

# MATH LOVE INSTITUTE

Annual Examination 2025-26

Class: VII | Subject: Mathematics (Paper - 3)

Time: 3 Hours | Maximum Marks: 80

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<b>Student Name:</b>	_____
<b>Roll Number:</b>	_____
<b>Date:</b>	_____

## General Instructions:

1. All questions are compulsory.
2. The question paper is divided into 5 sections: A, B, C, D, and E.
3. Section A: Multiple Choice Questions (1 mark each) - 15 marks
4. Section B: Fill in the Blanks / Match the Following (1 mark each) - 15 marks
5. Section C: Short Answer Questions (2 marks each) - 20 marks
6. Section D: Long Answer Questions (3 marks each) - 15 marks
7. Section E: Word Problem Based Questions (5 marks each) - 15 marks
8. There is no negative marking.
9. Use of calculators is not allowed.
10. Show all necessary working clearly.

Strictly Based on NCERT Syllabus 2025-26 | Complete Chapter Coverage | All Solved Solutions Provided

## SECTION A - MULTIPLE CHOICE QUESTIONS (15 × 1 = 15 marks)

- Q1.** Which of the following rational numbers is in standard form? [1 mark]
- (a)  $-8/12$
  - (b)  $6/-9$
  - (c)  $-7/11$
  - (d)  $15/-25$
- Q2.** The rational number lying between  $1/3$  and  $1/2$  is: [1 mark]
- (a)  $1/4$
  - (b)  $2/5$
  - (c)  $3/7$
  - (d)  $5/12$
- Q3.** The arithmetic mean of 7, 13, 9, 11 and 15 is: [1 mark]
- (a) 9
  - (b) 10
  - (c) 11
  - (d) 12
- Q4.** In a bar graph, the width of bars should be: [1 mark]
- (a) Equal
  - (b) Unequal
  - (c) Increasing
  - (d) Decreasing
- Q5.** The unitary method is used to find the value of: [1 mark]
- (a) Multiple units from single unit
  - (b) Single unit from multiple units
  - (c) Both (a) and (b)
  - (d) Neither (a) nor (b)
- Q6.** If 40% of a number is 80, then the number is: [1 mark]
- (a) 32
  - (b) 120
  - (c) 200
  - (d) 240

- Q7.** The formula for the perimeter of a square is: [1 mark]
- (a)  $2 \times \text{side}$
  - (b)  $4 \times \text{side}$
  - (c)  $\text{side} \times \text{side}$
  - (d)  $4 + \text{side}$
- Q8.** The area of a right-angled triangle with base 6 cm and height 8 cm is: [1 mark]
- (a)  $14 \text{ cm}^2$
  - (b)  $24 \text{ cm}^2$
  - (c)  $48 \text{ cm}^2$
  - (d)  $28 \text{ cm}^2$
- Q9.** Which of the following is equal to  $10^4$ ? [1 mark]
- (a) 40
  - (b) 400
  - (c) 1000
  - (d) 10000
- Q10.** The value of  $(4^3)^2$  is: [1 mark]
- (a)  $4^5$
  - (b)  $4^6$
  - (c)  $4^9$
  - (d)  $8^6$
- Q11.** The base in the expression  $2^5$  is: [1 mark]
- (a) 2
  - (b) 5
  - (c) 10
  - (d) 32
- Q12.** The constant term in the expression  $4x^2 - 3x + 7$  is: [1 mark]
- (a) 4
  - (b) -3
  - (c) 7
  - (d) x

- Q13.** Which of the following is a monomial? [1 mark]
- (a)  $5x + 3$
  - (b)  $7y$
  - (c)  $x^2 - 4$
  - (d)  $2a + 3b - c$

- Q14.** How many edges does a cuboid have? [1 mark]
- (a) 6
  - (b) 8
  - (c) 10
  - (d) 12

- Q15.** A sphere has: [1 mark]
- (a) 0 faces, 0 edges, 0 vertices
  - (b) 1 curved surface, 0 edges, 0 vertices
  - (c) 2 faces, 1 edge, 0 vertices
  - (d) 1 face, 1 edge, 1 vertex

