Total No. of Printed Pages—15

X/25/M (Spl) (NC)

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MATHEMATICS

(Special)

(New 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, **Sections—A**, **B**, **C** and **D**.

(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) : 1×30=30

1. A pair of integers, whose sum is −7, is

(A) 10, −3

(B) −10, 3

(C) −10, −3

(D) 4, 3

2. The product of two negative integers is

(A) a positive integer

(B) a negative integer

(C) zero

(D) neither negative nor positive integer

3. For any integer a, what is $(-1) \times a$ equal to normal?

(A) -1

(B) 1

(C) a

(D) $-a$

4. The reciprocal of $\frac{12}{7}$ is

(A) $\frac{-12}{7}$

(B) $\frac{12}{7}$

(C) $\frac{7}{12}$

(D) $\frac{-7}{12}$

5. The most common representative value of a group of data is called the

(A) mean

(B) mode

(C) median

(D) raw data

6. In the equation $p + 4 = 15$, the value of p is equal to

(A) 15

(B) –11

(C) 11

(D) 19

7. 50% of 164 is equal to

(A) 62

(B) 72

(C) 28

(D) 82

8. A number that can be expressed in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$, is called

(A) a natural number

(B) a whole number

(C) a rational number

(D) an irrational number

9. The distance around a circular region is known as

(A) circumference

(B) diameter

(C) radius

(D) area of a circle

10. The value of $(9)^3$ is

(A) 27

(B) 81

(C) 729

(D) 279

11. The value of $(-36) \div (-9)$ is

(A) 4

(B) -4

(C) -36

(D) -9

12. The value of $\frac{1}{4}$ of $\frac{4}{3}$ is

(A) $\frac{1}{4}$

(B) $\frac{1}{3}$

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

(D) $\frac{-1}{3}$

13. The difference between the highest and the lowest observations in a data is called

(A) mean

(B) range

(C) mode

(D) median

14. The value of $5 \div 3\frac{4}{7}$ is

(A) $\frac{7}{25}$

(B) $\frac{25}{7}$

(C) $\frac{5}{7}$

(D) $\frac{7}{5}$

15. The value of y in the equation $y - 4 = -7$ is

(A) -11

(B) 11

(C) -3

(D) 3

16. On a principal of ₹ P at R% rate of interest per year, the interest paid for one year is

(A) $\frac{R \times P}{100}$

(B) $\frac{R \times T}{100}$

(C) $\frac{P \times T}{100}$

(D) $\frac{P \times R \times T}{100}$

17. The standard form of the fraction $\frac{-3}{-15}$ is

(A) $\frac{-1}{5}$

(B) $\frac{1}{5}$

(C) $\frac{3}{15}$

(D) $\frac{15}{3}$

18. The area of a circle, whose radius is r, is

(A) $2\pi r$

(B) πr

(C) πr^2

(D) $\frac{1}{2}\pi r^2$

19. The exponential form of $a \times a \times a \times c \times c \times c \times c \times d$ is

(A) $a^3 \times c^3 \times d$

(B) $a^3 \times c^4 \times d$

(C) $a^3 \times c^4$

(D) $a^2 \times c^4 \times d$

20. The value of $0{\cdot}03 \times 1000$ is

(A) 0·003

(B) 30

(C) 300

(D) 3000

21. The observation that occurs most often in a given data is called the

(A) mean

(B) range

(C) mode

(D) median

22. The value of t in the equation $20t = -10$ is

(A) 2

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

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

(D) -2

23. The value of $2^0 + 3^0 + 4^0$ is

(A) 8

(B) 9

(C) 3

(D) 0

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

(A) principal

(B) interest

(C) amount

(D) profit

25. The sum of $\frac{5}{4}$ and $\frac{-11}{4}$ is

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

(B) $\frac{3}{2}$

(C) $\frac{-3}{2}$

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

26. The area of a parallelogram is

