

## ECAT Mathematics Online Test

| Sr | Questions                                                                                          | Answers Choice                                                                                                          |
|----|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 1  | Question Image                                                                                     |                                                                                                                         |
| 2  | If all members of a sequence are real numbers then it is called                                    | A. A.P<br>B. Real Sequence<br>C. G.P<br>D. None of these                                                                |
| 3  | For a square matrix A, if $A = A^t$ , then A is called                                             | A. matrix<br>B. Transpose<br>C. Symmetric<br>D. Non-symmetric                                                           |
| 4  | Question Image                                                                                     | D. none of these                                                                                                        |
| 5  | If $a > b$ or $a < b$ than $a = b$ is a                                                            | A. Additive property<br>B. Transitive property<br>C. Trichotomy property of inequality                                  |
| 6  | If A is such that a,A,B are in A.P then A is called                                                | A. A.M<br>B. Common ratio<br>C. Common difference<br>D. None of these                                                   |
| 7  | Find the geometric mean between 4 and 16                                                           |                                                                                                                         |
| 8  | A function in which the second elements of the order pairs are distinct is called                  | A. Onto function<br>B. One-one function<br>C. Identity function<br>D. Inverse function                                  |
| 9  | Question Image                                                                                     | A. A is proper subset of B<br>B. A is an improper subset of B<br>C. A is equivalent to B<br>D. B is subset of A         |
| 10 | The range of the principle cot function is                                                         |                                                                                                                         |
| 11 | Question Image                                                                                     | A. 0.9<br>B. 0.74<br>C. 0.2016<br>D. None of these                                                                      |
| 12 | The interval in which $f(x)=x^3-6x^2+9x$ is increasing                                             | A. $1 \leq x \leq 3$<br>B. $x \leq 1$ and $x \geq 3$<br>C. $x \geq 1$ and $x \leq 3$<br>D. $-\infty \leq x \leq \infty$ |
| 13 | The general value of $\theta$ satisfying the equation $2 \sin^2 \theta - 3 \sin \theta - 2 = 0$ is |                                                                                                                         |
| 14 | Question Image                                                                                     | A. A prime number<br>B. An integer<br>C. A whole number<br>D. An irrational number                                      |
| 15 | An equation which holds good for all values of variables is called                                 | A. Equation<br>B. Conditional equation<br>C. Constant<br>D. None                                                        |
| 16 | In R the right cancellation property w.r.t. addition is                                            |                                                                                                                         |
| 17 | If A and B are two matrices such that $AB = B$ and $BA = A$ , then $A^2 + B^2 =$                   | A. 2 AB<br>B. 2 BA<br>C. A + B<br>D. AB                                                                                 |
| 18 | Question Image                                                                                     | D. none of these                                                                                                        |
| 19 | $\sin 50^\circ - \sin 70^\circ + \sin 10^\circ$ is equal to                                        | A. 1<br>B. 0<br>C. 1/2<br>D. 2                                                                                          |

- A.  $2x^3 - 3x^2 + 9$   
B.  $2x^3 - 5x - 8$   
C.  $48x^2 - 46x - 9$   
D.  $x^9 - 1$
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