ZIAUDDIN UNIVERSITY
EXAMINATION BOARD

Total Time 3 hours
Total Marks: 75

Class: IX
Time Allowed: 20 minutes
Q1:

MODEL PAPER 2026
SUBJECT: GENERAL MATHEMATICS
SECTION "A" (MULTIPLE CHOICE QUESTIONS)

Marks: 15

Note: Attempt **ALL** the MCQs from Section "A". Each MCQ carries **ONE** mark.

1. If two partners invest Rs. 30,000 and Rs. 20,000 respectively, and the profit is Rs. 10,000, how much will the first partner get?
   A. Rs. 5,000
   B. C. Rs. 7,000
   B. Rs. 6,000
   D. Rs. 8,000

2. What is a demand draft?
   A. A written order to pay a specific amount
   C. A written request to receive a specific amount
   B. A written promise to pay a specific amount
   D. A written instruction to transfer funds

3. A recipe for making cookies requires a ratio of 2 cups of flour to 1 cup of sugar. If you want to make a batch of cookies that requires 6 cups of flour, how many cups of sugar do you need?
   A. 2 cups.
   B. 3 cups.
   C. 4 cups.
   D. 6 cups.

4. A trader buys a product for Rs. 1,200 and sells it for Rs. 1,500. What is the profit percentage?
   A. 20%.
   B. 22%.
   C. 25%.
   D. 30%.

5. Three friends, A, B, and C, start a business with investments of Rs. 20,000, Rs. 30,000, and Rs. 50,000 respectively. If they make a profit of Rs. 20,000, how much will C get if the profit is distributed according to their investments?
   A. Rs. 4,000.
   B. Rs. 6,000.
   C. Rs. 8,000.
   D. Rs. 10,000.

6. What type of bank account is suitable for frequent transactions and daily expenses?
   A. Current account.
   C. Fixed deposit account.
   B. Savings account.
   D. Recurring deposit account.

7. What is the difference between a Debit card and a Credit card?
   A. Debit card allows borrowing; a credit card doesn't.
   B. Debit card has no fees; credit card has fees
   C. Debit card uses your own money; credit card uses borrowed money.
   D. Debit card is for online transactions; credit card is for offline transactions.

8. If the principal amount is Rs. 5,000 and the profit/markup is Rs. 500, what is the rate of profit/markup?
   A. 5%.
   B. 10%.
   C. 15%.
   D. 20%.

9. What is the purpose of sales tax?
   A. To tax individual income.
   C. To tax imports and exports.
   B. To tax property ownership.
   D. To Tax goods and services sold.

10. A person owns a property worth Rs. 2,000,000 and pays 1% property tax. How much tax will he pay?
    A. Rs. 15,000.
    B. Rs. 20,000.
    C. Rs. 25,000.
    D. Rs. 30,000.

11. What is the simplified form of $\sqrt{16x^2}$?
    A. 2x.
    B. 4x.
    C. 8x.
    D. 16x.

12. What is the Law of Logarithm for $\log\frac{a}{b}$?
    A. log(a) - log(b).
    B. log(a) + log(b).
    C. log(a) × log(b).
    D. log(a) / log(b).

13. What is the scientific notation of 456,000?
    A. 4.56×10^4
    B. 456×10^3
    C. 45.6×10^4
    D. 4.56×10^5

14. What is the main purpose of a grouped frequency table?
    A. To display individual data points
    C. To calculate mean and median
    B. To summarize large datasets
    D. To create histograms

15. What is weighted mean used for?
    A. To calculate average of equal weights
    C. To calculate median
    B. To calculate average of unequal weights
    D. To calculate mode

_____**END OF SECTION "A"**_____

ZIAUDDIN UNIVERSITY EXAMINATION BOARD

Class: IX

MODEL PAPER 2026

Time: 2 hours 40 minutes SUBJECT: GENERAL MATHEMATICS (SECTION "B" & SECTION "C") Total Marks 60

SECTION "B" (SHORT ANSWER QUESTIONS) 30 Marks

Note: Attempt any **SIX** questions from Section "B". Each question carries **FIVE** marks**.**

Q.2 Identify the original amount if a product is priced at Rs 1 200 after a 20 % discount.

Q.3 Identify the missing term in the ratio 4 : ? if it is equivalent to 2 : 7.

Q.4 If 3 kg of sugar costs Rs. 120, how much will 7 kg of sugar cost?

Q.5 A shopkeeper sells a chair for Rs. 900 and makes a profit of 20%. Find the cost price of the chair?

Q.6 Explain the concept of negotiable instruments in the banking system.

Q.7 What is the difference between direct and indirect taxes? Provide examples of each.