**SECTION B - FILL IN THE BLANKS / MATCH THE FOLLOWING (15 × 1 = 15 marks)**

**Part I: Fill in the Blanks (10 questions)**

- Q16.** The rational number 0 can be written as \_\_\_\_\_ / 1. [1 mark]
- Q17.** If  $a/b = c/d$ , then  $a:b :: c:d$ . This is called \_\_\_\_\_ of ratios. [1 mark]
- Q18.** The most frequently occurring observation in data is called \_\_\_\_\_ [1 mark]
- Q19.** The formula for discount is Discount = Marked Price - \_\_\_\_\_. [1 mark]
- Q20.** Amount = Principal + \_\_\_\_\_. [1 mark]
- Q21.** The sum of all sides of a polygon is called its \_\_\_\_\_. [1 mark]

**Q22.**  $1 \text{ cm}^2 = \underline{\hspace{2cm}} \text{ mm}^2$ . **[1 mark]**

**Q23.** In the expression  $10^{-2}$ , the exponent is  $\underline{\hspace{2cm}}$ . **[1 mark]**

**Q24.** Terms with the same algebraic factors are called  $\underline{\hspace{2cm}}$  terms. **[1 mark]**

**Q25.** A triangular pyramid has  $\underline{\hspace{2cm}}$  faces. **[1 mark]**

**Part II: Match the Following (5 questions)**

**Q26-Q30.** Match Column A with Column B: **[5 marks]**

Column A	Column B
Q26. Area of circle	(a) $2\pi r$
Q27. Circumference of circle	(b) $1/2 \times d_1 \times d_2$
Q28. Area of rhombus	(c) base $\times$ height
Q29. Area of parallelogram	(d) $\pi r^2$
Q30. $5^0$	(e) 1

**SECTION C - SHORT ANSWER QUESTIONS (10  $\times$  2 = 20 marks)**

**Q31.** Divide:  $4/7 \div 3/5$  **[2 marks]**

**Q32.** Find the value of:  $(-3/4) + (5/8) - (-1/2)$  **[2 marks]**

**Q33.** The heights (in cm) of 7 students are: 140, 138, 142, 136, 145, 139, 141. **[2 marks]**

Find the range and mean height.

**Q34.** If the cost of 8 books is ₹360, find the cost of 5 such books using unitary method. **[2 marks]**

**Q35.** A fruit seller bought apples at ₹40 per kg and sold them at ₹50 per kg. Find the profit percentage. [2 marks]

**Q36.** Find the perimeter of a regular hexagon with each side measuring 5 cm. [2 marks]

**Q37.** The radius of a circle is 14 cm. Find its area. (Use  $\pi = 22/7$ ) [2 marks]

**Q38.** Find the value of:  $(-1)^{2025} \times (-1)^{2024}$  [2 marks]

**Q39.** Write 0.000045 in standard form. [2 marks]

**Q40.** Multiply:  $3a^2b \times 4ab^2$  [2 marks]

**SECTION D - LONG ANSWER QUESTIONS (5 × 3 = 15 marks)**

**Q41.** Simplify:  $(7/9 - 2/3) + (5/6 - 1/2)$  [3 marks]

**Q42.** The marks obtained by 8 students in a test are: [3 marks]  
16, 12, 18, 14, 16, 20, 16, 15  
Find: (i) Mean (ii) Mode (iii) Range

**Q43.** The marked price of a TV is ₹25,000. A shopkeeper allows a discount of 12% on it. Find: [3 marks]  
(i) The discount amount  
(ii) The selling price  
(iii) If the shopkeeper still makes a profit of 10%, find the cost price.