(A) base × base

(B) base × height

(C) 2 × base × height

(D) $\frac{1}{2}$ × base × height

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

(A) $\frac{-2}{3}$

(B) $\frac{-3}{2}$

(C) $\frac{3}{2}$

(D) $\frac{1}{3}$

28. If the cost price is ₹ 250 and the selling price is ₹ 325, then the profit is

(A) ₹ 575

(B) ₹ 75

(C) ₹ 175

(D) ₹ 275

29. If the base and height of a right-angled triangle are 3 cm and 4 cm, respectively, then its area is

(A) $12\ cm^2$

(B) $7\ cm^2$

(C) $6\ cm^2$

(D) $6{\cdot}5\ cm^2$

30. The standard form of the number 7000000 is expressed as

(A) 7×10^6

(B) 7×10^{-6}

(C) $0{\cdot}7 \times 10^6$

(D) $0{\cdot}07 \times 10^6$

SECTION—B

Very Short Answer Questions (Attempt **any *six*** questions) : 2×6=12

31. Find $3\frac{1}{5} \div 1\frac{2}{3}$.

32. A cricketer scores the following runs in eight innings :

58, 76, 40, 35, 46, 45, 0, 100

Find the mean score.

33. The teacher tells the class that the highest marks obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. What is the lowest score?

34. Find the whole quantity if 5% of it is 600.

35. Find the sum of $\frac{-8}{19}$ and $\frac{-2}{57}$.

36. Express 540 as product of powers of their prime factors.

37. Multiply the decimal numbers $10{\cdot}05 \times 1{\cdot}05$.

38. Which is greater, $\frac{-3}{4}$ *or* $\frac{2}{-3}$?

39. Simplify

$$[(5^2)^3 \times 5^4] \div 5^7$$

and express in exponential form.

SECTION—C

Short Answer Questions (Attempt **any *six*** questions) : 3×6=18

40. Verify the following :

$$18 \times [7 + (-3)] = [18 \times 7] + [18 \times (-3)]$$

41. A vehicle covers a distance of 43·2 km in 2·4 litres of petrol. How much distance will it cover in one litre of petrol?

42. I bought a TV for ₹ 10,000 and sell it at a profit of 20%. How much money do I get for it?

43. Arrange the rational numbers

$$\frac{-1}{3}, \frac{-2}{9}, \frac{-4}{3}$$

in the ascending order.

44. If the area of a parallelogram is 16·38 cm^2 and the base is 15·6 cm, find its height.

45. Find the number from the following expanded form :

$$8\times10^4 + 6\times10^3 + 0\times10^2 + 4\times10^1 + 5\times10^0$$

46. Simplify :

$$\frac{(2^5)^2 \times 7^3}{8^3 \times 7}$$

47. Find the height of the triangle whose area is 170·5 cm^2 and the base is 22 cm.

48. Subtract $\frac{-7}{15}$ from $\frac{-6}{13}$.

SECTION—D

Long Answer Questions (Attempt **any *four*** questions) : 5×4=20

49. If the circumference of a circular sheet is 154 m, find its radius. Also, find the area of the sheet. (Take $\pi = \frac{22}{7}$)

50. Find the amount to be paid at the end of 3 years if principal is ₹ 1,200 at 12% per annum.

51. A man's age is 5 years more than three times his son's age. Find son's age, if his father is 44 years old.

52. The scores in mathematics test (out of 25) of 15 students are as follows :

19, 25, 23, 20, 9, 20, 15, 10,
5, 16, 25, 20, 24, 12, 20

Find the mode and median of this data. Are they same?

53. Out of 15000 voters in a constituency, 60% voted. Find how many actually did not vote. Also, find the percentage of voters who did not vote.

54. A circle of radius 2 cm is cut out from a square piece of an aluminium sheet of side 6 cm. What is the area of the leftover aluminium sheet? (Take $\pi = 3{\cdot}14$)

55. A girl buys a book for ₹ 275 and sells it at a loss of 15%. How much does she sell it for?

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