Q.8 Find the sum of the first 10 terms of the arithmetic sequence: 3, 6, 9, 12, ...

Q.9 Insert 2 geometric means between 4 and 108.

Q.10 If A = {a, b, c}, Q = {x, y, z} and R = {p, q, r, s} then find:

    (i) a function f from P into Q.
    (ii) a function h from P to R which is injective.

Q.11 The graph shows miles vs kilometers; if 5 miles $\approx$ 8 km, read the kilometer value for 12 miles.

SECTION "C" (DETAILED ANSWER QUESTIONS) 30 Marks

Note: Attempt any **THREE** questions from Section "C". Each question carries **TEN** marks**.**

Q.12 The number of books read by 28 pupils in a month:
1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, 6, 6, 6, 7, 7, 7, 7, 8, 8, 8, 9, 9, 9, 10, 10.

Form a grouped frequency table with class width 2 starting at 1-2, 3-4, 5-6, 7-8, 9-10.

Q.13 A bank offers a loan of Rs. 200,000 at an interest rate of 15% per annum for 5 years. Calculate the markup (interest) on the loan.

Q.14 Reduce the following rational expression to its lowest form:
$$\frac{(x^2-x)\,(x^2-5x+6)}{2x\,(x^2-3x+2)}$$

Q.15 If A = {1, 2, 3, 4, 6, 12} and B = {4, 6, 8, 9, 10, 12}, then verify the commutative property of union and intersection.

Q.16 Calculate the range, variance and standard deviation for the ungrouped marks: 48, 56, 63, 71, 79.

END OF PAPER

Answer Key- Sec A
General Mathematics IX Model Examination Paper 2026

S #	Option
1	B
2	A
3	B
4	C
5	D
6	A
7	C
8	B
9	D
10	B
11	B
12	A
13	A
14	B
15	B

Rubric

Model Examination Paper 2026

Class: IX   **Subject: General Mathematics**   **Section: B**

Q.2 Identify the original amount if a product is priced at Rs 1 200 after a 20 % discount.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Attempts to calculate original amount but incorrect method - Shows limited understanding of percentage discount concept - Lacks specific steps or explanations about calculation - Fails to address the question	- Calculates original amount with minor errors or omissions - Shows some understanding of reversing percentage discount - Provides some explanation or steps about calculation - Addresses most parts of the question	- Correctly calculates original amount (Rs 1500) - Shows clear understanding of percentage discount reversal - Provides clear explanation or steps about calculation - Addresses all parts of the question effectively

Q.3 Identify the missing term in the ratio 4 : ? if it is equivalent to 2 : 7.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Attempts to find missing term but incorrect method - Shows limited understanding of equivalent ratios - Lacks specific steps or explanations about calculation - Fails to address the question	- Calculates missing term with minor errors or omissions - Shows some understanding of ratio equivalence - Provides some explanation or steps about calculation - Addresses most parts of the question	- Correctly identifies missing term (14) - Shows clear understanding of equivalent ratios - Provides clear explanation or steps about calculation - Addresses all parts of the question effectively

Q.4 If 3 kg of sugar costs Rs. 120, how much will 7 kg of sugar cost?

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Fails to find cost per kg. - Does not apply proportion correctly. - Incorrect final answer.	- Calculates cost per kg (Rs. 120 ÷ 3 kg = Rs. 40 per kg). - Applies multiplication to find cost for 7 kg (Rs. 40 per kg × 7 kg = Rs. 280). - Arrives at correct final answer.	- Clearly calculates cost per kg (Rs. 120 ÷ 3 kg = Rs. 40 per kg). - Accurately finds cost for 7 kg (Rs. 40 per kg × 7 kg = Rs. 280). - Verifies calculation for accuracy. - Final Answer: Rs. 280

Q.5 A shopkeeper sells a chair for Rs. 900 and makes a profit of 20%. Find the cost price of the chair?

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Fails to set up profit equation. - Does not calculate cost price. - Incorrect final answer.	- Sets up profit equation (Selling Price = Cost Price + Profit). - Calculates cost price using formula (Cost Price = Selling Price / 1.2). - Finds correct cost price (Rs. 900 / 1.2 = Rs. 750).	- Clearly sets up profit equation (Selling Price = Cost Price + 20% of Cost Price). - Accurately calculates cost price (Cost Price = Rs. 900 / 1.2 = Rs. 750). - Verifies calculation for accuracy. - Final Answer: Rs. 750

Q.6 Explain the concept of negotiable instruments in the banking system.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Fails to define negotiable instruments. - Does not recognize types (e.g., checks, bills). - Lacks understanding of banking role.	- Defines negotiable instruments (transferable documents). - Recognizes types (e.g., checks, promissory notes). - Identifies banking functions (e.g., payment, settlement).	- Thoroughly explains negotiable instruments (transferable, unconditional). - Provides nuanced understanding of types and characteristics. - Demonstrates in-depth knowledge of banking applications (e.g., clearing, settlement processes). - Offers insightful analysis of benefits (e.g., convenience, security).

