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**X/19/M (Spl)**

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**MATHEMATICS**

**( Special )**

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

*Full Marks : 100*

*Pass Marks : 30*

*Time : 3 hours*

*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 consists of 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.  
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 set of negative numbers along with the set of whole numbers are known as
  - (A) integers
  - (B) negative numbers
  - (C) positive numbers
  - (D) prime numbers
  
2. The value of  $\frac{1}{6} + \frac{5}{6}$  is
  - (A)  $\frac{1}{6}$
  - (B)  $\frac{5}{6}$
  - (C)  $\frac{4}{6}$
  - (D) 1
  
3. 10% of a journey is 72 km. The whole journey is
  - (A) 7·2 km
  - (B) 72 km
  - (C) 720 km
  - (D) 7200 km

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4. The value of  $\frac{2}{3}$  of  $\frac{3}{4}$  of 24 is

- (A) 16
- (B) 12
- (C) 48
- (D) 144

5. The circumference of a circle is 88 cm. Its radius is  
(use  $\pi = \frac{22}{7}$ )

- (A) 14 cm
- (B) 28 cm
- (C) 44 cm
- (D) 88 cm

6. Which of the following is a positive integer?

- (A)  $\frac{8}{-9}$
- (B)  $\frac{3}{4}$
- (C)  $\frac{-34}{6}$
- (D)  $-\frac{4}{14}$

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7. The value of  $3 \cdot 6 \times 100$  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) To convert a rational number into a decimal number, we divide the denominator by the numerator.

9. Fill in the blanks :

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

- (a) Amount – Interest = \_\_\_\_\_.
- (b) Loss = \_\_\_\_\_ – Selling Price.

10. Define mode of data.

SECTION—B

( Marks : 20 )

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

11. Express 0.34 into percentage.

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

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

Or

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

14. Convert  $\frac{4}{25}$  into decimal representation.

15. Find the mode of the group data

3, 4, 3, 5, 3, 6, 3, 8, 4

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

Or

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

17. Simplify :

$$\frac{2}{9} \div \frac{4}{7}$$

18. Find the median of the group data

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

19. Find the area of a rectangle  $ABCD$  in which  $AB = 13$  cm and  $BC = 8$  cm.

20. Simplify :

$$2^0 \times 5^2$$

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SECTION—C

( Marks : 40 )

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

- 21.** Among the 144 passengers travelling in a double-decker bus,  $\frac{5}{8}$  are sitting on the lower deck and the rest are on the upper deck. How many passengers are travelling on the upper deck of the bus?
- 22.** 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?

- 23.** Simplify :

$$\left(\frac{-7}{6}\right) + \frac{3}{8} + \frac{1}{4}$$

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

Or

The percentage required to pass in a paper is 40%, which is equal to 60 marks. What is the total marks of the paper?

- 25.** Simplify :

$$289 \cdot 6 \div 6 \cdot 4$$

- 26.** A school auditorium is 50 m long and 30 m wide. This auditorium is surrounded by a verandah 5 m wide on the outside of it. Find the area of the verandah.

Or

The inner and outer radii of a cylindrical pipe are 4 cm and 5 cm respectively. Find the area of cross-section of the pipe. (Use  $\pi = 3 \cdot 14$ ).

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27. Three friends Mala, Leela and Sheela divided a box of apples weighing  $15\frac{9}{10}$  kg equally among three of them. How many kg of apples did each get?
28. 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.
29. Shelly, Raja and Rani share an amount of ₹ 240 in the ratio 5 : 3 : 8. How much did each person get?
30. Simplify :

$$-\frac{3}{4} \times \left( \frac{4}{5} \times \frac{-7}{8} \right)$$

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 probabilities when the spinner is played :
- (a) Spinner lands 4,  $P(4)$
- (b) Spinner lands on an even number,  $P(\text{even number})$
- (c) Spinner lands on a number less than 4,  $P(\text{less than 4})$
- (d) Spinner lands on a number between 3 and 6,  $P(3-6)$

Or

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

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

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- 32.** Arrange the rational numbers  $\frac{5}{8}$ ,  $\frac{5}{6}$ ,  $\frac{-3}{4}$ ,  $\frac{11}{12}$  and  $\frac{2}{3}$  in ascending order.
- 33.** A certain sum of money doubles itself at single interest in 8 years. In how many years will it be three times at the same rate?
- 34.** While painting a house, Arun mixes 1 litre of yellow paint with 3 litres of white paint. He needs 20 litres altogether. How many litres of each colour did he use?
- 35.** A rectangular plot is 40 m long and 16 m broad. A path of uniform width of 2 m surrounds the plot inside it. Find the cost of paving the road with bricks at ₹ 15 per square meter.

*Or*

A circus tent has a radius of 30 m. The ring at the centre for performance is 10 m in radius. Find the area left for the audience. (Use  $\pi = 3.14$ ).

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