

## ECAT Mathematics Chapter 6 Quadratic Equations

Sr	Questions	Answers Choice
1	$w^{28} + w^{38} = \underline{\hspace{2cm}}$	A. 0 B. 1 C. w D. -1
2	Question Image <input style="width: 500px; height: 20px;" type="text"/>	A. 2 B. 4 C. 8 D. 16
3	Question Image <input style="width: 500px; height: 20px;" type="text"/>	
4	The roots of the equations will be equal if $b^2 - 4ac$ is	A. Positive B. Negative C. 1 D. Zero
5	If $x - 1$ is a factor of $x^4 - 5x^2 + 4$ then other factor is	A. $(x + 2)^2(x - 1)$ B. $(x + 2)(x - 1)^2$ C. $(x + 2)(x^2 - x - 2)$ D. $(x + 2)^2(x - 1)^2$
6	Let the equation $ax^2 - bx + c = 0$ have distinct real roots both lying in the open interval $(0, 1)$ where $a, b, c$ are given to be positive integers. Then the value of the ordered triplet $(a, b, c)$ can be	A. (5, 3, 1) B. (4, 3, 2) C. (5, 5, 1) D. (6, 4, 1)
7	If $x^2 - 7x + a$ has remainder 1 when divided by $x + 1$ , then $a = \underline{\hspace{2cm}}$	A. -7 B. 7 C. 0 D. None of these
8	$5x^3 + 3x - 1$ is a $\underline{\hspace{2cm}}$	A. Polynomial of degree 3 B. Polynomial of degree 2 C. Polynomial of degree 1 D. Polynomial of degree 0
9	$(1+w)(1+w^2)(1+w^4)(1+w^8) \dots 50$ factors	A. 0 B. -1 C. 1 D. 2
10	In a quadratic equation with leading co-efficient 1, a student reads the co-obtain the roots as - 15 and -4. The correct roots are	A. 6, 10 B. -6, -10 C. 8, 8 D. -8, -8
11	Both the roots of the equation $(x - b)(x - c) + (x - c)(x - a) + (x - a)(x - b) = 0$ are always	A. Positive B. Negative C. Real D. None of these
12	A polynomial $P(x)$ has a factor $(x - a)$ if $P(a) =$	A. a B. x C. 1 D. 0
13	The vertex of the graph of the quadratic function $f(x) = -x^2 + 6x + 1$ , is	A. (-3, 10) B. (-3, -10) C. (3, 10) D. (3, -10)
14	For the equation $ x^2  +  x  - 6 = 0$ , the roots are	A. One and only one real number B. Real with sum one C. Real with sum zero D. Real with product zero
15	If a parabola opens down, then its vertex is at the	A. Right of the parabola B. Left of parabola C. Lowest point on the parabola D. Highest point on the parabola
16	A polynomial of arbitrary degree	A. $f(x) = 0$ B. $f(x) = x$ C. $f(x) = a$

$$D. f(x) = ax + b, a \neq 0$$

17 The value of  $p$  for which both the roots of the equation  $4x^2 - 20x + (25p^2 + 15p - 66) = 0$  are less than 2, lies in

18 Roots of the equation  $x^2 - 7x + 10 = 0$  are

- A. {2, 5}
- B. {-2, 5}
- C. {2, 5}
- D. {-2, -5}

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- A. Reciprocal equation
- B. Exponential equation
- C. Radical equation
- D. None of these

20 The roots of  $ax^2 + bx + c = 0$  are always unequal if

- A.  $b^2 - 4ac = 0$
- B.  $b^2 - 4ac \neq 0$
- C.  $b^2 - 4ac > 0$
- D.  $b^2 - 4ac \geq 0$