Q.7 What is the difference between direct and indirect taxes? Provide examples of each.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Fails to define direct taxes. - Does not recognize indirect taxes. - Lacks examples.	- Defines direct taxes (tax on income, e.g., income tax). - Defines indirect taxes (tax on goods/services, e.g., sales tax). - Provides basic examples (direct: income tax, indirect: VAT).	- Clearly explains direct taxes (levied on individuals, e.g., income tax, property tax). - Thoroughly explains indirect taxes (levied on transactions, e.g., sales tax, customs duty). - Provides nuanced examples and comparisons. - Demonstrates understanding of implications (e.g., tax burden, revenue generation).

Q.8 Find the sum of the first 10 terms of the arithmetic sequence: 3, 6, 9, 12, ...

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Fails to identify sequence pattern (common difference = 3). - Does not apply sum formula. - Incorrect final answer.	- Identifies sequence pattern (common difference = 3). - Applies sum formula ($S_n = n/2 * (a_1 + a_n)$). - Calculates sum correctly ($S_{10} = 10/2 * (3 + 30) = 5 * 33 = 165$).	- Clearly identifies sequence pattern and formula ($a_n = a_1 + (n-1)d$). - Accurately calculates last term ($a_{10} = 3 + 9*3 = 30$). - Applies sum formula correctly ($S_{10} = 10/2 * (3 + 30) = 165$). - Final Answer: {165}

Q.9 Insert 2 geometric means between 4 and 108.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Fails to identify geometric sequence. - Does not apply formula for geometric mean. - Incorrect final answer.	- Identifies geometric sequence and formula ($a_n = a_1 * r^{(n-1)}$). - Calculates common ratio ($r^3 = 108/4 = 27$, $r = 3$). - Finds geometric means ($4*3 = 12$, $12*3 = 36$).	- Clearly identifies geometric sequence and formula. - Accurately calculates common ratio ($r = 3$). - Finds correct geometric means (12 and 36). - Verifies solution (4, 12, 36, 108 forms a geometric sequence). - Final Answer: {12, 36}

Q.10 If A = {a, b, c}, Q = {x, y, z} and R = {p, q, r, s} then find:

(i) a function f from P into Q.

(ii) a function h from P to R which is injective.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Fails to define a function from A to Q. - Does not provide an injective function from A to R. - Lacks understanding of function properties.	- Defines a function f from A to Q (e.g., f(a) = x, f(b) = y, f(c) = z). - Recognizes injective function requirements (one-to-one). - Provides a function h from A to R that is injective (e.g., h(a) = p, h(b) = q, h(c) = r).	- Clearly defines a function f from A to Q with specific mappings. - Thoroughly explains injective function h from A to R (one-to-one correspondence). - Provides correct examples of both functions (f and h). - Demonstrates understanding of function properties (domain, codomain, range). - Final Answer for (i): {f = \{(a, x), (b, y), (c, z)\}} - Final Answer for (ii): {h = \{(a, p), (b, q), (c, r)\}}

Q.11 The graph shows miles vs kilometers; if 5 miles ≈ 8 km, read the kilometer value for 12 miles.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
Description	Provides no response or provides irrelevant response	- Attempts to read graph but incorrect value - Shows limited understanding of miles-kilometers conversion - Lacks specific explanation about graph reading - Fails to address the question	- Reads graph with minor errors or approximations - Shows some understanding of conversion ratio - Provides some explanation about graph reading - Addresses most parts of the question	- Correctly reads kilometer value for 12 miles (≈ 19.2 km) - Shows clear understanding of conversion ratio - Provides clear explanation about graph reading - Addresses all parts of the question effectively

Rubric

Class: IX   **Subject: General Mathematics**   **Section: C**

Q.12 The number of books read by 28 pupils in a month: 1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, 6, 6, 6, 7, 7, 7, 7, 8, 8, 8, 9, 9, 9, 10, 10.

Form a grouped frequency table with class width 2 starting at 1-2, 3-4, 5-6, 7-8, 9-10.

