Objective

Intermediate Part Second

Paper Code
MATHEMATICS (Objective)   Group – I

8191
Time: 30 Minutes   Marks: 20

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	$\underset{x \to 0}{\text{Lim}} \dfrac{x}{\sin 2x} = ?$	$\dfrac{1}{2}$	2	$-\dfrac{1}{2}$	-2
2	The function $f(x) = \dfrac{x}{x^2 - 4}$ is discontinuous at:	0	± 2	1	± 1
3	$\underset{h \to 0}{\text{Lim}} \dfrac{f(a+h) - f(a)}{h} = ?$	$f(a)$	$f'(a+h)$	$f'(a)$	$f'(x)$
4	$\dfrac{dy}{dx} = -\dfrac{1}{x^2}$ if :	$y = -\dfrac{1}{x}$	$y = -x$	$y = \ell nx$	$y = \dfrac{1}{x}$
5	If $f(x) = \cos x$, then $f'\left(\dfrac{\pi}{2}\right) = ?$	-1	1	0	2
6	$\dfrac{d}{dx}(e^{\frac{1}{x}}) = ?$	$e^{\frac{1}{x}}$	$-\dfrac{1}{x^2}e^{\frac{1}{x}}$	$\dfrac{1}{x}e^{\frac{1}{x}}$	$\dfrac{1}{x^2}e^{\frac{1}{x^2}}$
7	Differential of $\sqrt{y}$ is:	$\sqrt{y}\,dx$	$\sqrt{y}\,dy$	$\dfrac{1}{2\sqrt{y}}dy$	$\dfrac{1}{2\sqrt{y}}dx$
8	$\int \sec ax \tan ax\, dx = ?$ is :	$\dfrac{\tan ax}{a}+c$	$\dfrac{\sec ax}{a}+c$	$\dfrac{\sec ax \tan ax}{a}+c$	$\dfrac{\cot ax}{a}+c$
9	$\int \dfrac{1}{x^2 + 3}dx = ?$	$\tan^{-1}\left(\dfrac{x}{3}\right)+c$	$\dfrac{1}{3}\tan^{-1}\left(\dfrac{x}{3}\right)+c$	$\dfrac{1}{\sqrt{3}}\tan^{-1}\left(\dfrac{x}{\sqrt{3}}\right)+c$	$\cot^{-1}(3x)+c$
10	$\displaystyle\int_{\frac{-\pi}{2}}^{\frac{\pi}{2}} \cos\left(\dfrac{x}{2}\right)dx = ?$	1	$\sqrt{2}$	$2\sqrt{2}$	$4\sqrt{2}$
11	Slope of a line $ax + by + c = 0$ is:	$-\dfrac{a}{b}$	$\dfrac{a}{b}$	$-\dfrac{b}{a}$	$\dfrac{b}{a}$
12	Inclination of a line $x = 6$ is:	0	π	$\dfrac{\pi}{4}$	$\dfrac{\pi}{2}$
13	The point of intersection of lines $y = 2$ and $x = -1$ is:	$(2, -1)$	$(2, 1)$	$(2, 0)$	$(-1, 2)$
14	$x - y < 2$ is satisfied by the point:	$(3, 1)$	$(-1, 1)$	$(1, -1)$	$(0, -2)$
15	Center of a circle $(x+1)^2 + y^2 = 25$ is:	$(0, 0)$	$(1, 0)$	$(-1, 0)$	$(0, 2)$
16	Major axis of $\dfrac{x^2}{a^2} + \dfrac{y^2}{b^2} = 1$ is :	$x = a$	$x = \pm\dfrac{a}{c}$	$y = \pm\dfrac{a}{b}$	$y = 0$
17	Length of minor axis of $x^2 + 4y^2 = 16$ is:	4	16	20	36
18	Center of $\dfrac{(x-1)^2}{4} - \dfrac{(y+1)^2}{16} = 1$ is:	$(0, 0)$	$(1, -1)$	$(-1, -1)$	$(-1, 1)$
19	The direction cosines of y-axis are :	$0, 0, 0$	$1, 0, 0$	$0, 1, 0$	$0, 0, 1$
20	$\hat{i} \cdot \hat{k} \times \hat{j} = ?$	0	1	$\dfrac{1}{2}$	-1