## ECAT Mathematics Chapter 6 Quadratic Equations

| Sr | Questions | Answers Choice |
|----|-----------|----------------|
| 1 | Question Image | A. $(a - c)^2 = b^2 - c^2$<br>B. $(a - c)^2 = b^2 + c^2$<br>C. $(a + c)^2 = b^2 - c^2$<br>D. $(a + c)^2 = b^2 + c^2$ |
| 2 | Question Image | A. Rational<br>B. Irrational<br>C. Non-real<br>D. Zero |
| 3 | Roots of the equation $x^2 + 5x - 1 = 0$ are | A. Rational<br>B. Irrational<br>C. Complex<br>D. None of these |
| 4 | The condition for polynomial equation ax2 + bx + c = 0 to be quadratic is | A. a &gt; 0<br>B. a &lt; 0<br>C. a≠ 0<br>D. a≠ 0,b ≠ 0 |
| 5 | The roots of the equations will be equal if $b^2 - 4ac$ is | A. Positive<br>B. Negative<br>C. 1<br>D. Zero |
| 6 | Question Image | |
| 7 | If $\sin\alpha$ and $\cos\alpha$ are the roots of the equation $px^2 + qx + r = 0$, then | A. $p^2 - q^2 + 2pr = 0$<br>B. $(p + r)^2 = q^2 - r^2$<br>C. $p^2 + q^2 - 2pr = 0$<br>D. $(p - r)^2 = q^2 + r^2$ |
| 8 | Question Image | A. 1<br>B. -1<br>C. 5<br>D. 2 |
| 9 | If x-2 and x-1 both are factors of $x^3 - 3x^3 + 2x - 4p$, then P must equal to | A. 1<br>B. 2<br>C. 0<br>D. -2 |
| 10 | Consider the equation px2 + qx + r = 0 where p,q,r are real The roots are equal in magnitude but opposite in sign when | A. q = 0, r = 0,p ≠ 0<br>B. p = 0,qr≠ 0<br>C. r = 0,pq≠ 0<br>D. q = 0, pq≠ 0 |
| 11 | Question Image | A. 4<br>B. 6<br>C. 8<br>D. 10 |
| 12 | If a,β are the roots of ax2+bx+c=0,the equation whose roots are doubled is | A. ay2 +2by+c=0<br>B. ay2+2by+4c=0<br>C. ay2+2by+c=0<br>D. ay2+by+4c=0 |
| 13 | $5x^3 + 3x$ - is a _____ | A. Polynomial of degree 3<br>B. Polynomial of degree 2<br>C. Polynomial of degree 1<br>D. Polynomial of degree 0 |
| 14 | If the roots of $x^2 + ax + b = 0$ are non-real, then for all real x, $x^2 + ax + b$ is | A. Negative<br>B. Positive<br>C. Zero<br>D. Nothing can be said |

| 15 | Both the roots of the equation $(x-b)(x-c) + (x-c)(x-a) + (x-a)(x-b) = 0$ are always | A. Positive<br>B. Negative<br>C. Real<br>D. None of these |
|---|---|---|
| 16 | If $ax + bx + c = 0$ is satisfied by every value of x, then | A. $b = 0, c = 0$<br>B. $c = 0$<br>C. $b = 0$<br>D. $a = b = c = 0$ |
| 17 | If a,β are the roots of the equation $x^2 - 8x + p = 0$ and $a^2 + \beta^2 = 40$, then value of p is | A. 8<br>B. 12<br>C. 10<br>D. 14 |
| 18 | $x^4 - 3x^3 + 3x + 1 = 0$ is called _____ | A. Reciprocal equation<br>B. Exponential equation<br>C. Radical equation<br>D. None of these |
| 19 | Roots of the equation $9x^2 - 12x + 4 = 0$ are | A. Real and equal<br>B. Real and distinct<br>C. Complex<br>D. None of these |
| 20 | The condition for $ax^2 + bx\ c$ to be expressed as the product of linear polynomials is | A. $b4 - 4ac = 0$<br>B. $b4 - 4ac \geq 0$<br>C. $b4 - 4ac \&lt;0$<br>D. $b4 = 4ac$ |