

Total No. of Printed Pages—15

**X/25/M (Spl) (OC)**

**2 0 2 5**

**MATHEMATICS**

**( Special )**

**( Old Course )**

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

*Full Marks : 80*

*Pass Marks : 24*

*Time : 3 hours*

*The figures in the margin indicate full marks for the questions*

*General Instructions :*

- (i) Please check that this Question Paper contains **55** questions.
- (ii) 15 minutes time is given for the candidates to read the Question Paper. The Question Paper will be distributed 15 minutes before the scheduled time of the examination. In these 15 minutes, the candidates should only read the instructions and questions carefully and should not write answers on the Answer Sheet.
- (iii) The Question Paper contains 4 Sections, **Section—A, B, C and D.**

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- (iv) **Section—A** contains Multiple Choice Questions (MCQ). Choose the most appropriate answer from the given options. The answers to this Section must be given in the boxes provided in the Answer Sheet.
- (v) **Section—B** contains Very Short Answer Questions. Answer the questions briefly, in minimum 3 steps.
- (vi) **Section—C** contains Short Answer Questions. Answer the questions in minimum 5 steps.
- (vii) **Section—D** contains Long Answer Questions. Answer the questions in minimum 8 steps.
- (viii) Use of calculators/mobile phone/any electronic device is **not allowed**.

**SECTION—A**

Multiple Choice Questions (Attempt **all** questions) :  $1 \times 30 = 30$

1. The value of  $(-1) \times (-2) \times (-3) \times (-4) \times (-5)$  is

- (A) 120
- (B) -120
- (C) 60
- (D) 30

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2. The additive inverse of  $\frac{3}{5}$  is

(A)  $\frac{-3}{5}$

(B)  $\frac{3}{5}$

(C)  $\frac{5}{3}$

(D)  $\frac{-5}{3}$

3. A fraction which is a combination of a whole number and a proper fraction is called a/an

(A) improper fraction

(B) unit fraction

(C) mixed fraction

(D) proper fraction

4. The value of  $0.0006 \times 1000$  is

(A) 0.0006

(B) 0.06

(C) 0.006

(D) 0.6

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5. The base in the term  $(24xy)^2$  is

(A) 24

(B)  $xy$

(C)  $24xy$

(D) 2

6. The simplest form of the ratio 225 ml : 375 ml is

(A) 9 : 15

(B) 45 : 75

(C) 5 : 3

(D) 3 : 5

7. 67% of 400 is equal to

(A) 268

(B) 400

(C) 286

(D) 26.8

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8. The perimeter of a rectangle of length  $l$  units and breadth  $b$  units is given by
- (A)  $2(l+b)$  units
  - (B)  $l \times b$  square units
  - (C)  $2(l-b)$  units
  - (D)  $4(l+b)$  units
9. The median of the numbers 10, 3, 6, 10, 4, 8 is
- (A) 6
  - (B) 7
  - (C) 8
  - (D) 5
10. The collection of whole numbers and negative numbers together are called
- (A) whole numbers
  - (B) irrational numbers
  - (C) natural numbers
  - (D) integers

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11. The product of a rational number and its reciprocal is

(A) 0

(B) 1

(C)  $\frac{1}{2}$

(D) 2

12. The reciprocal of  $\frac{9}{2}$  is

(A)  $\frac{2}{9}$

(B)  $\frac{-2}{9}$

(C)  $\frac{9}{2}$

(D)  $\frac{-9}{2}$

13. The decimal representation of  $\frac{1}{1000}$  is

(A) 0.1

(B) 0.01

(C) 0.001

(D) 0.0001

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14. The exponential form of  $2 \times 3 \times 7 \times 3 \times 5 \times 2 \times 7 \times 5$  is

(A)  $2 \times 3 \times 5 \times 7$

(B)  $2^2 \times 3^2 \times 5^2 \times 7^2$

(C)  $2 \times 3 \times 5^2 \times 7^2$

(D)  $2^2 \times 3^2 \times 5 \times 7$

15. In a proportion, the first and the fourth terms are known as

(A) means

(B) equivalent

(C) extremes

(D) variation

16. The sum of money borrowed or loaned is known as

(A) principal

(B) interest

(C) amount

(D) profit

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- 17.** The area of a rectangular slab of dimensions 180 cm by 60 cm is
- (A) 1080 square cm
  - (B) 10800 square cm
  - (C) 480 square cm
  - (D) 240 square cm
- 18.** The study of collection, organisation, presentation, analysis and interpretation of numerical data is called
- (A) statistics
  - (B) frequency
  - (C) raw data
  - (D) secondary data
- 19.** When zero is divided by any non-zero integer, the result is always
- (A) 0
  - (B) 1
  - (C) -1
  - (D) infinite

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20. The standard form of the fraction  $\frac{-16}{20}$  is

(A)  $\frac{-8}{10}$

(B)  $\frac{16}{20}$

(C)  $\frac{-4}{5}$

(D)  $\frac{4}{5}$

21. The value of  $\frac{3}{12}$  of 8 is

(A) 8

(B) 6

(C) 3

(D) 2

22. The value of  $(251687)^0$  is equal to

(A) 1

(B) 251687

(C) -1

(D) 0

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23. What per cent of 92 is 46?