**Q44.** A wire is in the shape of a rectangle. Its length is 40 cm and breadth is 22 cm. If the same wire is rebent in the shape of a square, what will be the measure of each side of the square? Also find which shape encloses more area. [3 marks]

**Q45.** Evaluate using laws of exponents: [3 marks]  
(i)  $3^5 \times 3^2 \div 3^4$   
(ii)  $(2^2)^3 \times 2^0$   
(iii)  $5^7 \div 5^3$

**SECTION E - WORD PROBLEM BASED QUESTIONS (3 × 5 = 15 marks)**

**Q46. Problem on Rational Numbers and Proportions:**

**[5 marks]**

A recipe requires ingredients in the following ratio:

Flour : Sugar : Butter = 3 : 2 : 1

If a baker uses 450 grams of flour, answer the following:

- (i) How much sugar is needed? (1.5 marks)
- (ii) How much butter is needed? (1.5 marks)
- (iii) What is the total weight of ingredients? (1 mark)
- (iv) Express the quantity of butter as a percentage of total ingredients. (1 mark)

**Q47. Problem on Area and Perimeter:**

**[5 marks]**

A swimming pool is 50 m long and 25 m wide. A 5 m wide path runs all around it on the outside.

(Take  $\pi = 22/7$  where required)

Answer the following:

- (i) Find the area of the swimming pool. (1 mark)
- (ii) Find the area of the path. (2 marks)
- (iii) If the cost of cementing the path is ₹120 per  $m^2$ , find the total cost. (2 marks)

**Q48. Problem on Simple Interest and Percentages:**

**[5 marks]**

Rahul deposited ₹15,000 in a bank at 6% per annum simple interest. Simultaneously, he borrowed ₹10,000 from another bank at 8% per annum simple interest.

After 3 years, answer the following:

- (i) What interest will Rahul receive on his deposit? (1.5 marks)
- (ii) What interest will Rahul pay on his loan? (1.5 marks)
- (iii) What will be the net gain or loss for Rahul? (2 marks)



## DETAILED SOLUTIONS

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## SECTION A - MULTIPLE CHOICE QUESTIONS - ANSWERS

**Q1. Answer: (c)  $-7/11$**

**Explanation:** A rational number is in standard form when:

1. Denominator is positive
2. HCF of numerator and denominator is 1

$-7/11$  satisfies both conditions. The other options need simplification or have negative denominators.

*Marking: 1 mark for correct answer*

**Q2. Answer: (d)  $5/12$**

**Explanation:** Converting to same denominator (LCM = 6):

$$1/3 = 4/12 \text{ and } 1/2 = 6/12$$

$5/12$  lies between  $4/12$  and  $6/12$

Check:  $2/5 = 4.8/12$  (also correct), but  $5/12$  is the given option.

