MATHEMATICS (Academic Sessions 2019 – 2021 to 2022 – 2024)
Q.PAPER – I (Objective Type) 223-1st Annual-(INTER PART – I) Time Allowed : 30 Minutes
GROUP – II Maximum Marks : 20
PAPER CODE = 6192

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	The multiplicative inverse of (1 , 0) is :
	(A) 0 (B) 1 (C) (1 , 0) (D) (0 , 1)
2	Which one of them is unary operation :
	(A) Addition (B) Multiplication (C) Subtraction (D) Negation
3	If A is a square matrix of order 3×3 then $\lvert KA \rvert = $:
	(A) $K\lvert A \rvert$ (B) $K^2\lvert A \rvert$ (C) $K^3\lvert A \rvert$ (D) $K^9\lvert A \rvert$
4	A square matrix $A = [a_{ij}]$ is called a skew-symmetric if :
	(A) $A^t = A^{\grave{}}$ (B) $A^t = -A$ (C) $A^t = \pm A$ (D) $A^{-1} = A$
5	Roots of quadratic equation $x^2 - 7x + 10 = 0$ are :
	(A) 2 , 5 (B) -2 , 5 (C) 2 , -5 (D) -2 , -5
6	Product of all three cube roots of unity is :
	(A) i (B) $-i$ (C) 1 (D) -1
7	Types of rational fractions are :
	(A) 1 (B) 2 (C) 3 (D) 4
8	A.M. between $x - 3$ and $x + 5$ is :
	(A) $x + 1$ (B) $2x + 1$ (C) $2x + 2$ (D) 2
9	G.M. between 1 and 16 is :
	(A) -5 (B) 4 (C) 6 (D) 8
10	P(E) represents the probability of an event " E " and $0 \le P(E) \le 1$ for P(E) = 0 the event will be :
	(A) Certain (B) One (C) Possible (D) Impossible
11	The probability that an event does not occur, $P(\overline{E}) = $:
	(A) $1 - P(E)$ (B) $1 + P(E)$ (C) $2 - P(E)$ (D) $2 + P(E)$
12	The total number of terms in the expansion of $(a + x)^n$ is :
	(A) n + 2 (B) n + 1 (C) n (D) n – 1
13	The statement $n^2 > n + 3$ hold for n = :
	(A) 0 (B) 1 (C) 2 (D) 3

14	$\dfrac{2\pi}{3}$ radian in degree is : (A) 75° (B) 100° (C) 110° (D) 120°
15	$1 - 2\sin^2 \alpha = :$ (A) $\sin 2\alpha$ (B) $\sin\dfrac{\alpha}{2}$ (C) $\cos 2\alpha$ (D) $\cos\alpha$
16	The period of tangent function is : (A) $\dfrac{\pi}{4}$ (B) $\dfrac{\pi}{2}$ (C) $\dfrac{\pi}{3}$ (D) π
17	$\sqrt{s(s-a)(s-b)(s-c)} = :$ (A) r (B) Δ (C) Δs (D) r_1
18	$\dfrac{\Delta}{s} = :$ (A) r (B) r_1 (C) r_2 (D) r_3
19	$\cos^{-1}\left(\dfrac{1}{2}\right) = :$ (A) $\dfrac{\pi}{3}$ (B) $\dfrac{\pi}{4}$ (C) $\dfrac{\pi}{6}$ (D) $\dfrac{\pi}{2}$
20	Solution of the equation $\sin x = \dfrac{1}{2}$ in $[0, 2\pi]$ is : (A) $\dfrac{\pi}{2}$ (B) $\dfrac{\pi}{6}$ (C) $\dfrac{\pi}{4}$ (D) $\dfrac{\pi}{3}$