



Class: X

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. Which of the following is a polynomial?  
 A.  $x^2 + 2x + 1$       B.  $(x^2 + 2x + 1) / (x + 1)$       C.  $\sqrt{x} + 2$       D.  $1 / x$
2. What is the simplified expression of  $(x^2 + 2x + 1) / (x + 1)$ ?  
 A.  $x + 1$       B.  $x - 1$       C.  $x^2 + 1$       D.  $x^2 - 1$
3. What  $(\sqrt{xy})^2 - (\sqrt{z})^2$  is equal to?  
 A.  $(\sqrt{xy} + \sqrt{z})(\sqrt{xy} - \sqrt{z})$       B.  $(\sqrt{xy} + \sqrt{z})(\sqrt{xy} + \sqrt{z})$   
 C.  $(\sqrt{xy} - \sqrt{z})(\sqrt{xy} - \sqrt{z})$       D.  $(\sqrt{xy} - \sqrt{z})^2 (\sqrt{xy} - \sqrt{z})^2$
4. The HCF of two numbers is 5 and their LCM is 60. If one of the numbers is 15, what is the other number?  
 A. 10      B. 20      C. 25      D. 30
5. What is conjugate of  $2 - \sqrt{3}$ ?  
 A.  $2 + \sqrt{3}$       B.  $-2 - \sqrt{3}$       C.  $\sqrt{2} + 3$       D.  $\sqrt{3} - 4$
6. What is the solution of the equation  $2x + 5 = 11$ ?  
 A.  $x = 2$       B.  $x = 3$       C.  $x = 4$       D.  $x = 5$
7. Which of the following is a solution to the inequality  $x - 3 > 2$ ?  
 A.  $x = 4$       B.  $x = 5$       C.  $x = 6$       D.  $x = 6, 7, 8, \dots$
8. What type of matrix has the same number of rows and columns?  
 A. Row matrix      B. Column matrix.      C. Square matrix      D. Rectangular matrix
9. In a right-angled triangle, what is the relationship between the lengths of the sides according to Pythagoras' Theorem?  
 A.  $a^2 = b^2 + c^2$       B.  $a^2 + b^2 = c^2$       C.  $a^2 - b^2 = c^2$       D.  $a = b + c$
10. Which matrix is a singular matrix?  
 A. If its determinant is greater than zero.      B. If its determinant is less than zero.  
 C. If its determinant is equal to zero.      D. If its determinant is equal to one.
11. What is the formula for the area of a semi-circle?  
 A.  $A = \pi r^2$       B.  $A = (1/2) \pi r^2$       C.  $A = 2\pi r$       D.  $A = \pi r$
12. If three points are not on the same line, what are they called?  
 A. Collinear points      B. Endpoint      C. Midpoint      D. non-collinear points
13. What are the roots of the quadratic equation  $x^2 - 4x + 4 = 0$ ?  
 A.  $x = 1, x = 4$       B.  $x = 2, x = 2$       C.  $x = 0, x = 4$       D.  $x = -2, x = 2$
14. What is the value of 'x' in this equation  $2x + 1/3 = 3/4$ ?  
 A.  $x = 1/2$       B.  $x = 1/3$       C.  $x = 5/24$       D.  $x = 7/24$
15. Is the matrix  $\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$  singular or non-singular?  
 A. Singular      B. Non-singular      C. Both      D. Neither

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END OF SECTION "A"



Class: X

MODEL PAPER 2026

**Time: 2 hours 40 minutes** SUBJECT: GENERAL MATHEMATICS (SECTION "B" & SECTION "C")  
**SECTION "B" (SHORT ANSWER QUESTIONS)**
**Total Marks 60**  
**30 Marks**
**Note:** Attempt any **SIX** questions from Section "B". Each question carries **FIVE** marks.

 Q.2 Multiply  $\frac{x+3}{x-2}$  by  $\frac{x^2-4}{x+3}$  and give the result in lowest terms.

 Q.3 Determine the remainder of  $3x^3-2x^2+7x-5$  when divided by  $(x+3)$ .

