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MATHEMATICS

(Special)

Full Marks : 100

Pass Marks : 30

Time : 3 hours

(Lower grade Mathematics for candidates with special
learning disabilities)

GENERAL INSTRUCTIONS :

- (i) All questions are compulsory.
- (ii) The question paper consists of 35 questions divided into four Sections A, B, C and D. 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.
- (iii) In Question Nos. **1** to **7** of Section—A, there are four answers marked (A), (B), (C), (D). Only one of these answers is correct. The letter indicating the correct answer should be written in capital in the answer book.
- (iv) There is no overall choice. However, an internal choice has been provided in two questions of 2 marks each, two questions of 4 marks each and two questions of 6 marks each.
- (v) Please write down the serial number of the question before attempting it.
- (vi) Use of Calculator/Mobile Phone is not permitted.

(2)

SECTION—A

(Marks : 10)

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

1. The value of $(1861)^0$ is
 - (A) 1861
 - (B) 0
 - (C) 18610
 - (D) None of the above
2. The value of $(2^3)^2$ is
 - (A) 2^6
 - (B) 2^5
 - (C) 2
 - (D) $2^{\frac{3}{2}}$
3. 10% of journey is 72 km. The whole journey is
 - (A) 72 km
 - (B) 7.2 km
 - (C) 720 km
 - (D) 7200 km

(3)

4. The operator of the series $\frac{1}{12}, \frac{1}{4}, \frac{5}{12}, \frac{7}{12}, \frac{3}{4}, \dots$ is

(A) $\frac{1}{12}$

(B) $\frac{2}{12}$

(C) $\frac{1}{12}$

(D) $\frac{2}{12}$

5. The circumference of a circle is 88 cm. Its radius is

(A) 88 cm

(B) 44 cm

(C) 28 cm

(D) 14 cm

6. Which of the following is a negative rational number?

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

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

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

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

7. The standard form of the fraction $\frac{16}{56}$ is

(A) $\frac{8}{28}$

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

(C) $\frac{2}{7}$

(D) $\frac{16}{56}$

(4)

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

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

- (a) When a number a works on another number b to create a new number c , then b is called the operator.
- (b) The negative numbers, the positive numbers and zero together form the set of integer.

9. Fill in the blanks :

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

- (a) Profit = ——— - Cost price
- (b) Principal = Amount - ———

10. Define probability.

SECTION—B

(Marks : 20)

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

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

12. Simplify $\frac{3}{4} \frac{2}{9} \frac{3}{4}$.

13. The diameter of a circle is 8 cm. Find the circumference of the circle. (Use $\frac{22}{7}$)

Or

Find the diameter of the circle with circumference 440 mm.
(Use $\frac{22}{7}$)

(5)

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

15. Find the median of the group 17, 18, 19, 20, 21, 18, 16.

16. Simplify $5^7 - 5^3$.

Or

Find the value of $\frac{2}{3}^4$.

17. The weights of 7 chocolate bars in grams are 131, 127, 125, 130, 133, 129 and 128. Find the mean weight.

18. Simplify $14.5 \div 2.9$.

19. What is the length of sides of a square whose perimeter is 36 cm?

20. Express $\frac{24}{36}$ in the standard form.

SECTION—C

(Marks : 40)

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

21. Two packets of sweets weigh $2\frac{7}{8}$ kg and $3\frac{1}{4}$ kg respectively. How much is the total weight of the sweets?

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

(6)

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

24. Identity the pattern and write the next two terms of

$$25, 10, 4, \frac{8}{5}, \dots$$

25. A train travels 90 km in $1\frac{1}{2}$ hours. How long will it travel in 3 hours 30 minutes at the same speed?

Or

Jagadish received Rs 24,000 as his monthly salary. If he spends 20% of it as house rent, then what is his house rent? If he spends Rs 7,200 for food items, then what percent is he spend for food items?

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

27. 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

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.

28. Find the value of $40 - (23 - 40 + 17)$.

29. Of 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?

(7)

30. The marks in Science of 13 students are 31, 37, 29, 41, 35, 35, 38, 36, 35, 38, 32, 29, 43. Find—

(a) the range of the data;

(b) the mean mark.

SECTION—D

(Marks : 30)

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

31. The letters of the word 'PROBABILITY' are placed in a bag and one letter is taken out at random. Find the probabilities of the letters—

(a) P

(b) B

(c) R

(d) I

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 2012 :

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

(8)

32. Arrange $\frac{7}{9}$, $\frac{5}{6}$, $\frac{11}{12}$, $\frac{1}{3}$ and $\frac{3}{4}$ in ascending order.

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

34. A music system was sold at a profit of 7%. If it had been sold at a profit of 10%, the profit would have been Rs 780. What is the cost price of the music system?

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

Or

A wire in the shape of rectangle of length 18 cm and width 15 cm is reshaped and bent in the form of a circle. Find the radius and area of the circle. (Use $\frac{22}{7}$)

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