

Objective
Paper Code
6197Intermediate Part First
MATHEMATICS (Objective) Group - I

Time: 30 Minutes Marks: 20



You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.aib

S.#	Questions	A	B	C	D
1	If ${}^nC_8 = {}^nC_{12}$, then 'n' equal to:	4	8	20	12
2	The inequality $4^n > 3^n + 4$ is true for:	$n=1$	$n \geq 2$	$n=0$	$n < 2$
3	Middle term of $(a+b)^{11}$ is / are:	6th	5th & 6th	6th & 7th	5th
4	$\cot^2 \theta - \operatorname{cosec}^2 \theta$ equal to:	2	0	1	-1
5	$\tan(\pi - \alpha)$ is equal to:	$\tan \alpha$	$-\tan \alpha$	$\cot \alpha$	$-\cot \alpha$
6	The period of $3 \cos \frac{x}{5}$ is:	π	$\frac{\pi}{10}$	10π	$\frac{\pi}{5}$
7	If ΔABC is right triangle such that $m\angle \alpha = 90^\circ$, then with usual notations, the true statement is:	$a^2 = b^2 + c^2$	$b^2 = a^2 + c^2$	$c^2 = a^2 + b^2$	$a^2 = b^2 = c^2$
8	$\frac{a}{\sin \alpha} = \frac{b}{\sin \beta} = \frac{c}{\sin \gamma}$ is called:	Law of cosine	Law of sine	Law of tangents	Law of fundamental trigonometry
9	$2 \tan^{-1} A$ equals:	$\tan^{-1} \left(\frac{2A}{1-A^2} \right)$	$\tan^{-1} \left(\frac{A}{1-A^2} \right)$	$\tan^{-1} \left(\frac{A}{1+A^2} \right)$	$\tan^{-1} \left(\frac{2A}{1+A^2} \right)$
10	If $\sin x = \cos x$, then $x =$:	0°	30°	45°	60°
11	The multiplicative inverse of complex number $(0, -1)$ is equal to:	$(1, 0)$	$(0, 1)$	$(-1, 0)$	$(0, 0)$
12	The domain of $f = \{(a, 1), (b, 1), (c, 1)\}$ is equal to:	$\{a, b, c\}$	$\{a\}$	$\{1\}$	$\{b, c\}$
13	The inverse of a square matrix exists if A is:	Singular	Non-singular	Symmetric	Rectangular
14	The matrix $[a \ b \ c \ d]$ is:	Square	Unit	Null	Row matrix
15	The number of roots of polynomial equation $8x^6 - 19x^3 - 27 = 0$ are:	2	4	6	8
16	If ω is the cube root of unity, then $(1 + \omega - \omega^2)^8 =$:	256	-256	-256ω	256ω
17	Types of rational fractions are:	3	2	4	1
18	Reciprocal terms of an arithmetic progression form:	A.P.	H.P.	G.P.	Sequence
19	If A, G, H have their usual meanings and 'a' and 'b' are positive distinct real numbers and $G > 0$, then:	$A > G > H$	$A < G < H$	$H > G > A$	$G > H > A$
20	If ${}^n P_2 = 30$, then n = :	6	4	5	8