

# Inter (Part-I) 2019

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-  $3 \sin \alpha - 4 \sin^3 \alpha = :$

- (a)  $\sin \alpha$  (b)  $\sin 2\alpha$   
(c)  $\sin 3\alpha$  ✓ (d)  $\sin 4\alpha$

2- 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)  ${}^4C_4$  ✓

3- Domain of the function  $y = \sin^{-1} x$  is:

- (a)  $-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$  (b)  $-1 \leq y \leq 1$   
(c)  $-1 \leq x \leq 1$  ✓ (d)  $-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$

4- If  $l = 35$  cm and  $\theta = 1$  rad, then  $r = :$

- (a)  $35^\circ$  (b)  $35$  cm ✓  
(c)  $35$  rad (d)  $35$  m

5- The equation  $\sin^2 x - \sec x = \frac{3}{4}$  is called:

- (a) Trigonometric equation ✓  
(b) Linear equation  
(c) Quadratic equation  
(d) Quantic equation

6- Francesco Mourolico devised the method of:

- (a) Partial fraction (b) Induction ✓  
(c) Logarithms (d) Binomial

7- In any  $\Delta ABC$  with usual notations,  $\frac{\Delta}{s-c} = :$

- (a)  $r$  (b)  $r_1$   
(c)  $r_2$  (d)  $r_3 \checkmark$

8- Period of  $\cot \theta$  is:

- (a)  $\pi \checkmark$  (b)  $2\pi$   
(c)  $\frac{\pi}{2}$  (d)  $\frac{3\pi}{2}$

9- 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)  $\binom{n}{r} a^{n-r} x^r \checkmark$  (d)  $\binom{n}{r} a^{n-r} x$

10- If sides of a  $\Delta ABC$  are  $a = 4584$ ,  $b = 5140$  and  $c = 3624$ , then greatest angle will be:

- (a)  $\alpha$  (b)  $\beta \checkmark$   
(c)  $\gamma$  (d)  $a$

11- If  $x-a$  is a factor of polynomial  $f(x)$ , then  $f(a)$  is:

- (a)  $= 0 \checkmark$  (b)  $< 0$   
(c)  $> 0$  (d)  $\neq 0$

12- The multiplicative inverse of  $(1, -2) = :$

- (a)  $\left(\frac{1}{5}, \frac{-2}{5}\right)$  (b)  $\left(\frac{-1}{5}, \frac{-2}{5}\right)$   
(c)  $\left(\frac{1}{5}, \frac{2}{5}\right) \checkmark$  (d)  $\left(\frac{-1}{5}, \frac{2}{5}\right)$

13- If  ${}^n C_5 = {}^n C_4$ , then  $n$  is :

- (a)  $9 \checkmark$  (b)  $7$   
(c)  $6$  (d)  $5$

14- If  $\begin{bmatrix} x-3 & 1 \\ -5 & -4 \end{bmatrix} = \begin{bmatrix} 2 & 1 \\ -5 & -4 \end{bmatrix}$ , then  $x = :$

- (a)  $5 \checkmark$  (b)  $-5$   
(c)  $-1$  (d)  $1$

15- The arithmetic mean between  $\sqrt{2}$  and  $3\sqrt{2}$  is:

- (a)  $3\sqrt{2}$  (b)  $2\sqrt{2}$  ✓  
(c)  $4\sqrt{2}$  (d)  $\sqrt{2}$
- 16- The sum of four 4<sup>th</sup> roots of 16 is:  
(a) 0 ✓ (b) 2  
(c) 4 (d) 16
- 17- 9<sup>th</sup> term in the sequence  $\frac{1}{3}, \frac{1}{5}, \frac{1}{7}, \dots$  is:  
(a)  $\frac{1}{13}$  (b)  $\frac{1}{15}$   
(c)  $\frac{1}{17}$  (d)  $\frac{1}{19}$  ✓
- 18- The contrapositive of  $\sim p \rightarrow \sim q$  is:  
(a)  $p \rightarrow q$  (b)  $q \rightarrow p$  ✓  
(c)  $\sim q \rightarrow \sim p$  (d)  $\sim q \rightarrow p$
- 19- From the identity  $5x + 4 = A(x - 1) + B(x + 2)$ , then value of B = :  
(a) -3 (b) 3 ✓  
(c) -2 (d) 2
- 20- 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 ✓

Babulim