Level	Unsatisfactory	Marginal	Satisfactory	Good	Exemplary
Max. Marks	0	1-3	4-5	6-7	8-10
Description	Provides no response or provides irrelevant response	- Attempts to group data but incorrect table - Shows little understanding of frequency tables - Lacks specific tally marks or counts - Fails to address the question	- Forms grouped frequency table with some errors - Shows some understanding of data grouping - Provides limited tally marks or frequency counts - Addresses some parts of the question	- Forms correct grouped frequency table with minor issues - Shows clear understanding of frequency distribution - Provides accurate tally marks and frequency counts - Addresses most parts of the question	- Forms accurate grouped frequency table - Shows in-depth understanding of data organization - Provides precise tally marks and frequency counts - Addresses all parts of the question effectively

Q.13 A bank offers a loan of Rs. 200,000 at an interest rate of 15% per annum for 5 years. Calculate the markup (interest) on the loan.

Level	Unsatisfactory	Marginal	Satisfactory	Good	Exemplary
Max. Marks	0	1-3	4-5	6-7	8-10
Description	Provides no response or provides irrelevant response	- Fails to understand interest calculation. - Does not apply formula for simple interest. - Lacks calculation of markup.	- Recognizes formula for simple interest (Interest = Principal × Rate × Time). - Calculates interest correctly (Interest = 200,000 × 0.15 × 5 = 150,000). - May lack clarity in calculation steps.	- Accurately calculates interest (Rs. 150,000) using simple interest formula. - Clearly shows calculation steps (Principal = 200,000, Rate = 15%, Time = 5 years). - Understands interest as markup on loan.	- Clearly understands simple interest calculation principles. - Accurately calculates interest (Rs. 150,000) with precise calculation steps. - Provides final answer with clarity and Final Answer: Rs. 150,000.

Q.14 Reduce the following rational expression to its lowest form:

$$\frac{(x^2-x)\,(x^2-5x+6)}{2x\,(x^2-3x+2)}$$

Level	Unsatisfactory	Marginal	Satisfactory	Good	Exemplary
Max. Marks	0	1-3	4-5	6-7	8-10
Description	Provides no response or provides irrelevant response	- Fails to factor numerator or denominator. - Does not simplify expression. - Lacks understanding of algebraic manipulation.	- Factors numerator ((x^2-x) = x(x-1), (x^2-5x+6) = (x-2)(x-3)). - Factors denominator (2x(x^2-3x+2) = 2x(x-1)(x-2)). - Attempts to simplify but may have errors.	- Accurately factors numerator and denominator. - Simplifies expression by canceling common factors (x(x-1)(x-2)(x-3) / 2x(x-1)(x-2)). - Reduces to lowest form ((x-3)/2).	- Clearly factors numerator and denominator with precision. - Accurately simplifies expression to lowest form ((x-3)/2). - Verifies simplification for accuracy and Final Answer: {x-3/2}}.

Q.15 If A = {1, 2, 3, 4, 6, 12} and B = {4, 6, 8, 9, 10, 12}, then verify the commutative property of union and intersection.

Level	Unsatisfactory	Marginal	Satisfactory	Good	Exemplary
Max. Marks	0	1-3	4-5	6-7	8-10
Description	Provides no response or provides irrelevant response	- Fails to find union or intersection of sets A and B. - Does not understand commutative property. - Lacks set operation calculations.	- Finds union of sets A and B (A ∪ B = {1, 2, 3, 4, 6, 8, 9, 10, 12}). - Finds intersection of sets A and B (A ∩ B = {4, 6, 12}). - Attempts to verify commutative property.	- Accurately finds union and intersection of sets A and B. - Verifies commutative property of union (A ∪ B = B ∪ A). - Verifies commutative property of intersection (A ∩ B = B ∩ A).	- Clearly finds union and intersection of sets A and B with precision. - Accurately verifies commutative property for both union and intersection. - Provides correct results with clarity (A ∪ B = B ∪ A = {1, 2, 3, 4, 6, 8, 9, 10, 12} and A ∩ B = B ∩ A = {4, 6, 12}). - Verifies commutative property of intersection (A ∩ B = B ∩ A).

Q. 16 Calculate the range, variance and standard deviation for the ungrouped marks: 48, 56, 63, 71, 79.

Level	Unsatisfactory	Marginal	Satisfactory	Good	Exemplary
Max. Marks	0	1-3	4- 5	6-7	8-10
Description	Provides no response or provides irrelevant response	- Attempts calculations but incorrect values - Shows little understanding of range, variance, SD concepts - Lacks specific steps or explanations about calculations - Fails to address the question	- Calculates range correctly (31) - Shows some understanding of variance and SD concepts - Provides limited steps or explanations about calculations - Addresses some parts of the question	- Calculates range (31) and variance (≈ 146.96) correctly - Shows clear understanding of SD concept - Provides some explanations about calculations - Addresses most parts of the question	- Correctly calculates range (31), variance (≈ 146.96), SD (≈ 12.12) - Shows in-depth understanding of measures of dispersion - Provides clear steps and explanations about calculations - Addresses all parts of the question effectively