STUDENT NAME		CLASS	New 1st Year (FSC/ICS)
PAPER CODE	12455	SUBJECT	Mathematics
TIME ALLOWED	60	TOTAL MARKS	25
Paper Date	03-02-2026	Paper Type	

Q1.   **Choose the correct answer.**   **5X1=5**

1. Point of intersection f(x)=2x+5 and g(x)= -x+5 is a point which satisfies:

(A) f(x)   **(B)** g(x)   **(C)** Both f(x) and g(x)   **(D)** None

2. Far table of graph we required minimum values of each function:

(A) 1   **(B)** 2   **(C)** 3   **(D)** 4

3. One root of equation x^2-3x+a=0 is 2, then a is:

(A) -2   **(B)** 2   **(C)** 3   **(D)** -3

4. Graph of quadratic equation will be:

(A) Straight line   **(B)** Curve   **(C)** Set of line   **(D)** none

5. A quadratic equation has degree:

(A) 0   **(B)** 1   **(C)** 2   **(D)** 3

Q2.   **write the answers of following questions.**   **10X2=20**

1. Find the maximum and minimum value of the following quadratic function by completing squares: $f(x) = x^2 + 6x + 13$

2. Find the inverse of the following quadratic function. Also find their domain and range: $f(x) = x^2 + 6x + 4, x < -3$

3. Solve the following absolute value quadratic equation and inequalities: $\left|2x^2 - 3x - 5\right| < 4$

4. Find the inverse of $f(x) = x^2 + 4x + 3, x \geq -2$. Also find its domain and range.

5. Solve the following: $\dfrac{a}{ax-1} + \dfrac{b}{bx-1} = a+b; x \neq \dfrac{1}{a}, \dfrac{1}{b}$

6. To do a piece of work. Adbaullah takes 10 days more than Abdul Hadi. Together they finish the work in 12 days. How long would Abdul Hadi take to finish it alone?

7.
The braking distance (in metres) of a car is modeled by: d(s)=0.02s^2 + 0.1s, where s is the speed of car in km/h. If the maximum safe braking distance is 50 metres, find the range of the speed where braking is safe.

8. Solve: $\left|x^2 - 6x - 4\right| < 3$

9. Solve the following: $\sqrt{2x+8} + \sqrt{x+5} = 7$

10. Solve the following: $\dfrac{x}{x+1} + \dfrac{x+1}{x} = \dfrac{5}{2}; x \neq -1, 0$