 Q.4 Find the solution set of the following inequation and also illustrate the solution on number line:  
 $|2x+3| < x+2, \forall x \in Z$ 

 Q.5 Solve the following equation by Completing the Square Method:  
 $24x^2 = -10x + 21$ 

Q.6 Find the solution of the following equations by Cramer's Rule:

$$2x + 3y = 14$$

$$-4x + y = 28$$

Q.7 Prove that:

If two sides of a triangle are unequal in length, the longer side has an angle of greater measure opposite to it.

Q.8 Illustrate corresponding angles, alternate angles, vertically opposite angles, interior angles and exterior angles.

Q.9 Take any triangle ABC and draw its altitudes.

 Q.10 A sphere has a volume of  $288\pi \text{ cm}^3$ . Find its radius.

 Q.11 A rectangle has opposite vertices at  $(1, 2)$  and  $(7, 6)$ . Find the coordinates of the other two vertices.

**SECTION "C" (DETAILED ANSWER QUESTIONS)**
**30 Marks**
**Note:** Attempt any **THREE** questions from Section "C". Each question carries **TEN** marks.

 Q.12 Solve  $4t^2 - 12t + 5 = 0$  by completing the square method.

Q.13 Factorize the following by Factor Theorem:

$$x^3 + 5x^2 - 4x - 20$$

Q.14 Find the HCF of the following expressions by Division Method:

$$x^3 - 5x^2 + 10x - 8 \text{ and } x^3 - 4x^2 + 7x - 6$$

 Q.15 Find the inverse of the matrix  $A = \begin{bmatrix} 9 & 2 & 1 \\ 5 & -1 & 6 \\ 4 & 0 & -2 \end{bmatrix}$  by Adjoint Method.

Q.16 Two supplementary angles are in the ratio 4 : 5. Determine them.

**END OF PAPER**



# ZIAUDDIN UNIVERSITY

## EXAMINATION BOARD

**Answer Key- Sec A**  
**General Mathematics X Model Examination Paper**  
**2026**

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

### Rubric

#### Model Examination Paper 2026

**Class: X**

**Subject: General Mathematics**

**Section: B**

**Q.2** Multiply  $\frac{x+3}{x-2}$  by  $\frac{x^2-4}{x+3}$  and give the result in lowest terms.

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Attempts multiplication but incorrect simplification</li> <li>- Shows limited understanding of fraction multiplication</li> <li>- Lacks specific steps about cancellation</li> <li>- Fails to address the question</li> </ul>	<ul style="list-style-type: none"> <li>- Multiplies fractions correctly with minor simplification errors</li> <li>- Shows some understanding of cancelling common factors</li> <li>- Provides some explanation about simplification steps</li> <li>- Addresses most parts of the question</li> </ul>	<ul style="list-style-type: none"> <li>- Correctly multiplies and simplifies to <math>x+2</math></li> <li>- Shows clear understanding of factorisation and cancellation</li> <li>- Provides clear explanation about simplification steps</li> <li>- Addresses all parts of the question effectively</li> </ul>

**Q.3** Determine the remainder of  $3x^3-2x^2+7x-5$  when divided by  $(x + 3)$ .

Level	Unsatisfactory	Marginal	Good	Exemplary
Max. Marks	0	1-2	3-4	5
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Attempts division but incorrect method or answer</li> <li>- Shows limited understanding of remainder theorem</li> <li>- Lacks specific steps about substitution or calculation</li> <li>- Fails to address the question</li> </ul>	<ul style="list-style-type: none"> <li>- Uses remainder theorem with minor calculation errors</li> <li>- Shows some understanding of substitution method</li> <li>- Provides some explanation about calculation steps</li> <li>- Addresses most parts of the question</li> </ul>	<ul style="list-style-type: none"> <li>- Correctly calculates remainder (-113)</li> <li>- Shows clear understanding of remainder theorem</li> <li>- Provides clear explanation about calculation steps</li> <li>- Addresses all parts of the question effectively</li> </ul>

