

Total No. of Printed Pages—11

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MATHEMATICS

(Special)

**(Lower Grade Mathematics for Candidates with Special
Learning Disabilities)**

(FOR CANDIDATES WITH INTERNAL ASSESSMENT)

Full Marks : 80

Pass Marks : 24

(FOR CANDIDATES WITHOUT INTERNAL ASSESSMENT)

Full Marks : 100

Pass Marks : 30

Time : 3 hours

(FOR ALL CATEGORIES OF CANDIDATES)

The figures in the margin indicate full marks for the questions

General Instructions :

- (i) This question paper comprises of 32 questions divided into six Sections A, B, C, D, E and F.
- (ii) Question Nos. **1** to **30** (Section—A to Section—E) are to be answered by all the **Candidates**.
- (iii) Question Nos. **31** and **32** of Section—F are to be answered by **Candidates without Internal Assessment**.

(2)

- (iv) Section—A contains 8 questions of 1 mark each.
Section—B contains 7 questions of 2 marks each.
Section—C contains 8 questions of 3 marks each.
Section—D contains 4 questions of 4 marks each.
Section—E contains 3 questions of 6 marks each.
- (v) In Question Nos. **1** to **7** of Section—A and Question No. **31** sub Nos. (a) to (d) of Section—F, there are four options marked (A), (B), (C), (D). Only one of these options is correct. The letter indicating the correct answer should be written in capital in the answer book.
- (vi) Use of Calculator/Mobile Phone is not permitted.

SECTION—A

(Marks : 8)

(Question Nos. **1** to **8** carry 1 mark each)

1. The value of $(-1861) \times 0$ is

- (A) -1861
(B) 0
(C) -18610
(D) None of the above

2. The value of $(-3)^3$ is

- (A) -27
(B) 27
(C) -9
(D) 9

(3)

3. 5% of ₹ 300 is

- (A) ₹ 1,500
- (B) ₹ 305
- (C) ₹ 150
- (D) ₹ 15

4. The perimeter of a square is 36 cm. The length of its side is

- (A) 36 cm
- (B) 18 cm
- (C) 9 cm
- (D) 4 cm

5. The value of $\left(\frac{16}{35}\right) \times \left(\frac{21}{48}\right)$ is

- (A) $\frac{1}{15}$
- (B) 15
- (C) $\frac{1}{5}$
- (D) 5

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

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

(4)

7. The value of 3.6×100 is

- (A) 0.036
- (B) 3.600
- (C) 0.36
- (D) 360

8. State whether the following statements are *True* or *False* : $\frac{1}{2} \times 2 = 1$

- (a) The whole number 0 is neither a positive integer nor a negative integer, as the negative of zero is zero.
- (b) Zero divided by any integer is not zero.

SECTION—B

(Marks : 14)

(Question Nos. 9 to 15 carry 2 marks each)

9. Convert $\frac{3}{4}$ into percentage.

10. Find the value of $\frac{7}{8} + \frac{1}{2}$.

11. Find the median of the group data :

17, 18, 19, 20, 21, 18, 16

12. Convert $-\frac{27}{125}$ into power notation.

Or

Express $3^a \times 4^a$ as a single power.

(5)

13. Find the perimeter of a square $ABCD$, given that $AB = 8$ cm.
14. Convert 0.125 into a rational number.
15. Subtract $\frac{3}{4}$ from $\frac{7}{8}$.

SECTION—C

(Marks : 24)

(Question Nos. **16** to **23** carry 3 marks each)

16. Simplify :

$$\frac{1}{2} \left[\left(\frac{-1}{3} \right) + \left(\frac{5}{4} \right) \right]$$

17. Find the area of a rectangle, whose sides are 13 cm and 8 cm respectively.

Or

The circumference of a circular ground is 396 m. Find its diameter. (Use $\pi = \frac{22}{7}$)

18. Find the value of $\frac{3}{2}$ of $\frac{3}{4}$ of 80.
19. Calculate the simple interest on ₹ 250 at the rate of 7% for 4 years.
20. The weights of 7 chocolate bars in grams are 131, 127, 125, 130, 133, 129 and 128. Find the mean weight.

(6)

- 21.** A truck driver earns $3\frac{2}{7}$ times of what his helper earns. If the helper earns ₹ 1,820, how much does the driver earn?
- 22.** 144 passengers are travelling in a double-decker bus. $\frac{5}{8}$ are sitting on the lower deck and rest are on the upper deck. How many passengers are travelling on the upper deck of the bus?