*Marking: 1 mark for correct answer*

**Q3. Answer: (c) 11**

**Explanation:** Mean = Sum of observations / Number of observations

$$= (7 + 13 + 9 + 11 + 15) / 5$$

$$= 55 / 5$$

$$= 11$$

*Marking: 1 mark for correct answer*

**Q4. Answer: (a) Equal**

**Explanation:** In a bar graph, all bars should have equal width for proper comparison and visual representation.

*Marking: 1 mark for correct answer*

**Q5. Answer: (c) Both (a) and (b)**

**Explanation:** Unitary method helps find the value of multiple units when single unit value is known, and vice versa.

*Marking: 1 mark for correct answer*

**Q6. Answer: (c) 200**

**Explanation:** Let the number be x

$$40\% \text{ of } x = 80$$

$$(40/100) \times x = 80$$

$$x = (80 \times 100) / 40$$

$$x = 200$$

*Marking: 1 mark for correct answer*

**Q7. Answer: (b) 4 × side**

**Explanation:** Perimeter of square = 4 × side (sum of all four equal sides)

*Marking: 1 mark for correct answer*

**Q8. Answer: (b) 24 cm<sup>2</sup>**

**Explanation:** Area of triangle =  $\frac{1}{2} \times \text{base} \times \text{height}$

$$= \frac{1}{2} \times 6 \times 8$$

$$= 24 \text{ cm}^2$$

*Marking: 1 mark for correct answer*

**Q9. Answer: (d) 10000**

**Explanation:**  $10^4 = 10 \times 10 \times 10 \times 10 = 10,000$

*Marking: 1 mark for correct answer*

**Q10. Answer: (b) 4<sup>6</sup>**

**Explanation:** Using  $(a^m)^n = a^{m \times n}$

$$(4^3)^2 = 4^{3 \times 2} = 4^6$$

*Marking: 1 mark for correct answer*

**Q11. Answer: (a) 2**

**Explanation:** In  $a^n$ , 'a' is the base and 'n' is the exponent. In  $2^5$ , base = 2

*Marking: 1 mark for correct answer*

**Q12. Answer: (c) 7**

**Explanation:** The constant term is the term without any variable. In  $4x^2 - 3x + 7$ , the constant is 7.

Marking: 1 mark for correct answer

**Q13. Answer: (b)  $7y$**

**Explanation:** A monomial has only one term.  $7y$  is a single term expression.

Marking: 1 mark for correct answer

**Q14. Answer: (d) 12**

**Explanation:** A cuboid has 12 edges, 6 faces, and 8 vertices.

Marking: 1 mark for correct answer

**Q15. Answer: (b) 1 curved surface, 0 edges, 0 vertices**

**Explanation:** A sphere has one curved surface with no edges and no vertices.

Marking: 1 mark for correct answer

## SECTION B - FILL IN THE BLANKS / MATCH THE FOLLOWING - ANSWERS

**Q16. Answer: 0**

**Explanation:**  $0 = 0/1$  (zero can be written as a rational number)

*Marking: 1 mark for correct answer*

**Q17. Answer: proportion**

**Explanation:** When  $a/b = c/d$ , we say a, b, c, d are in proportion.

*Marking: 1 mark for correct answer*

**Q18. Answer: mode**

**Explanation:** Mode is the observation that occurs most frequently in the data.

*Marking: 1 mark for correct answer*

**Q19. Answer: Selling Price**

**Explanation:** Discount = Marked Price - Selling Price

*Marking: 1 mark for correct answer*

**Q20. Answer: Interest**

**Explanation:** Amount = Principal + Interest

*Marking: 1 mark for correct answer*

**Q21. Answer: perimeter**

**Explanation:** Perimeter is the sum of all sides of a polygon.

*Marking: 1 mark for correct answer*

**Q22. Answer: 100**

**Explanation:**  $1 \text{ cm}^2 = 10 \text{ mm} \times 10 \text{ mm} = 100 \text{ mm}^2$

*Marking: 1 mark for correct answer*

**Q23. Answer: -2**

**Explanation:** In  $10^{-2}$ , the exponent is -2 (negative exponent)

*Marking: 1 mark for correct answer*

**Q24. Answer: like**

**Explanation:** Terms with same variable factors are called like terms.

*Marking: 1 mark for correct answer*

**Q25. Answer: 4**

**Explanation:** A triangular pyramid (tetrahedron) has 4 triangular faces.

*Marking: 1 mark for correct answer*

**Q26-Q30. Matching Answers:**

**Q26. Area of circle → (d)  $\pi r^2$**

**Q27. Circumference of circle → (a)  $2\pi r$**

**Q28. Area of rhombus → (b)  $1/2 \times d_1 \times d_2$**

**Q29. Area of parallelogram → (c) base  $\times$  height**

**Q30.  $5^\circ \rightarrow$  (e) 1**

*Marking: 1 mark each for correct match (5 marks total)*

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## SECTION C - SHORT ANSWER QUESTIONS - ANSWERS

### Q31. Answer: Division of rational numbers

**Solution:**

$$4/7 \div 3/5$$

$$= 4/7 \times 5/3 \text{ (reciprocal of } 3/5 \text{ is } 5/3)$$

$$= (4 \times 5)/(7 \times 3)$$

$$= 20/21$$

**Answer: 20/21**

*Marking: 1 mark for reciprocal method, 1 mark for correct answer*

### Q32. Answer: Operations on rational numbers

**Solution:**

$$(-3/4) + (5/8) - (-1/2)$$

$$= (-3/4) + (5/8) + (1/2)$$

$$\text{LCM of } 4, 8, 2 = 8$$

$$= (-6/8) + (5/8) + (4/8)$$

$$= (-6 + 5 + 4)/8$$

$$= 3/8$$

**Answer: 3/8**

*Marking: 1 mark for finding LCM and converting, 1 mark for correct answer*

**Q33. Answer: Range and Mean**

**Solution:**

Heights: 140, 138, 142, 136, 145, 139, 141

**Range:**

Highest = 145 cm, Lowest = 136 cm

Range =  $145 - 136 = 9$  cm

**Mean:**

Sum =  $140 + 138 + 142 + 136 + 145 + 139 + 141 = 981$

Mean =  $981/7 = 140.14$  cm (or 140 cm approx)

