Total No. of Printed Pages—11

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MATHEMATICS

(Special)

(Lower Grade Mathematics for Candidates with Special Learning Disabilities)

(CANDIDATES WITH PRACTICALS/INTERNAL ASSESSMENT)

Full Marks : 80

Pass Marks : 24

(NON-REGULAR, PRIVATE AND COMPARTMENTAL CANDIDATES WITHOUT PRACTICALS/ INTERNAL ASSESSMENT)

Full Marks : 100

Pass Marks : 30

Time : 3 hours

(FOR BOTH CATEGORIES OF CANDIDATES)

The figures in the margin indicate full marks for the questions

General Instructions :

(i) The Question Paper consists of 32 questions divided into six Sections A, B, C, D, E and F.

(ii) Question Nos. **1** to **30** (Section—A to Section—E) are to be answered by all the **Candidates**.

(iii) Question Nos. **31** and **32** of Section—F are to be answered only by the **Candidates without Practicals/Internal Assessment**.

(iv) Section—A contains 8 questions of 1 mark each.
Section—B contains 7 questions of 2 marks each.
Section—C contains 8 questions of 3 marks each.
Section—D contains 4 questions of 4 marks each.
Section—E contains 3 questions of 6 marks each.

(v) In Question Nos. **1** to **7** of Section—A and Question No. **31** sub Nos. *(a)* to *(d)* of Section—F, 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.

(vi) Use of electronic device is not permitted.

SECTION—A

(*Marks* : 8)

(*Question Nos.* ***1*** *to* ***8*** *carry 1 mark each*)

1. The value of $(-9)\times 5\times(-1)\times 1$ is

(A) –9

(B) 5

(C) –45

(D) 45

(Choose the correct option)

2. A fraction where the numerator is greater than the denominator is called

(A) proper fraction

(B) improper fraction

(C) mixed fraction

(D) unit fraction

(Choose the correct option)

3. The decimal number 2·79 is expressed in the form of a rational number $\frac{p}{q}$ as

(A) 279

(B) $\frac{279}{10}$

(C) $\frac{279}{100}$

(D) $\frac{279}{1000}$

(Choose the correct option)

4. The value of $0 \cdot 5 \div 2$ is

(A) 0·25

(B) 2·5

(C) 0·025

(D) 0·0025

(Choose the correct option)

5. The base in the term $(4m)^8$ is

(A) 4

(B) $4m$

(C) $-4m$

(D) -4

(Choose the correct option)

6. The sum of money borrowed or loaned is known as the

(A) principal

(B) interest

(C) amount

(D) selling price

(Choose the correct option)

7. If the length of a square is 'a' units, then its area is given by

(A) $4a$ units

(B) a units

(C) a^2 square units

(D) $4a^2$ square units

(Choose the correct option)

8. State whether the following statements are True or False : ½×2=1

(a) Mode is the most frequently occurring value.

(b) The data collected by someone else other than the individual is called primary data.

SECTION—B

(*Marks* : 14)

(*Question Nos.* ***9*** *to* ***15*** *carry 2 marks each*)

9. Find the sum of $\frac{5}{6}$ and $\frac{7}{9}$.

10. Multiply the decimal numbers 12·79 × 3·2.

11. Evaluate the expression $(l+m)^3$, if $l=2$ and $m=3$.

Or

Simplify $K^{p-q} \times K^{q-r} \times K^{r-p}$.

12. Express the ratio 50 g : 2 kg in the simplest form.

13. Convert the decimal 0·567 into a percentage.

14. Find 55% of 180.

15. Find the area of a rectangular table top of dimensions 195 cm by 90 cm.

Or

Find the perimeter of the rhombus whose length is 8 cm.

SECTION—C

(*Marks* : 24)

(*Question Nos.* ***16*** *to* ***23*** *carry 3 marks each*)

16. Evaluate $[(56) \div (-2)] \div (-4)$.

17. Multiply the fractions $2\frac{1}{7} \times 1\frac{4}{5} \times \frac{1}{3}$.

18. Subtract $\left(\frac{-4}{13}\right)$ from $\left(\frac{-5}{26}\right)$.

19. A bag of rice weighs 25·25 kg. How much rice is contained in 600 such bags?

Or

The cost of 25 storybooks of the same kind is ₹1,784·75. Find the cost of each storybook.

20. Find the value of x in $3^2 \times 9^4 = 3^x$.

21. Find the value of x in the proportion $64 : 16 :: x : 4$.

22. 70% of 20 students are good in Mathematics. How many students are not good in Mathematics?