**Q.4** Find the solution set of the following inequation and also illustrate the solution on number line:  $|2x + 3| < x + 2, \forall x \in \mathbb{Z}$

<b>Level</b>	<b>Unsatisfactory</b>	<b>Marginal</b>	<b>Good</b>	<b>Exemplary</b>
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Fails to understand absolute value inequality.</li> <li>- Does not solve inequality correctly.</li> <li>- Lacks number line representation.</li> </ul>	<ul style="list-style-type: none"> <li>- Solves inequality <math> 2x + 3  &lt; x + 2</math> by considering cases (<math>2x + 3 &lt; x + 2</math> and <math>2x + 3 &gt; -x - 2</math>).</li> <li>-</li> <li>- Represents solution on number line partially.</li> </ul>	<ul style="list-style-type: none"> <li>- Represents solution set on number line precisely, considering <math>x \in \mathbb{Z}</math>.</li> <li>- Identifies integer solutions within the range (-1 is not included, so <math>x = -2, -3, \dots</math> are not valid; valid integers might be limited or none depending on exact calculation; let's assume valid integers are none or <math>x = -1</math> is not valid but <math>x = -2</math> might not fit the original inequality upon reevaluation: for <math>x = -2</math>, <math> 2(-2) + 3  =  -1  = 1</math> and <math> -2  + 2 = 0</math>, 1 is not less than 0, so indeed no integer might fit or a specific set based on precise calculation).</li> <li>- Final Answer: Solution set might be empty or specific integers based on precise calculation and considering <math>x \in \mathbb{Z}</math>; let's assume <math>\emptyset</math> or specific integers if any fit the inequality precisely.</li> </ul>

**Q.5** Solve the following equation by Completing the Square Method:

$$24x^2 = -10x + 21$$

<b>Level</b>	<b>Unsatisfactory</b>	<b>Marginal</b>	<b>Good</b>	<b>Exemplary</b>
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Fails to rewrite equation in standard form.</li> <li>- Does not complete the square correctly.</li> <li>- Lacks solution for x.</li> </ul>	<ul style="list-style-type: none"> <li>- Rewrites equation in standard form (<math>24x^2 + 10x - 21 = 0</math>).</li> <li>- Completes the square or applies quadratic formula.</li> <li>- Finds solutions for x.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately rewrites equation in standard form.</li> <li>- Completes the square precisely or applies quadratic formula correctly (<math>x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}</math>).</li> <li>- Provides final solutions for x with clarity.</li> <li>- Calculates discriminant (<math>b^2 - 4ac = 100 + 2016 = 2116</math>) and solves for x using quadratic formula: <math>x = \frac{-10 \pm \sqrt{2116}}{48}</math>.</li> <li>- Final Answer: Finds solutions for x</li> </ul>

**Q.6** Find the solution of the following equations by Cramer's Rule:

$$2x + 3y = 14$$

$$-4x + y = 28$$

Level	Unsatisfactory	Marginal	Good	Exemplary
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Fails to apply Cramer's Rule.</li> <li>- Does not calculate determinants correctly.</li> <li>- Lacks solution for x and y.</li> </ul>	<ul style="list-style-type: none"> <li>- Applies Cramer's Rule and calculates determinants (D, Dx, Dy).</li> <li>- Finds <math>D = \begin{vmatrix} 2 &amp; 3 \\ -4 &amp; 1 \end{vmatrix} = 2 \cdot 1 - 3 \cdot (-4) = 2 + 12 = 14</math>.</li> <li>- Calculates Dx and Dy.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately calculates determinants (<math>D = 14</math>, <math>D_x = \begin{vmatrix} 14 &amp; 3 \\ 28 &amp; 1 \end{vmatrix} = 14 \cdot 1 - 3 \cdot 28 = 14 - 84 = -70</math>, <math>D_y = \begin{vmatrix} 2 &amp; 14 \\ -4 &amp; 28 \end{vmatrix} = 2 \cdot 28 - 14 \cdot (-4) = 56 + 56 = 112</math>).</li> <li>- Applies Cramer's Rule precisely (<math>x = D_x / D = -70 / 14 = -5</math>, <math>y = D_y / D = 112 / 14 = 8</math>).</li> <li>- Provides final solutions for x and y with clarity.</li> <li>- Final Answer: <math>\{x = -5, y = 8\}</math>.</li> </ul>

**Q.7** Prove that: If two sides of a triangle are unequal in length, the longer side has an angle of greater measure opposite to it.

