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 product of $\frac{-3}{8}$ and -5 is

(A) $\frac{-15}{8}$

(B) $\frac{15}{8}$

(C) $\frac{3}{40}$

(D) $\frac{-5}{40}$

(Choose the correct option)

2. The reciprocal of $\frac{2}{5}$ is

(A) $\frac{5}{2}$

(B) $\frac{-5}{2}$

(C) $\frac{2}{5}$

(D) $\frac{-2}{5}$

(Choose the correct option)

3. The value of 2^6 is

(A) 12

(B) 8

(C) 32

(D) 64

(Choose the correct option)

4. The circumference of a circle with radius 'r' units is

(A) πr^2 square units

(B) $2\pi r^2$ square units

(C) $2\pi r$ units

(D) πr units

(Choose the correct option)

5. The simplest form of the ratio 12 : 24 is

(A) 1 : 2

(B) 2 : 4

(C) 3 : 6

(D) 6 : 12

(Choose the correct option)

6. The value of $0 \cdot 23 \times 100$ is

(A) 2·3

(B) 2300

(C) 230

(D) 23

(Choose the correct option)

7. If the selling price is ₹ 289 and loss is ₹ 43, then the cost price is

(A) ₹ 332

(B) ₹ 246

(C) ₹ 322

(D) ₹ 256

(Choose the correct option)

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

(a) Counting numbers 1, 2, 3, ····· are called natural numbers.

(b) The product of a rational number and its reciprocal is zero.

SECTION—B

(*Marks* : 14)

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

9. Express $\frac{15}{25}$ into percentage.

10. Find the sum of $\frac{5}{8}$ and $\frac{-7}{2}$.

11. Find the circumference of a circle whose radius is 12 cm. (Use $\pi = 3 \cdot 14$)

Or

Find the area of the circle of radius 21 m. (Use $\pi = \frac{22}{7}$)

12. Find 75% of 188.

13. Find the mean of the following data :

3, 8, 13, 18, 23, 28, 33

14. Simplify $(-3)^{-4} \times (-3)^{6}$ using suitable laws of exponents.

Or

Express 324 as the product of exponents using prime factorisation.

15. Divide : 49·6 by 0·02

SECTION—C

(*Marks* : 24)

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

16. Evaluate : $[(-100)+(60)] \div [(29)-(9)]$

17. Find the corresponding base of the triangle whose area is 3420 cm^2 and height is 57 cm.

Or

Find the area of a rectangular slab of dimensions 180 cm by 60 cm.

18. Subtract : $\frac{-3}{-8}$ from $\left(\frac{-2}{7}\right)$

19. The price of a dress is increased from ₹ 2,100 to ₹ 2,520. Find the percentage of increase.

20. The marks obtained by 15 students in a test are 15, 20, 16, 10, 24, 20, 18, 17, 20, 14, 11, 9, 21, 20, 23. Find the modal marks.

21. If 30 dozens of eggs cost ₹ 300, find the cost of 5 dozens of eggs.

22. A train travels a distance of 565 km in 5 hours. How far will the train travel in 16 hours?

Or

Donlak rides his bike for $\frac{5}{4}$ km to reach his school. He can ride $\frac{3}{8}$ km in one minute. How long will it take to reach the school?

23. A fruit seller bought 75 guavas and 125 pineapples from a vendor. Find the ratio of guavas to pineapples bought.

SECTION—D

(*Marks* : 16)

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

24. Mayank deposited ₹ 10,000 for 4 years at a rate of 6% per annum. Find the interest and the amount that Mayank got.

25. John wants to put fence to his rectangular field of length 30 m and breadth 10 m. Find the length of fencing required to cover the field.

Or

The perimeter of a square-shaped wall clock is 100 cm. Find its area.

26. Simplify : $\frac{1}{3}+\left(\frac{-3}{4}\right)+\frac{7}{8}$

27. Darilin purchased a bag for ₹ 300 and sold it for ₹ 250. Find the profit or loss incurred by Darilin. What is the percentage of profit or loss?

SECTION—E

(*Marks* : 18)

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

28. 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.

Or

The average marks in various subjects of Class VII are shown below :

Subjects	English	Hindi	Mathematics	Science	Social Studies
Average marks	65	70	85	80	70

Represent this data on a bar graph.

29. Arrange the rational numbers $\frac{-3}{-5}, \frac{-8}{15}, \frac{7}{-10}, \frac{17}{30}$ in the descending order.

30. A rectangular garden of dimensions 12 m by 6 m is surrounded by a 3 m wide path. What is the area of the path?

Or

How many circles of radius 2 cm will have the same area as the square of side 44 cm? (Use $\pi = \frac{22}{7}$)

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 standard form of the fraction $\frac{-24}{80}$ is

(A) $\frac{-12}{40}$

(B) $\frac{-6}{20}$

(C) $\frac{-3}{10}$

(D) $\frac{3}{10}$

(Choose the correct option)

(b) The value of $10{\cdot}64 \times 10$ is

(A) 106·4

(B) 1·064

(C) 1064

(D) 0·1064

(Choose the correct option)

(c) The area of a circle with radius '*r*' units is

(A) πr^2 square units

(B) $2\pi r^2$ square units

(C) $\frac{1}{2}\pi r^2$ square units

(D) $3\pi r^2$ square units

(Choose the correct option)

(d) The exponential form of $3\times3\times3\times3\times7\times7\times7$ is

(A) $3^3\times7^3$

(B) $3^7\times7^3$

(C) $3^3\times7^4$

(D) $3^4\times7^3$

(Choose the correct option)

(e) Define mode of data.

(f) A fraction in which the numerator is less than the denominator is called proper fraction.

(State True or False)

(g) Cost price – Selling price = _____.

(Fill in the blank)

(h) Find the value of $(-1)^{35}$.

(i) Find $\frac{18}{28}\div\frac{3}{4}$.

(j) Amount = _____ + Interest.

(Fill in the blank)

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

(a) Convert 82% into a fraction.

(b) Simplify : $\frac{-15}{7}-\left(\frac{-1}{8}\right)$

(c) Find the median of the following ungrouped data :

3, 6, 7, 4, 5, 9, 8, 9, 7

(d) Find the value of $19{\cdot}36 \times 0{\cdot}5$.

(e) Find the area of a parallelogram whose height is 6 cm and base is 8 cm.

(f) Find the time when principal = ₹ 2,000, simple interest = ₹ 600 and rate of interest = 3% per annum.

(g) Simplify $\left(3^2\right)^5 \times 3^{-10}$ using laws of exponents.

(h) Write the sample space of tossing a coin.

(i) Find the area of the circle whose diameter is 28 m. (Use $\pi = \frac{22}{7}$)

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