**Answers: Range = 9 cm, Mean = 140 cm (approx)**

*Marking: 1 mark for range, 1 mark for mean*



**Q34. Answer: Unitary method**

**Solution:**

Cost of 8 books = ₹360

Cost of 1 book =  $360/8 = ₹45$

Cost of 5 books =  $45 \times 5 = ₹225$

**Answer: ₹225**

*Marking: 1 mark for unit cost, 1 mark for final cost*

**Q35. Answer: Profit percentage**

**Solution:**

CP = ₹40 per kg, SP = ₹50 per kg

Profit = SP - CP = 50 - 40 = ₹10 per kg

Profit% = (Profit/CP) × 100

= (10/40) × 100

= 25%

**Answer: 25%**

*Marking: 1 mark for profit, 1 mark for percentage*

**Q36. Answer: Perimeter of hexagon**

**Solution:**

A regular hexagon has 6 equal sides

Perimeter = 6 × side

= 6 × 5

= 30 cm

**Answer: 30 cm**

*Marking: 1 mark for formula, 1 mark for answer*

### Q37. Answer: Area of circle

**Solution:**

Radius = 14 cm

Area =  $\pi r^2$

$$= (22/7) \times 14 \times 14$$

$$= 22 \times 2 \times 14$$

$$= 616 \text{ cm}^2$$

**Answer: 616 cm<sup>2</sup>**

*Marking: 1 mark for formula, 1 mark for correct calculation*

### Q38. Answer: Product of powers

**Solution:**

$$(-1)^{2025} \times (-1)^{2024}$$

$$= (-1)^{2025+2024}$$

$$= (-1)^{4049}$$

Since 4049 is odd,  $(-1)^{4049} = -1$

**Answer: -1**

*Marking: 1 mark for applying law, 1 mark for correct answer*

### Q39. Answer: Standard form

**Solution:**

$$0.000045 = 45/1000000$$

$$= 4.5 \times 10/1000000$$

$$= 4.5 \times 10^{-5}$$

**Answer:  $4.5 \times 10^{-5}$**

*Marking: 1 mark for method, 1 mark for correct form*

#### **Q40. Answer: Multiplication of algebraic expressions**

**Solution:**

$$3a^2b \times 4ab^2$$

$$= 3 \times 4 \times a^2 \times a \times b \times b^2$$

$$= 12 \times a^3 \times b^3$$

$$= 12a^3b^3$$

**Answer:  $12a^3b^3$**

*Marking: 1 mark for multiplying coefficients and variables separately, 1 mark for correct answer*

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## SECTION D - LONG ANSWER QUESTIONS - ANSWERS

### Q41. Answer: Simplification of rational numbers

**Solution:**

$$(7/9 - 2/3) + (5/6 - 1/2)$$

Step 1: Solve first bracket

$$7/9 - 2/3 = 7/9 - 6/9 = 1/9$$

Step 2: Solve second bracket

$$5/6 - 1/2 = 5/6 - 3/6 = 2/6 = 1/3$$

Step 3: Add the results

$$1/9 + 1/3 = 1/9 + 3/9 = 4/9$$

**Answer: 4/9**

*Marking: 1 mark for each bracket, 1 mark for final addition (3 marks total)*

### Q42. Answer: Mean, Mode, and Range

**Given data:** 16, 12, 18, 14, 16, 20, 16, 15

**(i) Mean:**

$$\text{Sum} = 16 + 12 + 18 + 14 + 16 + 20 + 16 + 15 = 127$$

$$\text{Number of students} = 8$$

$$\text{Mean} = 127/8 = 15.875 \approx 15.88$$

**(ii) Mode:**

Arranging: 12, 14, 15, 16, 16, 16, 18, 20

16 appears 3 times (most frequent)

