Inter (Part-I) 2018

Mathematics	Group-I	PAPER: I
Time: 30 Minutes	(OBJECTIVE TYPE)	Marks: 20

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- Product of all fourth roots of unity is:

(a) -1 √ (b) 0
(c) 1 (d) i

2- The value of $\frac{4!}{0!}$ is:

(a) 24 √ (b) 4
(c) 0 (d) Infinity

3- The set {0, 1} is closed under:

(a) Addition (b) Multiplication √
(c) Division (d) Subtraction

4- The 10th term of $\frac{1}{2}, \frac{1}{5}, \frac{1}{8}, - - - -$ is:

(a) 30 (b) 28
(c) $\frac{1}{29}$ √ (d) $\frac{1}{32}$

5- If A and B are two sets, then A – B = :

(a) $A \cup B^c$ (b) $(A \cup B)^c$
(c) $A \cap B^c$ √ (d) $(A \cap B)^c$

6- The fraction $\frac{3x^2 + 5}{x + 1}$ is:

(a) Proper fraction (b) Polynomial
(c) Partial fraction (d) Improper fraction √

7- Sum of roots of quadratic equation $ax^2 + bx + c = 0$ is:

(a) $\frac{a}{b}$ (b) $\frac{b}{a}$
(c) $\frac{c}{a}$ (d) $-\frac{b}{a}$ √

8- A square matrix A is skew symmetric, if A^t = :

(a) $-A$ ✓ (b) A

(c) $\bar{A}$ (d) A^t

9- Geometric mean between –2 and 8 is:

(a) 4 (b) ± 4

(c) 8 (d) $\pm 4i$ ✓

10- If order of a matrix A is m × n, then order of A^t is:

(a) $m \times n$ (b) $m \times m$

(c) $n \times m$ ✓ (d) $n \times n$

11- Period of $\cos\left(\frac{x}{2}\right)$ = :

(a) 2π (b) $\frac{\pi}{2}$

(c) 3π (d) 4π ✓

12- If A and B are mutually exclusive events, then $P(A \cup B)$ = :

(a) $P(A) \cup P(B)$ (b) $P(A) + P(B)$ ✓

(c) $P(A \cap B)$ (d) $P(A) - P(B)$

13- If $\cos x = -\frac{1}{2}$, then reference angle is:

(a) $\frac{\pi}{6}$ (b) $-\frac{\pi}{3}$

(c) $\frac{\pi}{3}$ ✓ (d) $\frac{\pi}{2}$

14- If α, β, γ are angels of triangle, then $\tan(\alpha + \beta) + \tan\gamma$ = :

(a) 1 (b) 0 ✓

(c) 2 (d) –1

15- The value of $\cos(\tan^{-1} 0)$ =:

(a) –1 (b) 1 ✓

(c) 0 (d) ∞

16- $4^n > 3^n + 4$ is true for integral values of n = :

(a) 1 (b) $n \leq 1$

(c) 0 (d) $n \geq 2$ ✓

17- If $\sin\theta < 0$ and $\cot\theta > 0$, then θ lies in quadrant:

(a) 1 (b) 2

(c) 3 √ (d) 4

18- The value escribed circle r_1 = :

(a) $\frac{\Delta}{s-a}$ √ (b) $\frac{\Delta}{s-c}$

(c) $\frac{\Delta}{s}$ (d) $\frac{\Delta}{a}$

19- The 2nd term in expansion of $\left(1-\frac{1}{3}x\right)^{-1}$ is:

(a) $\frac{1}{3}x$ √ (b) $-\frac{1}{3}x$

(c) 3x (d) 2x

20- Radius of escribed circle opposite to vertex 'c' of the triangle is:

(a) $\frac{\Delta}{s}$ (b) $\frac{\Delta}{s-a}$

(c) $\frac{\Delta}{s-c}$ √ (d) $\frac{\Delta}{s-b}$