

Roll No. _____

MATHEMATICS**Time: 30 Minutes****(INTER PART-I) 321-(IV)****OBJECTIVE****Code: 6197****PAPER: I****GROUP: I****Marks: 20**

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. Attempt as many questions as given in objective type question paper and leave others blank.

- 1- 1- Period of $\tan 4x$ is
 (A) $\frac{\pi}{2}$ (B) π (C) $\frac{\pi}{4}$ (D) 4π
- 2- Radius of the earth is
 (A) 6000 Km (B) 6800 Km (C) 6400 Km (D) 8400 Km
- 3- If $a = -2$, $b = -6$ then A.M between a and b is =
 (A) 12 (B) -8 (C) -4 (D) 4
- 4- Multiplicative inverse of $(a, 0)$ if $a \neq 0$ is
 (A) $(\frac{1}{a}, 0)$ (B) $(\frac{1}{(a, 0)})$ (C) $(-a, 0)$ (D) $(0, \frac{1}{a})$
- 5- Transpose of a matrix $A = [a_{ij}]_{m \times n}$ is $A^t =$
 (A) $[a_{ij}]_{m \times m}$ (B) $[a_{ji}]_{m \times n}$ (C) $[a_{ji}]_{n \times m}$ (D) $[a_{ij}]_{n \times m}$
- 6- If $n \in \mathbb{Z}$, then general solution of equation $\sin x = 0$ is
 (A) $\left\{n\frac{\pi}{2}\right\}$ (B) $\left\{n\frac{\pi}{3}\right\}$ (C) $\left\{n\frac{\pi}{4}\right\}$ (D) $\{n\pi\}$
- 7- $(S-a)(S-b)(S-c) =$
 (A) $\frac{\Delta}{S}$ (B) $\frac{\Delta^2}{S}$ (C) $\frac{\Delta}{S^2}$ (D) $\frac{S}{\Delta}$
- 8- $\sin 540^\circ =$
 (A) 1 (B) 0 (C) $\frac{1}{2}$ (D) $\frac{1}{\sqrt{2}}$
- 9- $(n+2)(n+1)(n) =$
 (A) $\frac{(n+2)!}{n!}$ (B) $\frac{(n+2)!}{(n-1)!}$ (C) $\frac{(n+2)!}{(n+1)!}$ (D) $\frac{n!}{(n+1)!}$
- 10- $S_n = \frac{a(r^n - 1)}{r - 1}$ holds if
 (A) $r \leq 1$ (B) $r = 1$ (C) $r > 1$ (D) $r \geq 1$
- 11- If $|A| \neq 0$ then A is
 (A) singular (B) diagonal (C) rectangular (D) symmetric

(Turn over)

(2)

- 12- $\cos 2\theta =$
 (A) $1 - \sin^2 \theta$ (B) $1 - 2 \sin^2 \theta$ (C) $1 - 2 \sin \theta$ (D) $2 \sin^2 \theta - 1$
- 13- Product of the roots of $5x^2 - x - 2 = 0$ is =
 (A) $\frac{1}{5}$ (B) $-\frac{1}{5}$ (C) $\frac{2}{5}$ (D) $-\frac{2}{5}$
- 14- If $S_n = n(2n-1)$, then $a_1 =$
 (A) 2 (B) -2 (C) 1 (D) -1
- 15- The property which makes a group Abelian is
 (A) associative (B) commutative (C) identity (D) closure
- 16- $\tan(\cos^{-1} \frac{\sqrt{3}}{2}) =$
 (A) $\sqrt{3}$ (B) $\frac{1}{\sqrt{3}}$ (C) $\frac{1}{\sqrt{2}}$ (D) $\sqrt{2}$
- 17- To find T_8 in the binomial expansion we put $r =$
 (A) 8 (B) 9 (C) 10 (D) 7
- 18- The product of 4, 4th roots of unity is =
 (A) 1 (B) -1 (C) i (D) -i
- 19- $\frac{x^3 + x + 1}{Q(x)}$ will be proper if the degree of $Q(x)$ is =
 (A) 1 (B) 2 (C) 3 (D) 4
- 20- $2R =$
 (A) $\frac{a}{\sin \alpha}$ (B) $\frac{b}{\sin \beta}$ (C) $\frac{c}{\sin \gamma}$ (D) all of these

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