

Inter (Part-I) 2017

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- ${}^n C_r$ is equal to:

(a) $\frac{n!}{r!}$

(b) $\frac{n!}{(n-r)!}$

(c) $n(n-r)!$

(d) $\frac{n!}{r!(n-r)!}$ ✓

2- $\frac{1}{4}$ rotation (anti-clockwise) = :

(a) 45°

(b) 90° ✓

(c) 180°

(d) 360°

3- Notation for radius of in-circle is:

(a) r ✓

(b) R

(c) r_1

(d) Δ

4- The value of $\cos 315^\circ$ is:

(a) 0

(b) 1

(c) $\frac{\sqrt{3}}{2}$

(d) $\frac{1}{\sqrt{2}}$ ✓

5- Harmonic mean between 3 and 7 is:

(a) $\frac{5}{21}$

(b) $\frac{21}{5}$ ✓

(c) 5

(d) 21

6- Period of $\tan \frac{x}{2}$ is:

(a) π

(b) 2π ✓

(c) $\frac{\pi}{2}$

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

- 7- A quadratic equation has degree:
 (a) 0 (b) 1
 (c) $2\sqrt{\quad}$ (d) 3
- 8- Set of integers is a group with respect to:
 (a) $+$ (b) \div
 (c) \times (d) $-$
- 9- Number of terms in the expansion of $(1+x)^{2n+1}$ is:
 (a) $2n+1$ (b) $2n$
 (c) $2n+2\sqrt{\quad}$ (d) $3n+1$
- 10- The sum of odd coefficient in the expansion of $(1+x)^5$ is:
 (a) 5 (b) $16\sqrt{\quad}$
 (c) 25 (d) 32
- 11- Arithmetic mean between $\frac{1}{a}$ and $\frac{1}{b}$ is:
 (a) $\frac{a+b}{2ab}\sqrt{\quad}$ (b) $\frac{a+b}{ab}$
 (c) $\frac{2ab}{a+b}$ (d) $\frac{ab}{a+b}$
- 12- If A is a matrix of order 3×4 , then order of AA^t is:
 (a) 4×3 (b) 3×4
 (c) 4×4 (d) $3 \times 3\sqrt{\quad}$
- 13- Partial fractions of $\frac{1}{x^2-1}$ will be of the form:
 (a) $\frac{Ax+B}{x^2-1}$ (b) $\frac{A}{x+1} + \frac{B}{x-1}\sqrt{\quad}$
 (c) $\frac{A}{x+1}$ (d) $\frac{B}{x-1}$
- 14- The roots of equation $x^2 - 5x + 6 = 0$ are:
 (a) 2, -3 (b) -2, -3
 (c) 2, 3 $\sqrt{\quad}$ (d) -2, 3
- 15- $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right) = :$
 (a) $\frac{\pi}{2}$ (b) $\frac{\pi}{6}\sqrt{\quad}$
 (c) $\frac{\pi}{4}$ (d) $\frac{\pi}{3}$

16- $\sqrt{\frac{s(s-a)}{bc}}$ equals:

(a) $\sin \frac{\alpha}{2}$ (b) $\sin \frac{\beta}{2}$

(c) $\cos \frac{\alpha}{2} \sqrt{\quad}$ (d) $\cos \frac{\beta}{2}$

17- $\cos x = \frac{1}{2}$ has solution $\text{---} x \in [0, \pi]$:

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

(c) $\frac{\pi}{4}$ (d) $\frac{\pi}{2}$

18- If $\begin{vmatrix} k & 4 \\ 4 & k \end{vmatrix} = 0$, then $k = \text{---}$:

(a) 16 (b) 0

(c) $\pm 4 \sqrt{\quad}$ (d) 8

19- $\frac{3!}{0!}$ equals:

(a) 3 (b) $6 \sqrt{\quad}$

(c) ∞ (d) 12

20- If $z = 3 - 4i$, then $|\bar{z}|$ is:

(a) 4 (b) $5 \sqrt{\quad}$

(c) -5 (d) 1