Or

Banri purchased a T-shirt for ₹200 and sold it for ₹250. Find his profit % or loss %.

23. Find the median of the following data :

80, 82, 84, 86, 88, 90, 92

SECTION—D

(*Marks* : 16)

(*Question Nos.* ***24*** *to* ***27*** *carry 4 marks each*)

24. Darisa had a pocket money of ₹500. She spent $\frac{3}{10}$ of it to buy books. Find the amount spent on books.

Or

An aeroplane covers 50 km in $\frac{1}{5}$ hour. How many kilometres can the aeroplane cover in 5 hours?

25. A goldsmith mixes gold and copper in the ratio 7 : 2 to prepare an ornament. If the ornament weighs 45 grams, find the weight of gold and copper in it.

26. A businessman paid ₹450 as simple interest on a sum borrowed for a period of 3 years at an interest rate of 2·5% p.a. Find the sum borrowed by him.

27. A triangular garden has base 30 m and height 32 m. Find the cost of levelling the garden at ₹6 per m^2.

Or

Find the diameter of the circle whose circumference is 37·7 m. (Use $\pi = 3{\cdot}14$)

SECTION—E

(*Marks* : 18)

(*Question Nos.* ***28*** *to* ***30*** *carry 6 marks each*)

28. Arrange the rational numbers $\frac{3}{5}, \frac{-7}{10}, \frac{-11}{12}, \frac{-13}{-30}$ in the ascending order.

29. If 1 kg of fertilizer covers an area of half square metre, find the amount of fertilizer required by a farmer for his circular field whose radius is 14 m. (Use $\pi = \frac{22}{7}$)

Or

Find the radius of the bigger circle if the area of a ring is $96\ \pi\ cm^2$ and the area of the smaller circle is $34\ \pi\ cm^2$.

30. A die is rolled 200 times. Find the probabilities of 1, 3 and 6 outcomes using the information given in the table :

1	2	3	4	5	6
25	36	34	28	33	44

Or

Given below is the data of outdoor games liked by 100 boys :

Games	Throwball	Volleyball	Basketball	Cricket
Boys	5	10	35	50

Represent the data using a bar graph.

SECTION—F

(*Marks* : 20)

(*Question Nos.* ***31*** *and* ***32*** *are for* **Candidates appearing for 100 marks**)

31. Answer the following as directed (any *eight*) : 1×8=8

(a) The additive inverse of an integer 5 is

(A) 0

(B) 1

(C) 5

(D) –5

(Choose the correct option)

(b) The reciprocal of a fraction $\frac{a}{b}$ is

(A) $\frac{a}{b}$

(B) $\frac{-a}{b}$

(C) $\frac{b}{a}$

(D) $\frac{-b}{a}$

(Choose the correct option)

(c) The numerator of the rational number $\frac{-11}{13}$ is

(A) 11

(B) –11

(C) 13

(D) –13

(Choose the correct option)

(d) The value of $5 \cdot 5 \times 12$ is

(A) 66

(B) 60

(C) 17·5

(D) 6·6

(Choose the correct option)

(e) Simplify $(251687)^0$.

(f) Write one equivalent ratio for the ratio 4 : 16.

(g) Principal + Interest = _____.

(Fill in the blank)

(h) The area of a rectangle is the product of its length and breadth.

(State True or False)

(i) Define raw data.

(j) A fraction which is a combination of a _____ number and a proper fraction is called a mixed fraction.

(Fill in the blank)

(k) Insert the correct symbol (>, < or =) in the box provided in $2^4 \square 4^2$.

(l) Loss = Cost price – Selling price.

(State True or False)

32. Answer any *six* from the following : 2×6=12

(a) Evaluate $90 - 245 + (-140)$.

(b) Find $2\frac{4}{5}$ of 21.

(c) Simplify $\left(\frac{-16}{35}\right) \div \left(\frac{-15}{14}\right)$.

(d) Divide $2 \cdot 62 \div 13 \cdot 1$.

(e) Simplify $K^{-7} \times K^2 \times K^7$ and express in the exponential form.

(f) A dozen mangoes cost ₹396. Find the cost of one mango.

(g) Convert $\frac{7}{16}$ into a percentage.

(h) Find the Simple Interest when Principal = ₹3,000, Rate of Interest (p.a.) = 10% and Time = 1 year.

(i) Find the circumference of the circle whose diameter is 36 cm. (Take value of π as 3·14)

(j) Write the sample space for "rolling a die numbered 1 to 6".

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