

Note: 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.

- 1- 1- A square matrix A is symmetric if $A^t =$
 (A) $-A$ (B) A (C) $\bar{A}$ (D) $-\bar{A}$
- 2- If $\sin\theta > 0$ and $\sec\theta > 0$, then terminal arm of θ lies in quadrant
 (A) I (B) II (C) III (D) IV
- 3- Conditional equation $3x - 1 = 0$ is true only if
 (A) $x = 3$ (B) $x = -3$ (C) $x = \frac{1}{3}$ (D) $x = -\frac{1}{3}$
- 4- Reference angle always lies in quadrant
 (A) I (B) II (C) III (D) IV
- 5- $\cos\left(\sin^{-1}\frac{1}{\sqrt{2}}\right) =$
 (A) $\frac{1}{\sqrt{2}}$ (B) 1 (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{4}$
- 6- The value of the determinant $\begin{vmatrix} 1 & 12 & 25 \\ 0 & 3 & 15 \\ 0 & 0 & 8 \end{vmatrix}$ is
 (A) 0 (B) 1 (C) 8 (D) 24
- 7- $\sin(\pi - \theta) =$
 (A) $\sin\theta$ (B) $-\sin\theta$ (C) $\cos\theta$ (D) $-\cos\theta$
- 8- If "n" is even, then middle term of $(a + b)^n$ is
 (A) $\left(\frac{n}{2} - 1\right)^{\text{th}}$ term (B) $\left(\frac{n}{2} + 1\right)^{\text{th}}$ term (C) $\left(\frac{n}{2}\right)^{\text{th}}$ term (D) $\left(\frac{n}{2} - 2\right)^{\text{th}}$ term
- 9- When $3x^4 + 4x^3 + x - 5$ is divided by $x + 1$, then remainder is
 (A) -7 (B) -6 (C) 6 (D) 7
- 10- Converse of the conditional $p \rightarrow q$ is
 (A) $q \rightarrow p$ (B) $\sim q \rightarrow \sim p$ (C) $\sim p \rightarrow \sim q$ (D) $p \rightarrow \sim q$
- 11- Multiplicative inverse of $-3i$ is
 (A) $3i$ (B) $\frac{1}{3}i$ (C) $-\frac{1}{3}i$ (D) $-3i$
- 12- $A' \cap B' =$
 (A) $A' - B'$ (B) $A' \cup B'$ (C) $(A \cap B)'$ (D) $(A \cup B)'$
- 13- In a quadratic equation $ax^2 + bx + c = 0$, if $b^2 - 4ac > 0$, then roots are
 (A) real (B) equal (C) rational (D) irrational
- 14- 20th term of 1, 3, 5, ... is
 (A) 38 (B) 39 (C) 40 (D) 41

- 15- $\sqrt{3}$ is
(A) rational number (B) irrational number (C) even number (D) odd number
- 16- $r_2 =$
(A) $\frac{\Delta}{S}$ (B) $\frac{\Delta}{S-a}$ (C) $\frac{\Delta}{S-b}$ (D) $\frac{\Delta}{S-c}$
- 17- Factorial form of $(n+2)(n+1)(n)$ is
(A) $\frac{(n+2)!}{(n+1)!}$ (B) $\frac{(n+1)!}{(n-2)!}$ (C) $\frac{(n+2)!}{n!}$ (D) $\frac{(n+2)!}{(n-1)!}$
- 18- $\tan \theta$ is a periodic function of period
(A) π (B) $\frac{\pi}{2}$ (C) $\frac{3\pi}{2}$ (D) 2π
- 19- Let $A = \{1, 2, 3\}$, then the number of its subsets is
(A) 2 (B) 3 (C) 7 (D) 8
- 20- If $a = 2i$, $b = 4i$, then $G =$
(A) $\pm 2\sqrt{2}i$ (B) $\pm 2i$ (C) $\pm 4i$ (D) $\pm \sqrt{6}i$