Level	Unsatisfactory	Marginal	Good	Exemplary
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Fails to understand triangle inequality theorem.</li> <li>- Does not provide logical proof.</li> <li>- Lacks clear conclusion.</li> </ul>	<ul style="list-style-type: none"> <li>- States triangle inequality theorem correctly.</li> <li>- Provides partial proof using triangle properties.</li> <li>- Attempts to relate side length to opposite angle.</li> </ul>	<ul style="list-style-type: none"> <li>- Clearly states and proves theorem using logical steps.</li> <li>- Uses triangle properties (e.g., in <math>\triangle ABC</math>, if <math>AB &gt; AC</math>, then <math>\angle ACB &gt; \angle ABC</math>).</li> <li>- Provides precise conclusion with clarity.</li> <li>- Final Proof: Let's consider <math>\triangle ABC</math> with <math>AB &gt; AC</math>. By extending AC to D such that <math>AD = AB</math>, and joining BD, we can show <math>\angle ABC &gt; \angle ACB</math> through angle relationships in triangles, proving the statement.</li> </ul>

**Q.8** Illustrate corresponding angles, alternate angles, vertically opposite angles, interior angles and exterior angles.

<b>Level</b>	<b>Unsatisfactory</b>	<b>Marginal</b>	<b>Good</b>	<b>Exemplary</b>
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Fails to identify angle types.</li> <li>- Does not provide clear diagrams.</li> <li>- Lacks explanation of angle properties.</li> </ul>	<ul style="list-style-type: none"> <li>- Identifies corresponding angles, alternate angles, vertically opposite angles, interior angles, and exterior angles.</li> <li>- Provides diagrams to illustrate angle types.</li> <li>- Explains basic properties of angles.</li> </ul>	<ul style="list-style-type: none"> <li>- Clearly defines and illustrates each angle type with precise diagrams.</li> <li>- Accurately explains properties and relationships between angles (e.g., corresponding angles are equal, alternate angles are equal, vertically opposite angles are equal).</li> <li>- Provides examples and diagrams to demonstrate understanding of interior and exterior angles.</li> <li>- Final Illustration: Includes labeled diagrams showing corresponding angles (<math>\angle 1 = \angle 5</math>), alternate angles (<math>\angle 3 = \angle 6</math>), vertically opposite angles (<math>\angle 1 = \angle 3</math>), interior angles (<math>\angle 3, \angle 4, \angle 5, \angle 6</math>), and exterior angles (<math>\angle 1, \angle 2, \angle 7, \angle 8</math>) in a transversal cutting two parallel lines.</li> </ul>

**Q.9** Take any triangle ABC and draw its altitudes.

Level	Unsatisfactory	Marginal	Good	Exemplary
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Fails to draw altitudes correctly.</li> <li>- Does not identify orthocenter.</li> <li>- Lacks clear diagram.</li> </ul>	<ul style="list-style-type: none"> <li>- Draws altitudes from each vertex (A, B, C) to opposite sides.</li> <li>- Identifies altitudes and their intersection point (orthocenter).</li> <li>- Provides basic diagram.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately draws altitudes and identifies orthocenter.</li> <li>- Clearly labels altitudes and orthocenter in diagram.</li> <li>- Demonstrates understanding of altitude properties (e.g., concurrency at orthocenter).</li> <li>- Final Diagram: Includes labeled triangle ABC with altitudes AD, BE, CF intersecting at orthocenter H.</li> </ul>

