atics | (INTER PART-I) 319-(I) | GROUP: I | PAPER: I
) Minutes | Code: 6191 | Marks: 20

OBJECTIVE

You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank.

The imaginary part of a complex number $\overline{a + ib}$ is

(A) $-b$ (B) b (C) a (D) $-a$

The converse of $p \rightarrow q$ is

(A) $\sim p \rightarrow q$ (B) $p \rightarrow \sim q$ (C) $q \rightarrow p$ (D) $\sim p \rightarrow \sim q$

A square matrix A is said to be Hermitian if $(\overline{A})^t$

(A) $\overline{A}$ (B) A^t (C) A (D) $-A$

The trivial solution of the homogeneous linear equation is

(A) (0, 0, 0) (B) (1, 0, 0) (C) (0, 1, 0) (D) (0, 0, 1)

5- Roots of $x^2 - x - 2 = 0$ are

(A) $2, -1$ (B) $-2, 1$ (C) $-2, -1$ (D) $2, 1$

6- If one solution of the equation $x^2 + ax + 2 = 0$ is $x = 1$, then $a =$

(A) -7 (B) 7 (C) -3 (D) 0

7- A fraction in which the degree of the numerator is less than the degree of the denominator is called

(A) a proper fraction (B) partial fraction (C) combined fraction (D) irrational fraction

8- The sequence 3, 6, 12, ... is

(A) A. P (B) G. P (C) H. P (D) Arithmetic Series

9- $\sum_{k=1}^{n} k^2 =$

(A) $\frac{n(n+1)(2n+1)}{6}$ (B) $\frac{n(n+1)}{4}$ (C) $\frac{n(n+1)}{2}$ (D) $n(n+1)$

0- The factorial of a positive integer 'n' is

(A) $n! = n(n-1)!(n-2)!$ (B) $n! = n(n+2)!$

(C) $n! = n(n-1)!$ (D) $n! = n(n-2)!$

1- If A and B are two disjoint events, then $P(A \cup B) =$

(A) $P(A) + P(B)$ (B) $P(A) + P(B) - P(A \cup B)$

(C) $P(A) - P(B)$ (D) $P(A) + P(B) - P(A \cap B)$

12- If 'n' is positive integer, then $n^3 + n$ is divided by

(A) 2 (B) 3 (C) 4 (D) 5

13- The number of terms in the expansion $(x-3)^{10}$ is

(A) 10 (B) 11 (C) 12 (D) 13

14- If $\cos\theta = \frac{1}{\sqrt{2}}$, then θ is equal to

(A) 30° (B) 45° (C) 60° (D) 90°

15- $\tan\frac{\alpha}{2} =$

(A) $\pm\sqrt{\frac{1-\cos\alpha}{1+\cos\alpha}}$ (B) $\pm\sqrt{\frac{1+\cos\alpha}{1-\cos\alpha}}$ (C) $\pm\sqrt{\frac{1-\cos\alpha}{2}}$ (D) $\pm\sqrt{\frac{1+\cos\alpha}{2}}$

16- The period of $3\sin\frac{x}{3}$ is

(A) π (B) 2π (C) 3π (D) 6π

17- $\frac{a}{\sin\alpha} = \frac{b}{\sin\beta} = \frac{c}{\sin\gamma}$ is called the law of

(A) tangents (B) cosine (C) sines (D) cotangents

18- If Δ is the area of a triangle ABC then $\Delta =$

(A) $\frac{1}{2}bc\sin\beta$ (B) $\frac{1}{2}ab\sin\alpha$ (C) $\frac{1}{2}bc\sin\alpha$ (D) $ab\sin\alpha$

19- $\sec\left(\cos^{-1}\frac{1}{2}\right) =$

(A) $\frac{1}{2}$ (B) 2 (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{6}$

20- $\cos x = \frac{1}{2}$ has a solution

(A) $\frac{\pi}{2}$ (B) $\frac{\pi}{3}$ (C) $\frac{\pi}{4}$ (D) $\frac{\pi}{6}$