$$\text{Mode} = 16$$

**(iii) Range:**

$$\text{Range} = \text{Highest} - \text{Lowest} = 20 - 12 = 8$$

**Answers: (i) Mean = 15.88 (ii) Mode = 16 (iii) Range = 8**

*Marking: 1 mark each for mean, mode, and range (3 marks total)*

#### **Q43. Answer: Discount and profit calculation**

**Given:** MP = ₹25,000, Discount = 12%, Profit = 10%

**(i) Discount amount:**

Discount = 12% of 25,000

$$= (12/100) \times 25,000$$

$$= ₹3,000$$

**(ii) Selling Price:**

$$\text{SP} = \text{MP} - \text{Discount}$$

$$= 25,000 - 3,000$$

$$= ₹22,000$$

**(iii) Cost Price:**

$$\text{Profit} = 10\%, \text{SP} = ₹22,000$$

$$SP = CP + 10\% \text{ of } CP$$

$$22,000 = CP + 0.1 \times CP$$

$$22,000 = 1.1 \times CP$$

$$CP = 22,000/1.1$$

$$CP = ₹20,000$$

**Answers: (i) ₹3,000 (ii) ₹22,000 (iii) ₹20,000**

*Marking: 1 mark for discount, 1 mark for SP, 1 mark for CP (3 marks total)*

#### **Q44. Answer: Wire bent from rectangle to square**

**Given:** Rectangle length = 40 cm, breadth = 22 cm

##### **Step 1: Perimeter of rectangle**

$$\text{Perimeter} = 2(l + b)$$

$$= 2(40 + 22)$$

$$= 2 \times 62$$

$$= 124 \text{ cm}$$

##### **Step 2: Side of square**

When wire is rebent into square, perimeter remains same

$$4 \times \text{side} = 124$$

$$\text{side} = 124/4 = 31 \text{ cm}$$

##### **Step 3: Comparing areas**

$$\text{Area of rectangle} = 40 \times 22 = 880 \text{ cm}^2$$

$$\text{Area of square} = 31 \times 31 = 961 \text{ cm}^2$$

Square encloses more area ( $961 \text{ cm}^2 > 880 \text{ cm}^2$ )

**Answers: Side of square = 31 cm; Square encloses more area**

*Marking: 1 mark for side, 1 mark for each area, total 3 marks*

**Q45. Answer: Laws of exponents**

**(i)  $3^5 \times 3^2 \div 3^4$**

$$= 3^{5+2} \div 3^4$$

$$= 3^7 \div 3^4$$

$$= 3^{7-4}$$

$$= 3^3 = 27$$

**(ii)  $(2^2)^3 \times 2^0$**

$$= 2^6 \times 1$$

$$= 2^6 = 64$$

**(iii)  $5^7 \div 5^3$**

$$= 5^{7-3}$$

$$= 5^4 = 625$$

**Answers: (i) 27 (ii) 64 (iii) 625**

*Marking: 1 mark each for correct evaluation (3 marks total)*

## SECTION E - WORD PROBLEM BASED QUESTIONS - ANSWERS

### Q46. Answer: Recipe problem - Ratios and Proportions

**Given ratio:** Flour : Sugar : Butter = 3 : 2 : 1

**Flour used = 450 grams**

**(i) Sugar needed:**

If flour is 3 parts = 450 grams

1 part =  $450/3 = 150$  grams

Sugar (2 parts) =  $2 \times 150 = 300$  grams

**(ii) Butter needed:**

Butter (1 part) =  $1 \times 150 = 150$  grams

**(iii) Total weight:**

Total =  $450 + 300 + 150 = 900$  grams

**(iv) Butter as percentage:**

Percentage =  $(150/900) \times 100$

=  $(1/6) \times 100$

= 16.67% (or  $16\frac{2}{3}\%$ )

