

Objective
Paper Code
8198

Intermediate Part Second
MATHEMATICS (Objective) Group – II
Time: 30 Minutes Marks: 20

Roll No. : _____



Q.No.1

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.

S.#	Questions	A	B	C	D
1	The altitudes of a triangle are:	Concurrent	Parallel	Perpendicular	Imaginary
2	The line $y = 3x$ passes through:	Origin	(4, 3)	(3, 1)	(0, 3)
3	A quadrilateral having two parallel and two non-parallel sides is called:	Parallelogram	Rhombus	Trapezium	Triangle
4	The maximum or minimum values of objective function occur at corner points of the feasible region, is called:	The theorem of linear programming	Feasible theorem	Optional theorem	Convex
5	The focus of $y^2 = -4ax$ is:	(0, 0)	(a, 0)	(-a, 0)	(a, a)
6	The eccentricity of parabola is:	0	1	Less than one	Not defined
7	The center of $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ is:	(0, 0)	(a, 0)	(0, b)	(a, b)
8	If $\vec{u}$, $\vec{v}$ and $\vec{w}$ are coplaner vectors than the volume of the parallelopiped so formed is:	1	0	$ \vec{u} \times \vec{v} \times \vec{w} $	$\sqrt{u^2 + v^2 + w^2}$
9	The magnitude of $\vec{u} = \vec{i} + \vec{j}$ is:	$2\sqrt{i^2 + j^2}$	2	$\sqrt{2}$	$\frac{\hat{i} + \hat{j}}{\sqrt{2}}$
10	The unit vector in the direction of $2\hat{i} - \hat{j}$ is:	5	$\sqrt{5}$	$\frac{2\vec{i} - \vec{j}}{5}$	$\frac{2\vec{i} - \vec{j}}{\sqrt{5}}$
11	A function $C : \mathbb{R} \rightarrow \mathbb{R}$ defined by $C(x) = 2$ for all $x \in \mathbb{R}$ is called:	Domain	Range	Constant function	Objective function
12	For the function $f(x) = x^n$, $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a} = :$	nx^{n-1}	na^{n-1}	0	∞
13	If $f(x) = x $ then $f'(0) = :$	0	1	-1	Does not exist
14	The sum of two integers is 9. If one integer is x, then other will be:	9x	9 - x	x - 9	x + 9
15	The derivative of arc cos x is:	$\frac{-1}{\sqrt{1-x^2}}$	$\frac{1}{\sqrt{1+x^2}}$	$\frac{1}{\sqrt{x^2-1}}$	$\frac{-1}{\sqrt{x^2-1}}$
16	The first term of Taylor Series Expansion of $\ln(1+x)$ at $x = 2$ is:	$\ln 3$	$\ln 2$	$\ln 1$	$\ln 0$
17	$\int \tan x \, dx = :$	$\sec^2 x$	$\sec x \tan x$	$\ln \sec x$	$\ln \cos x$
18	The suitable substitution to integrate $\sqrt{x^2 - a^2} :$	$x = a \sin \theta$	$x = a \cos \theta$	$x = a \sec \theta$	$x = a \tan \theta$
19	$\int e^{ax} [af(x) + f'(x)] dx = :$	$e^{ax} f(x)$	$e^{ax} a \cdot f(x)$	$e^{ax} f'(x)$	$a f'(x)$
20	$\int \frac{2}{x+2} dx = :$	$\ln x+2 $	$\ln x+2 ^2$	$\frac{1}{\ln x+2 }$	2