

In 3 hours, a train covers 195 km. Travelling at the same speed, what distance would the train cover in 5 hours?

25. Simplify $2\frac{0}{28} - 3\frac{12}{12}$.

26. The length of a rectangular hallway is 3 times its breadth. If the perimeter of the hallway is 48 m, find its length and breadth.

Or

Two concentric circles have the same radii 12 cm and 8.5 cm respectively. Find the area of the space enclosed by these two circles. (Use $\frac{22}{7}$)

27. Simplify $3\frac{1}{5} + \frac{3}{8} - 3\frac{1}{3}$.

28. Prove that $76 - (18 - 76) = 18 - 76(18 - 18)$.

29. A property worth ₹ 2,80,000 was shared among three brothers in the ratio 3 : 4 : 7. How much worth of property did each receive?

30. The area of a rectangular lawn is the same as the area of an 18 cm long square. If the length of the rectangular lawn is 27 cm, find its perimeter.

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SECTION—D

(Marks : 30)

(Question Nos. **31** to **35** carry 6 marks each)

31. Here is an octagonal spinner. 1, 2, 3, 4, 5, 6, 7 and 8 are marked on it. Write the probability when this spinner is played.

(a) Spinner lands 4, $P(4)$

(b) Spinner lands on an even number, $P(\text{even})$

(c) Spinner lands on a number less than 4, $P(\text{less than } 4)$

Or

Use the following table to construct a bar graph to display the information about candidates contesting for an election to choose the class representative of class-VII :

Candidates	Number of votes
Janu	20
Sam	35
Jill	8
Sandy	10

32. Find the operator and write two more terms in the series

$$4, 2, 1, \frac{1}{2}, \dots$$

33. If ₹ 750 amounts to ₹ 885 in 3 years at simple interest, what will ₹ 1,200 amount to in $3\frac{1}{2}$ years? (The rate of interest is the same in both cases)

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- 34.** Jaya and Savitri together bought a lottery ticket costing ₹ 100. Jaya put in ₹ 30 and Savitri put in ₹ 70. They won a prize ₹ 18,000. They decided to share the prize in the ratio 30 : 70. How much money did each receive?
- 35.** To make fence around a circular garden, the total cost is ₹ 26,400 at the cost of ₹ 50 per metre. Find the radius of the circular garden. (Use $\frac{22}{7}$)

Or

A 1.5 m wide footpath runs all along the fence outside a park 40 m long and 30 m wide. What is the perimeter of the fence and what is the area of the footpath?

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