Roll No. _____

MATHEMATICS **Intermediate Part-I , Class 11th (1st A 323- I)** **PAPER: I** **GROUP: II**

Time: 30 Minutes **OBJECTIVE** **Marks: 20**

Code: 6192

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- Every real number is a complex number with its imaginary part equal to

(A) real part (B) i (C) 0 (D) 1

2- If A and B are disjoint sets, then A – B =

(A) B – A (B) A (C) B (D) ϕ

3- If order of a matrix A is 2×3 and that of matrix B is 3×2, then order of $(AB)^t$ is

(A) 3×3 (B) 2×2 (C) 3×2 (D) 2×3

4- A square matrix $A=[a_{ij}]$ is lower triangular if

(A) $a_{ij} \neq 0$ for all $i < j$ (B) $a_{ij} \neq 0$ for all $i > j$

(C) $a_{ij} = 0$ for all $i > j$ (D) $a_{ij} = 0$ for all $i < j$

5- Four 4^{th} roots of 625 are

(A) $\pm 25i, \pm 25$ (B) $\pm 16i, \pm 16$ (C) $\pm 5i, \pm 5$ (D) $\pm 4i, \pm 4$

6- If α, β are roots of the equation $3x^2 - 2x + 4 = 0$, then value of $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$ is

(A) $\frac{3}{4}$ (B) $-\frac{4}{3}$ (C) $\frac{5}{3}$ (D) $-\frac{5}{3}$

7- Partial fractions of $\frac{1}{x^2+1}$ are

(A) $\frac{A}{x+1} - \frac{B}{x-1}$ (B) $\frac{A}{x+1} + \frac{B}{x-1}$ (C) $\frac{Ax+B}{x^2+1}$ (D) not possible

8- 5^{th} term of the sequence whose general term is $a_n = n + (-1)^n$, is

(A) 4 (B) 5 (C) 0 (D) -5

9- Which one is true

(A) G, H, A are in G.P. (B) A, G, H are in G.P.

(C) A,G,H are in H.P. (D) A,G,H are in A.P.

10- The complementary combination ${}^nC_r = {}^nC_{n-r}$ is useful when

(A) $n = r$ (B) $n < r$ (C) $r < \frac{n}{2}$ (D) $r > \frac{n}{2}$

11- Two dice are thrown simultaneously, then the probability of getting a total of "7" number of dots is

(A) $\frac{1}{6}$ (B) $\frac{1}{18}$ (C) $\frac{4}{9}$ (D) $\frac{1}{9}$

12- $3+5+7+\ldots\ldots\ldots+(2n+5) = (n+2)(n+4)$ for integral values of n

(A) $n \geq -4$ (B) $n \geq -3$ (C) $n \geq -2$ (D) $n \geq -1$

13- $\binom{n}{1} + \binom{n}{3} + \binom{n}{5} + \ldots\ldots\ldots + \binom{n}{n-1} =$

(A) 2^{n+2} (B) 2^{n-2} (C) 2^{n-1} (D) 2^{n+1}

14- $\text{Cot}^2\theta - \text{Cosec}^2\theta =$

(A) 1 (B) -1 (C) $\text{Cos}^2\theta$ (D) $\tan^2\theta$

15- $\tan 3\theta =$

(A) $\frac{3\tan\theta - \tan^3\theta}{1 - 3\tan^2\theta}$ (B) $\frac{3\tan^2\theta - \tan\theta}{1 - 3\tan^3\theta}$ (C) $3\tan\theta$ (D) $\tan^3\theta$

16- Range of $y = \text{Sin}x$ is

(A) $[-1,1]$ (B) $\left[-\frac{1}{2}, \frac{1}{2}\right]$ (C) $[-2,2]$ (D) $\left[-\frac{\pi}{2}, \frac{\pi}{2}\right]$

17- Number of elements of a triangle is

(A) 4 (B) 5 (C) 6 (D) infinite

18- $\text{Cos}\frac{\beta}{2} =$

(A) $\sqrt{\frac{s(s-b)}{ac}}$ (B) $\sqrt{\frac{(s-c)(s-a)}{ac}}$

(C) $\sqrt{\frac{s(s-a)}{bc}}$ (D) $\sqrt{\frac{(s-b)(s-c)}{bc}}$

19- $\text{Sin}(\tan^{-1}(-1)) =$

(A) 1 (B) -1 (C) $\frac{1}{\sqrt{2}}$ (D) $\frac{-1}{\sqrt{2}}$

20- Reference angle of $2\text{Sin}x - 1 = 0$ is

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