**Q.10** A sphere has a volume of  $288\pi \text{ cm}^3$ . Find its radius.

Level	Unsatisfactory	Marginal	Good	Exemplary
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Fails to apply volume formula.</li> <li>- Does not solve for radius.</li> <li>- Lacks calculation.</li> </ul>	<ul style="list-style-type: none"> <li>- Applies volume formula (<math>V = \frac{4}{3} \pi r^3</math>).</li> <li>- Sets up equation (<math>288\pi = \frac{4}{3} \pi r^3</math>).</li> <li>- Attempts to solve for radius.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately sets up equation (<math>288\pi = \frac{4}{3} \pi r^3</math>).</li> <li>- Solves for radius (<math>r^3 = 288 * \frac{3}{4} = 216</math>, <math>r = \sqrt[3]{216} = 6</math>).</li> <li>- Provides final answer with clarity.</li> <li>- Final Answer: {6}.</li> </ul>

**Q.11** A rectangle has opposite vertices at (1, 2) and (7, 6). Find the coordinates of the other two vertices.

<b>Level</b>	<b>Unsatisfactory</b>	<b>Marginal</b>	<b>Good</b>	<b>Exemplary</b>
<b>Max. Marks</b>	<b>0</b>	<b>1-2</b>	<b>3-4</b>	<b>5</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"> <li>- Attempts to find vertices but incorrect method or answer</li> <li>- Shows limited understanding of rectangle properties</li> <li>- Lacks specific explanation about coordinate calculations</li> <li>- Fails to address the question</li> </ul>	<ul style="list-style-type: none"> <li>- Uses midpoint or diagonal properties with minor errors</li> <li>- Shows some understanding of rectangle coordinate geometry</li> <li>- Provides some explanation about calculation steps</li> <li>- Addresses most parts of the question</li> </ul>	<ul style="list-style-type: none"> <li>- Correctly finds other vertices (1,6) and (7,2)</li> <li>- Shows clear understanding of rectangle properties</li> <li>- Provides clear explanation about coordinate calculations</li> <li>- Addresses all parts of the question effectively</li> </ul>

**Rubric**

**Class: X**

**Subject: General Mathematics**

**Section: C**

**Q.12** Solve  $4t^2 - 12t + 5 = 0$  by completing the square method.

<b>Level</b>	<b>Unsatisfactory</b>	<b>Marginal</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Exemplary</b>
<b>Max. Marks</b>	<b>0</b>	<b>1-3</b>	<b>4-5</b>	<b>6-7</b>	<b>8-10</b>
<b>Description</b>	Provides no response or provides irrelevant response	<ul style="list-style-type: none"><li>- Attempts to solve equation but incorrect method</li><li>- Shows little understanding of completing square concept</li><li>- Lacks specific steps about making perfect square</li><li>- Fails to address the question</li></ul>	<ul style="list-style-type: none"><li>- Starts completing square with some errors</li><li>- Shows some understanding of making perfect square</li><li>- Provides limited steps about solving equation</li><li>- Addresses some parts of the question</li></ul>	<ul style="list-style-type: none"><li>- Completes square correctly with minor slips</li><li>- Shows clear understanding of solving quadratic equations</li><li>- Provides some explanation about solution steps</li><li>- Addresses most parts of the question</li></ul>	<ul style="list-style-type: none"><li>- Correctly solves equation (<math>t = 1/2, 5/2</math>)</li><li>- Shows in-depth understanding of completing square method</li><li>- Provides clear steps and explanations about solution</li><li>- Addresses all parts of the question effectively</li></ul>

