Objective
Paper Code
8197

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

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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 lines represented by $ax^2 + 2hxy + by^2 = 0$ are parallel if:	$h^2 - ab = 0$	$h^2 - ab > 0$	$h^2 - ab < 0$	$h^2 = a + b$
2	The slope intercept form of equation of line is:	$1 = \dfrac{x}{a} + \dfrac{y}{b}$	$y = mx + c$	$y = \dfrac{x}{m} + c$	$y - y_1 = m(x - x_1)$
3	Two lines ℓ_1 and ℓ_2 with slope m_1 and m_2 are parallel if:	$m_1 = -m_2$	$m_1 = m_2$	$m_1 m_2 = -1$	$m_1 = \dfrac{1}{m_2}$
4	$x = 5$ is not solution of inequality:	$x + 4 > 0$	$2x + 3 < 0$	$x - 4 > 0$	$x + y > 4$
5	The parametric equations $x = a\cos\theta$, $y = a\sin\theta$ represent equation of:	Circle	Ellipse	Hyperbola	Parabola
6	The length of tangent from (0 , 1) to circle $x^2 + y^2 + 6x - 3y + 3 = 0$ is:	2	-2	1	3
7	For parabola value of eccentricity e is:	$e = 0$	$e < 1$	$e > 1$	$e = 1$
8	$\hat{i} \cdot (\hat{j} \times \hat{j}) = :$	1	i	0	2
9	If $\underline{u}$ is non-zero vector then $\underline{u} \cdot \underline{v} = :$	0	1	-1	u^2
10	A vector perpendicular to both vectors $\underline{a}$ and $\underline{b}$ is:	$\underline{a} \cdot \underline{b}$	$\underline{a} \times \underline{b}$	$\dfrac{\underline{a} \cdot \underline{b}}{|\underline{a}|}$	$\underline{b} \cdot \underline{a}$
11	$\displaystyle \lim_{n \to \infty} \left(1 - \dfrac{1}{n}\right)^n = :$	e^{-1}	e	e^2	$\dfrac{1}{e^2}$
12	Domain of $f(x) = 2 + \sqrt{x-1}$, $\forall x \in R$ is:	$(-1, \infty)$	$(1, \infty)$	$(2, \infty)$	$(-2, \infty)$
13	If $f(x) = \cos x$ then $f'(\sin^{-1} x) = :$	$-\sin x$	$-x$	1	x
14	If $y = e^{2x}$ then $y_4 = :$	$16 e^{2x}$	$8 e^{2x}$	$4 e^{2x}$	$-16 e^{2x}$
15	$\dfrac{1}{x} \dfrac{d}{dx}(\sin x^2) = :$	$2x \cos x^2$	$2 \cos x^2$	$2x \sin x^2$	$\sin x^2$
16	If $y = 5e^{3x-4}$ then $\dfrac{dy}{dx} = :$	$5 e^{3x}$	e^{3x-4}	$15 e^{3x-4}$	$5(3x - 4)$
17	$\int \dfrac{a}{x}\, dx = :$	$ax + c$	$a \ell n |x| + c$	$-\dfrac{a}{x^2} + c$	$\dfrac{1}{a} \ell nx + c$
18	$\int e^x(\sin x + \cos x)\, dx = :$	$e^x \cos x + c$	$e^x \sin x$	$e^x \sin x + c$	$e^x \cos x$
19	$\int \sin 5x\, dx = :$	$-\dfrac{1}{a} \cos x$	$-\dfrac{1}{5} \cos 5x + c$	$\dfrac{1}{5} \sin x + c$	$\dfrac{1}{5} \cos 5x + c$
20	Solution of different equation $\dfrac{dy}{dx} = -y$ is :	$y = ce^x$	$y = ce^{-x}$	e^x	$\dfrac{1}{c} e^{-x}$