Or

Three friends Mala, Leela and Sheela divided a box of apples weighing $15\frac{9}{10}$ kg equally between three of them. How many kg of apples did each get?

- 23.** Jagan and Ravi share ₹ 720 in the ratio 7 : 5 respectively. How much did each get?

SECTION—D

(Marks : 16)

(Question Nos. **24** to **27** carry 4 marks each)

- 24.** The population of a village was 75000 in 1990. In 2000, the population becomes 93000. What is the increase percentage during these ten years?
- 25.** A wheel has a radius of 28 cm. How many revolutions will it make to travel 704 m? (Use $\pi = \frac{22}{7}$)

Or

A square park is of side 100 m. A road 5 m wide is made all-round the garden inside it. Find the area of the road.

(7)

26. Simplify : $\frac{4}{10} + \frac{-13}{15} + \frac{-9}{50}$

27. If a pair of shoes costs ₹ 106.35 and a pair of socks costs ₹ 18.65, how many sets of shoes and socks can be bought with ₹ 1,000?

SECTION—E

(Marks : 18)

(Question Nos. 28 to 30 carry 6 marks each)

28. Six friends were deciding where to go during the coming weekend. Everyone wrote their intentions on a slip of paper to show their choice :

Fishing	Boating	Water Park	Cricket Match
Cricket Match	Hillside		

Write the probability of the following :

- (a) P (Water Park)
(b) P (Cricket Match)
(c) P (Fishing)
(d) P (Cinema)

Or

Use the following table to construct a bar graph to display the information about the number of geometry boxes sold by a bookseller in the first half of 2005 :

Months	Jan	Feb	March	April	May	June
Number of geometry boxes sold	3	5	17	14	10	2

(8)

29. Arrange the rational numbers $\frac{-13}{20}$, $\frac{6}{15}$, $\frac{7}{12}$, $\frac{-9}{10}$ and $\frac{3}{5}$ in the descending order.
30. In a circular garden of diameter 150 m, a pond is constructed in the form of a circle with radius 20 m. Find the area of the land left out. (Use $\pi = 3.14$)

Or

The outer length and breadth of a photo frame are 60 cm \times 40 cm. If the width of the frame is 2.5 cm, what are the length and breadth of the picture that will be visible?

SECTION—F

(Marks : 20)

(Question Nos. **31** and **32** are for **Candidates without Internal Assessment**)

31. Answer the following as directed (any *eight*) : 1 \times 8=8

(a) Which of the following is a negative rational number?

(A) $\frac{3}{4}$

(B) $\frac{8}{-9}$

(C) $\frac{-34}{-61}$

(D) $\frac{4}{14}$

(Choose the correct option)

(9)

(b) The value of $(-7) \times (-3)$ is

- (A) -21
- (B) 21
- (C) -10
- (D) 10

(Choose the correct option)

(c) The value of 6.345×10 is

- (A) 0.6345
- (B) 6.345
- (C) 63.45
- (D) 634.5

(Choose the correct option)

(d) The area of a circle with radius r is

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

(Choose the correct option)

(e) _____ = Amount – Simple interest.

(Fill in the blank)

(f) Simplify : $2^0 \times 5^2$

(g) Define median of data.

(h) Loss = _____ – Selling price.

(Fill in the blank)

(10)

- (i) Simplify : $(2 \times 3)^2$
- (j) The negative numbers, the positive numbers and zero together form the set of integers.
(State True or False)
- (k) Find 7% of ₹ 800.
- (l) Simplify : $5^7 \div 5^3$

32. Answer any six from the following :

2×6=12

- (a) The cost price of a book is ₹ 200 and the selling price is ₹ 230. Find the profit percentage.
- (b) Simplify : $\frac{2}{5} + \frac{-3}{10}$
- (c) Find the mode of the data 3, 4, 3, 5, 3, 6, 3, 8, 4.
- (d) Find the value of 9.5×0.04 .
- (e) Find the radius of a circle whose circumference is 126 mm. (Use $\pi = \frac{22}{7}$)
- (f) Find the simple interest on ₹ 1,200 for 3 years at the rate of 12% p.a.

(11)

(g) Simplify : $\frac{27}{40} \times \frac{20}{21}$

(h) Define probability.

(i) Find the area of a rectangle $ABCD$ in which $CD = 7$ cm and $AD = 3.5$ cm.

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