(A) 46%

(B) 50%

(C) 75%

(D) 92%

24. The value of  $\frac{4}{9} \div 5\frac{5}{9}$  is

(A)  $\frac{2}{25}$

(B)  $\frac{25}{2}$

(C)  $\frac{9}{50}$

(D)  $\frac{200}{81}$

25.  $(-1)^3 \times (-1)^2$  is equal to

(A) 1

(B) -1

(C) 2

(D) -2

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**26.** If 6, 10, 15 and 25 are in proportion, then the product of means is

- (A)  $6 \times 25$
- (B)  $10 \times 15$
- (C)  $6 \times 10$
- (D)  $15 \times 25$

**27.** If the cost price is ₹ 796 and the selling price is ₹ 1,000, then the profit is

- (A) ₹ 1,796
- (B) ₹ 7,96,000
- (C) ₹ 204
- (D) ₹ 1,000

**28.** The circumference of a circle with radius  $r$  units is

- (A)  $\pi r^2$  square units
- (B)  $3\pi r$  units
- (C)  $2\pi r$  units
- (D)  $4\pi r$  units

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29. The value of  $7.25 \div 4$  is

(A) 0.18125

(B) 1.8125

(C) 181.25

(D) 18.125

30. The mean of 101, 103, 107, 109 and 113 is

(A) 106.2

(B) 106.6

(C) 10.66

(D) 106

**SECTION—B**

Very Short Answer Questions (Attempt **any six** questions) :

2×6=12

31. Subtract  $\frac{1}{4}$  from  $\frac{-3}{8}$ .

32. Multiply the decimal numbers  $735.25 \times 10.3$ .

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33. Express 6561 as the product of exponents using prime factorization.
34. Find the value of  $x$  in the proportion  $130:10::26:x$ .
35. Find the circumference of the circle whose radius is 46.6 cm. (Take the value of  $\pi$  as 3.14)
36. Convert the ratio 48:148 into a percentage.
37. Find the simple interest when principal = ₹ 3,200, rate of interest (p.a.) = 4% and time = 1 year.
38. Find the volume of the cube whose side is 50 m.
39. Find the ratio of 2 m to 125 cm.

**SECTION—C**

Short Answer Questions (Attempt **any six** questions) :  $3 \times 6 = 18$

40. Subtract the sum of -1878 and 878 from 2000.

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41. In a students' hostel, each inmate is given  $\frac{2}{5}$  litre of milk. Among how many students can  $16\frac{4}{10}$  litres of milk be distributed?
42. Find the value of  $p$  in  $7^{2p} \div 343 = 1$ .
43. Two numbers are in the ratio 5 : 6 and their sum is 132. Find the two numbers.
44. A two-wheeler can cover a distance of 45.75 km on one litre of petrol. How far can it go on 3.5 litres of petrol?
45. Find the sum of  $\frac{5}{8}$  and  $\frac{-7}{2}$ .
46. Simplify  $[7^8 \times 12^8] \div [14^8 \times 6^8]$  using laws of exponents.
47. Janai types 78 words in 3 minutes. How many minutes will she take to type 364 words?
48. Find the product of  $1\frac{1}{5}$ ,  $3\frac{4}{7}$  and  $\frac{9}{7}$ .

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**SECTION—D**

Long Answer Questions (Attempt **any four** questions) :  $5 \times 4 = 20$

- 49.** Arrange the rational numbers  $\frac{2}{3}, \frac{4}{7}, \frac{-8}{3}, \frac{6}{-9}$  in the ascending order.
- 50.** ₹ 8,000 is borrowed at 4% interest per annum for two years. What will be the amount payable at the end of two years?
- 51.** Find the diameter of the circle whose circumference is 101.7 cm. (Take the value of  $\pi$  as 3.14)
- 52.** A coin is tossed 500 times. Heads appeared 275 times and the rest of the times tails appeared. Find the probability of getting heads and tails.
- 53.** Find four rational numbers between  $\frac{1}{3}$  and  $\frac{3}{4}$ .
- 54.** Find the radius of the bigger circle if the area of a ring is  $96\pi \text{ cm}^2$  and the area of the smaller circle is  $34\pi \text{ cm}^2$ .
- 55.** Find the median and the mean marks for the following data :

|       |    |    |    |    |    |    |
|-------|----|----|----|----|----|----|
| Marks | 45 | 55 | 65 | 75 | 90 | 95 |
|-------|----|----|----|----|----|----|

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