X/15/M (Spl)

2 0 1 5

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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(2)

(*Marks* : 10)

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

1. The value of (7) (3) is

(A)   21

(B)   21

(C)   10

(D)   10

2. The value of 2^6 is

(A)   72

(B)   32

(C)   12

(D)   None of the above

3. 5% of ₹ 300 is

(A)   ₹ 1,500

(B)   ₹ 305

(C)   ₹ 150

(D)   ₹ 15

4. The value of $\dfrac{27}{40} \quad \dfrac{20}{21}$ is

(A) $\dfrac{9}{14}$

(B) $\dfrac{9}{14}$

(C) $\dfrac{14}{9}$

(D) $\dfrac{14}{9}$

5. 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

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

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

(B) $\dfrac{8}{9}$

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

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

7. The value of 6 345   10 is

(A) 0·6345

(B) 6·345

(C) 63·45

(D) 634·5

[P.T.O.

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

½×2=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.

9. Fill in the blanks : ½×2=1

(a) Loss = Cost price − ——

(b) Amount = Simple interest + ——

10. Define mode of data.

SECTION—B

(*Marks* : 20)

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

11. Express 50% as a fraction in the lowest term.

12. Simplify $\dfrac{2}{9}$ $\dfrac{4}{7}$.

13. Find the circumference of a circle, whose radius is 35 cm. (Use $\dfrac{22}{7}$)

Or

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

14. Convert 0·125 into a rational number.

15. Find the mode of the group 3, 4, 3, 5, 3, 6, 3, 8, 4.

16. Find the value of $\left(\dfrac{1}{2}\right)^5$.

Or

Simplify $(2 \quad 3)^2$.

17. The weight of five students are 38 kg, 41 kg, 36 kg, 39 kg and 41 kg. Find the mean weight.

18. Simplify 1·2 $\quad$ 1·2.

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

20. Subtract $\dfrac{3}{4}$ from $\dfrac{7}{8}$.

SECTION—C

(*Marks* : 40)

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

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. Caroline had 400 stamps in her collection. $\frac{1}{10}$ th of them were Indian stamps. Of the remaining, $\frac{1}{3}$ of them were from Europe and 100 stamps from Africa. The rest were from United States of America. How many American stamps were there?

23. Simplify $3\dfrac{1}{5}$ $\dfrac{3}{8}$ $3\dfrac{1}{3}$.

24. A biscuit-making unit uses 4·55 kg of salt every week. How much salt is used by the biscuit-making unit in 30 days?

Or

A 440 m length of road is being repaired. After one day, the workers had repaired $\dfrac{3}{4}$ of the road. What length of the road is left unrepaired?

25. Simplify 19·68 ÷ 6·15.

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

Or

The inner and outer radius of a cylindrical pipe is 5 cm and 4 cm respectively. Find the area of cross-section of the pipe. (Use   3·14)

27. Simplify $\dfrac{7}{6}$ $\dfrac{3}{8}$ $\dfrac{1}{4}$.

28. Find the operator and write two more terms in the series 8, 24, 72, 216.

29. The angles of a pentagon are in the ratio 2 : 4 : 2 : 1 : 1. The angles add up to 540°. Find all the angles.

30. The area of a square park is 100 m^2. Find its perimeter.

SECTION—D

(*Marks* : 30)

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

31. Six friends were deciding where to go during the coming weekend. Everyone wrote their intension 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)

Or

A survey was conducted in a class to find the preference of students for the soft drinks and recorded as follow :

Soft drinks	*No. of students*
Orange juice	15
Cola	13
Lime juice	9
Mango juice	7
Melon juice	11

Make a bar graph with a suitable scale for the above data.

32. Arrange $\dfrac{7}{10}, \dfrac{2}{5}, \dfrac{11}{15}, \dfrac{1}{6}$ and $\dfrac{17}{30}$ in descending order.

33. If ₹ 900 amounts to ₹ 1,044 in 4 years, what sum will amount to ₹ 1,368 in $3\dfrac{1}{2}$ years at the same rate?

34. Jagdish received ₹ 24,000 as his monthly salary. If he spends 20% of it as house rent, what is his house rent? If he spends ₹ 7,200 for food items, what percent is he spending on food items?

35. A rectangular lawn is 18 m long and 14 m wide. If there is a square flower bed at the centre of the lawn which is 2·5 m long, what area of the lawn is covered with grass?

Or

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 3·14)

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