**Answers: (i) 300 g (ii) 150 g (iii) 900 g (iv) 16.67%**

Marking:  $1.5 + 1.5 + 1 + 1 = 5$  marks

**Q47. Answer: Swimming pool with path**

**Given:** Pool  $50\text{ m} \times 25\text{ m}$ , Path width =  $5\text{ m}$

**(i) Area of swimming pool:**

Area = length  $\times$  breadth

$$= 50 \times 25$$

$$= 1250\text{ m}^2$$

**(ii) Area of path:**

Dimensions with path:

$$\text{Length} = 50 + 5 + 5 = 60\text{ m}$$

$$\text{Breadth} = 25 + 5 + 5 = 35\text{ m}$$

$$\text{Total area} = 60 \times 35 = 2100\text{ m}^2$$

$$\text{Area of path} = 2100 - 1250 = 850\text{ m}^2$$

**(iii) Cost of cementing:**

Cost = Area  $\times$  Rate

$$= 850 \times 120$$

$$= ₹1,02,000$$

**Answers: (i)  $1250\text{ m}^2$  (ii)  $850\text{ m}^2$  (iii) ₹1,02,000**

Marking:  $1 + 2 + 2 = 5$  marks

**Q48. Answer: Simple Interest problem**

**Deposit:**  $P_1 = ₹15,000$ ,  $R_1 = 6\%$ ,  $T = 3$  years

**Loan:**  $P_2 = ₹10,000$ ,  $R_2 = 8\%$ ,  $T = 3$  years

**(i) Interest received on deposit:**

$$SI_1 = (P_1 \times R_1 \times T) / 100$$

$$= (15,000 \times 6 \times 3) / 100$$

$$= 270,000 / 100$$

$$= ₹2,700$$

**(ii) Interest paid on loan:**

$$SI_2 = (P_2 \times R_2 \times T) / 100$$

$$= (10,000 \times 8 \times 3) / 100$$

$$= 240,000 / 100$$

$$= ₹2,400$$

**(iii) Net gain/loss:**

Interest received = ₹2,700

Interest paid = ₹2,400

Net gain =  $2,700 - 2,400 = ₹300$

Rahul has a net gain of ₹300

**Answers: (i) ₹2,700 (ii) ₹2,400 (iii) Net gain of ₹300**

*Marking: 1.5 + 1.5 + 2 = 5 marks*

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## Marking Summary

Section	Question Type	Total Marks
Section A	Multiple Choice Questions (15 × 1)	15 marks
Section B	Fill in the Blanks / Match (15 × 1)	15 marks
Section C	Short Answer Questions (10 × 2)	20 marks
Section D	Long Answer Questions (5 × 3)	15 marks
Section E	Word Problem Based (3 × 5)	15 marks
<b>TOTAL</b>		<b>80 marks</b>



### Chapter-wise Coverage (Paper 3):

- **Ch 8: Rational Numbers** - Operations, standard form, rational numbers between two numbers (20 marks)
- **Ch 3: Data Handling** - Mean, mode, median, range, bar graphs (13 marks)
- **Ch 7: Comparing Quantities** - Unitary method, profit/loss, discount, SI (22 marks)
- **Ch 9: Perimeter and Area** - All shapes including circle, matching formulas (15 marks)
- **Ch 11: Exponents and Powers** - Laws of exponents, standard form, negative exponents (8 marks)

- **Ch 10: Algebraic Expressions** - Like terms, multiplication, constants (5 marks)
- **Ch 13: Visualising Solid Shapes** - Properties of 3D shapes (2 marks)

### Special Features - Paper 3:

- ✓ Completely different questions from Papers 1 & 2
- ✓ Match the Following section for better conceptual understanding
- ✓ Advanced word problems with multi-step solutions
- ✓ Real-life applications: Recipe ratios, swimming pool design, banking transactions
- ✓ Negative exponents and standard form with very small numbers
- ✓ Comprehensive coverage of all NCERT topics
- ✓ Step-by-step solutions with clear explanations
- ✓ Emphasis on conceptual clarity over rote learning

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Paper 3 Coverage: Rational Number Operations & Properties | Statistical Measures (Mean, Mode, Median, Range)  
| Profit, Loss, Discount & Simple Interest | Complete Area & Perimeter Formulas | Exponents with Negative Powers  
| Algebraic Multiplication | 3D Shape Properties

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