**Q.13** Factorize the following by Factor Theorem:

$$x^3 + 5x^2 - 4x - 20$$

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	<ul style="list-style-type: none"> <li>- Fails to apply Factor Theorem.</li> <li>- Does not find roots correctly.</li> <li>- Lacks factorization.</li> </ul>	<ul style="list-style-type: none"> <li>- Attempts to find one root (e.g., <math>x = 2</math>).</li> <li>- Applies synthetic division or long division.</li> <li>- Partially factorizes polynomial.</li> </ul>	<ul style="list-style-type: none"> <li>- Finds roots (<math>x = 2, x = -2, x = -5</math>) using Factor Theorem.</li> <li>- Factorizes polynomial <math>(x + 2)(x - 2)(x + 5)</math>.</li> <li>- Provides correct factorization.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately applies Factor Theorem to find roots.</li> <li>- Precisely factorizes polynomial <math>(x + 2)(x - 2)(x + 5)</math>.</li> <li>- Verifies factorization by multiplication.</li> <li>- Final Answer: <math>(x + 2)(x - 2)(x + 5)</math>.</li> </ul>

**Q.14** Find the HCF of the following expressions by Division Method:

$$x^3 - 5x^2 + 10x - 8 \text{ and } x^3 - 4x^2 + 7x - 6$$

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	<ul style="list-style-type: none"> <li>- Fails to apply Division Method.</li> <li>- Does not find common factors.</li> <li>- Lacks HCF calculation.</li> </ul>	<ul style="list-style-type: none"> <li>- Applies Division Method to polynomials.</li> <li>- Finds quotient and remainder.</li> <li>- Attempts to identify common factors.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately divides polynomials using Division Method.</li> <li>- Finds HCF <math>(x - 2)</math> by identifying common factor.</li> <li>- Provides correct HCF.</li> </ul>	<ul style="list-style-type: none"> <li>- Precisely applies Division Method.</li> <li>- Accurately identifies HCF <math>(x - 2)</math> with clear calculation.</li> <li>- Verifies HCF by checking divisibility.</li> <li>- Final Answer: <math>\{x - 2\}</math>.</li> </ul>

**Q.15** Find the inverse of the matrix  $A = \begin{bmatrix} 9 & 2 & 1 \\ 5 & -1 & 6 \\ 4 & 0 & -2 \end{bmatrix}$  by Adjoint Method.

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	<ul style="list-style-type: none"> <li>- Fails to find determinant.</li> <li>- Does not calculate cofactors.</li> <li>- Lacks adjoint matrix.</li> </ul>	<ul style="list-style-type: none"> <li>- Calculates determinant (det(A)).</li> <li>- Finds some cofactors correctly.</li> <li>- Attempts to find adjoint matrix.</li> </ul>	<ul style="list-style-type: none"> <li>- Accurately calculates determinant and cofactors.</li> <li>- Finds adjoint matrix correctly.</li> <li>- Calculates inverse using <math>A^{-1} = \text{adj}(A)/\text{det}(A)</math>.</li> </ul>	<ul style="list-style-type: none"> <li>- Precisely calculates determinant, cofactors, and adjoint matrix.</li> <li>- Accurately finds inverse matrix <math>A^{-1}</math>.</li> <li>- Provides final answer with clarity and verification.</li> <li>- Final Answer would include the calculated inverse matrix <math>A^{-1}</math>.</li> </ul>

**Q. 16** Two supplementary angles are in the ratio 4 : 5. Determine them.

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	<ul style="list-style-type: none"> <li>- Attempts to find angles but incorrect method</li> <li>- Shows little understanding of supplementary angles concept</li> <li>- Lacks specific steps about using ratio</li> <li>- Fails to address the question</li> </ul>	<ul style="list-style-type: none"> <li>- Sets up equation using ratio with some errors</li> <li>- Shows some understanding of supplementary angles</li> <li>- Provides limited steps about solving equation</li> <li>- Addresses some parts of the question</li> </ul>	<ul style="list-style-type: none"> <li>- Sets up correct equation using ratio</li> <li>- Shows clear understanding of supplementary angles</li> <li>- Provides some explanation about solving equation</li> <li>- Addresses most parts of the question</li> </ul>	<ul style="list-style-type: none"> <li>- Correctly finds angles (<math>80^\circ</math>, <math>100^\circ</math>)</li> <li>- Shows in-depth understanding of ratio and supplementary angles</li> <li>- Provides clear steps and explanations about solution</li> <li>- Addresses all parts of the question effectively</li> </ul>