



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.

Q.#	Questions	A	B	C	D
1	The lines through origin represented by $ax^2 + 2hxy + by^2 = 0$ are coincident if:	$h^2 = ab$	$h^2 + ab = 0$	$h^2 - ab > 0$	$h^2 - ab < 0$
2	Slope of the line parallel to x-axis is:	Undefined	1	0	-1
3	Distance of the point $(-2, 3)$ from y-axis is:	2	-2	3	-3
4	Intercept form of equation of a line is:	$\frac{x}{a} - \frac{y}{b} = 0$	$\frac{x}{a} + \frac{y}{b} = 0$	$\frac{x}{a} - \frac{y}{b} = 4$	$\frac{x}{a} + \frac{y}{b} = 1$
5	$(1, 0)$ is not the solution of the inequality:	$x - 3y < 0$	$7x + 2y < 8$	$3x + 5y < 7$	$4x - 3y < 9$
6	Two circles are said to be concentric circles if they have:	Same radius	Different center	Same center	Same diameter
7	The latus rectum of the parabola $y^2 = -4ax$ is:	$x = a$	$x = -a$	$y = a$	$y = -a$
8	The two separate parts of hyperbola are called:	Foci	Vertices	Directrices	Branches
9	$\underline{i} \times \underline{k} = :$	$-\underline{j}$	$\underline{j}$	$\underline{j}$	0
10	The position vector of any point in xy-plane is:	$x\underline{i} + y\underline{j} + z\underline{k}$	$y\underline{j} + z\underline{k}$	$x\underline{i} + y\underline{j}$	$x\underline{i} + z\underline{k}$
11	Cosh $2x = :$	$\frac{e^{2x} - e^{-2x}}{2}$	$\frac{e^{2x} + e^{-2x}}{2}$	$\frac{e^x + e^{-x}}{2}$	$\frac{e^{2x} - e^{-2x}}{e^{2x} + e^{-2x}}$
12	$\lim_{n \rightarrow +\infty} \left(1 + \frac{1}{n}\right)^{2n} = :$	e	e^2	e^4	e^6
13	The notation used for derivative of $f(x)$ by Cauchy is:	$Df(x)$	$f'(x)$	$\dot{f}(x)$	$\frac{df}{dx}$
14	If $y = \tan x$ then $y_2 = :$	$\frac{1}{x}$	$\frac{-1}{x}$	$\frac{-1}{x^2}$	$\frac{1}{x^2}$
15	$\frac{d}{dx}(e^{\sin x}) = :$	$\cos x$	$e^{\sin x} \cos x$	$e^{\sin x} \sin x$	$\sin x$
16	$\frac{d}{dx}(\tan^{-1} 3x) = :$	$\frac{1}{1+3x}$	$\frac{3}{1+3x}$	$\frac{1}{1+9x^2}$	$\frac{3}{1+9x^2}$
17	$\int x^{-1} dx = :$	$\ln x + c$	$\frac{x^{-2}}{2}$	$-x^{-2}$	0
18	$\int e^x \left[\sinh^{-1} x + \frac{1}{\sqrt{1+x^2}} \right] dx = :$	$e^x \cosh^{-1} x$	$e^x \cos^{-1} x$	$e^x \sinh^{-1} x$	$e^x \sin^{-1} x$
19	$\int_0^1 \frac{1}{1+x^2} dx = :$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{\pi}{6}$
20	$\int \tan x \sec^2 x dx = :$	$\tan x + c$	$\sec^2 x + c$	$\sec x + c$	$\frac{\tan^2 x}{2} + c$