Roll No _____ (To be filled in by the candidate)

MATHEMATICS **(Academic Sessions 2015 – 2017 to 2018 – 2020)**

).PAPER – I (Objective Type) 219-(INTER PART – I) Time Allowed : 30 Minutes

GROUP – I Maximum Marks : 20

PAPER CODE = 6195

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	If $x-a$ is a factor of polynomial $f(x)$, then $f(a)$ is :			
	(A) $=0$	(B) <0	(C) >0	(D) $\neq 0$
2	If ${}^{n}C_5={}^{n}C_4$, then n is :			
	(A) 9	(B) 7	(C) 6	(D) 5
3	The multiplicative inverse of $(1,-2)=$:			
	(A) $(\frac{1}{5},\frac{-2}{5})$	(B) $(\frac{-1}{5},\frac{-2}{5})$	(C) $(\frac{1}{5},\frac{2}{5})$	(D) $(\frac{-1}{5},\frac{2}{5})$
4	9th term in the sequence $\frac{1}{3},\frac{1}{5},\frac{1}{7},----$ is :			
	(A) $\frac{1}{13}$	(B) $\frac{1}{15}$	(C) $\frac{1}{17}$	(D) $\frac{1}{19}$
5	The contrapositive of $\sim p \rightarrow \sim q$ is :			
	(A) $p \rightarrow q$	(B) $q \rightarrow p$	(C) $\sim q \rightarrow \sim p$	(D) $\sim q \rightarrow p$
6	From the identity $5x+4=A(x-1)+B(x+2)$, then value of B = :			
	(A) -3	(B) 3	(C) -2	(D) 2
7	The sum of four 4^{th} roots of 16 is :			
	(A) 0	(B) 2	(C) 4	(D) 16
8	If $\begin{bmatrix} x-3 & 1 \\ -5 & -4 \end{bmatrix}=\begin{bmatrix} 2 & 1 \\ -5 & -4 \end{bmatrix}$, then $x=$:			
	(A) 5	(B) -5	(C) -1	(D) 1
9	The arithmetic mean between $\sqrt{2}$ and $3\sqrt{2}$ is :			
	(A) $3\sqrt{2}$	(B) $2\sqrt{2}$	(C) $4\sqrt{2}$	(D) $\sqrt{2}$
10	If $A=\begin{bmatrix} 1 & 2 & -2 \\ 0 & 0 & 5 \\ 6 & 7 & 3 \end{bmatrix}$, then $A_{33}=$:			
	(A) -1	(B) 1	(C) 3	(D) 0
11	Period of $\cot\theta$ is :			
	(A) π	(B) 2π	(C) $\frac{\pi}{2}$	(D) $\frac{3\pi}{2}$

1-12	Number of signals can be made with 4 flags when one flag is used at a time are : (A) ${}^4C_0$ (B) ${}^4C_1$ (C) ${}^4C_2$ (D) ${}^4C_3$
13	The equation $\sin^2 x - \sec x = \frac{3}{4}$ is called : (A) Trigonometric equation (B) Linear equation (C) Quadratic equation (D) Quantic equation
14	$3\sin\alpha - 4\sin^3\alpha$ = : (A) $\sin\alpha$ (B) $\sin 2\alpha$ (C) $\sin 3\alpha$ (D) $\sin 4\alpha$
15	Domain of the function $y = \sin^{-1} x$ is : (A) $-\frac{\pi}{2} \le x \le \frac{\pi}{2}$ (B) $-1 \le y \le 1$ (C) $-1 \le x \le 1$ (D) $-\frac{\pi}{2} \le y \le \frac{\pi}{2}$
16	Francesco Mourolico devised the method of : (A) Partial fraction (B) Induction (C) Logarithms (D) Binomial
17	If $\ell = 35$ cm and $\theta = 1$ rad, then r = : (A) 35^c (B) 35 cm (C) 35 rad (D) 35 m
18	In any ΔABC with usual notations , $\frac{\Delta}{s-c}$ = : (A) r (B) r_1 (C) r_2 (D) r_3
19	The general term in the expansion of $(a+x)^n$ is : (A) $\binom{n}{a} a^{n-r} x^r$ (B) $\binom{n}{x} a^{n-r} x^r$ (C) $\binom{n}{r} a^{n-r} x^r$ (D) $\binom{n}{r} a^{n-r} x$
20	If sides of a ΔABC are $a = 4584$, b = 5140 and c = 3624, then greatest angle will be : (A) α (B) β (C) γ (D) a