

ECAT Mathematics MCQ's Test For Full Book

| Sr | Questions | Answers Choice |
|----|---|---|
| 1 | $d/dx [\tan^2 x]$ | A. $2\tan x \sec^2 x$ B. $2\tan x \sec x$ C. $2 \cot x \tan x$ D. $2\sec^2 x \cos^2 x$ |
| 2 | Range of $3 \cot x$ is _____ | A. $[-1, 1]$ B. $[-3, 3]$ C. R D. None of these |
| 3 | The term involving x^4 in the expansion $(3-2x)$ is | A. $217x^4$ B. $15120x^4$ C. $313x^4$ D. $-25x^4$ |
| 4 | The sum of complex number (a,b) and (c,d) is | |
| 5 | The number of significant numbers which can be formed by using any number of the digits 0, 1, 2, 3, 4 but using each not more than once in each number is | A. 260 B. 356 C. 410 D. 96 |
| 6 | A box contains 10 red 30 white and 20 black marbles When a marble is drawn at random the probability that it is either red or white is | A. $1/6$ B. $1/3$ C. $1/2$ D. $2/3$ |
| 7 | The sides of a right angled triangle are in A.P The ratio of sides is | A. 1:2:3 B. 3:4:5 C. 2:3:4 D. 5:8:3 |
| 8 | How many arrangements of the letters of the word MATHEMATICS can be made | |
| 9 | 202.04 is an example of | A. Recurring decimals B. Non-recurring decimals C. Terminating decimals D. None of these |
| 10 | Question Image <input style="width: 150px; height: 15px;" type="text"/> | A. Hermitian matrix B. Skew-hermitian matrix C. Symmetric matrix D. Identity matrix |
| 11 | $\forall a,b,c \in R$ and $c > 0$, then | A. $a > b \Rightarrow ac < bc$ B. $a > b \Rightarrow ac > bc$ C. $a < b \Rightarrow ac > bc$ D. None of these |
| 12 | The area of a sector of a circular region of radius r is | A. $2\pi r$ B. πr^2 C. $1/2\pi r^2$ D. $\pi/6$ |
| 13 | In set builder notation the set $\{0,1,2,\dots,100\}$ can be written as | A. $\{x / x \in B \wedge x \leq 100\}$ B. $\{x / x \in W \wedge x \in 101\}$ C. $\{x / x \in Z \wedge x \in 101\}$ D. The set of first 100 whole numbers |
| 14 | What is the period of $\cos 6x$ =? | A. $\pi/2$ B. $\pi/3$ C. $\pi/4$ D. π |
| 15 | Solving the equation $x^2+(a+b)x+ab=0$ for gives: | A. $x = -a, x = b$ B. $x = a, x = -b$ C. $x = -a, x = -b$ D. $x = a, x = b$ |
| 16 | The graph of the quadratic equation is | A. Straight line B. Circle C. Parabola D. " |

D. ellipse

17 If $y=x^m$ then dy/dx equals:

- A. mx
- B. x/m
- C. mx^{m-1}
- D. xm^{m-1}

18 In a school there are 150 students. Out of these 80 students are enrolled for mathematics class, 50 for English class and 60 for Physics class. The student enrolled for English cannot attend any other class, but the students of mathematics and Physics can take two courses at a time. Find the number of students who have taken both physics and mathematics.

- A. 40
- B. 30
- C. 50
- D. 60

19 Question Image

20 $x^4 - 3x^3 + 3x + 1 = 0$ is called _____

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