Model Paper **Mathematics Paper – XII**

1۔ ہر سوال کے سامنے چار دائرے دیئے گئے ہیں، صرف صحیح جواب والا دائرہ بھر دیں۔

2۔ دائروں کو شیڈ (بھرنے) کے لئے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

3۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہوگا۔

Time Allowed: 20 Minutes **SECTION – A** **Marks : 20**

1	The range of $y = \frac{1}{x-3}$ is	◯ R	◯ R-{y|y≠3}	◯ R-{y|y≠0}	◯ R-{3}
2	The function $f(x) = \frac{\|x\|}{x}$ is discontinuous at...	◯ x = 1	◯ x = –1	◯ x = 0	◯ x = 2
3	$\frac{d}{dx}\left(3^x\right) =$	◯ $x3^{x-1}$	◯ $3^x \ln 3$	◯ 3^x	◯ 3^{x+1}
4	$\frac{d}{dx}\left(\text{Sinh}^{-1}3x\right) =$	◯ $\frac{3}{\sqrt{1+9x^2}}$	◯ $\frac{3}{\sqrt{1-9x^2}}$	◯ $\frac{-3}{\sqrt{1+9x^2}}$	◯ $\frac{-3}{\sqrt{1-9x^2}}$
5	$f(x) = 2^{3x}$ then $^{v}f(x)$=.....	◯ $3^5\, 2^{3x}$	◯ $3^5\, 2^{3x}\log 2$	◯ $3^5\, 2^{3x}\log 2^5$	◯ $3^5\, 2^{3x}(\log 2)^5$
6	The slope of the tangent line on a curve y = f(x) at a particular point $P(x_1,y_1)$ is ...	◯ $^{/}f(x_1)$	◯ $^{/}f(y_1)$	◯ $^{/}f(x_1,y_1)$	◯ $f(x_1,y_1)$
7	A function f(x) is defined at a number K and either $^{/}f(K) = 0$ or $^{/}f(K)$ does not exist. Then the number K is called a	◯ Maximum value	◯ Minimum value	◯ Stationary value	◯ Critical value
8	The vector function $f(x) = (\text{Sin } x, (1-x)^{-1}, \text{Ln}x)$ is continuous at ...	◯ R	◯ $x \neq 1$	◯ R – {0}	◯ $x > 0, x \neq 1$
9	$\int 5^{2x}dx$=.....	◯ $\frac{5^{2x}}{2}+c$	◯ $\frac{5^{2x}}{2\ln 5}+c$	◯ $\frac{5^{2x}}{\ln 5}+c$	◯ $\frac{2.5^{2x}}{\ln 2}+c$
10	The eccentricity of an ellips lies between...	◯ – 1 and 1	◯ 0 and 1	◯ 1 and 2	◯ None of these
11	$\ln\int \frac{1}{9+x^2}dx$ we substitute x = ...	◯ Tan θ	◯ Sec θ	◯ 3 Tan θ	◯ 3 Sec θ
12	$\ln\int \frac{x^2}{(x+1)^2}dx$ we use the method of	◯ By Parts	◯ Logarithmic	◯ Partial Fraction	◯ None of these
13	$\int_{-2}^{2}(x^2+2)dx$ = ...	◯ 12	◯ 6	◯ 2	◯ 0
14	The slope of a straight line coincides or parallel to X-axis is	◯ 1	◯ 0	◯ –1	◯ ∞
15	When the radius of a circle is zero then such a circle is called .....circle.	◯ Semi	◯ Point	◯ Virtual	◯ Imaginary
16	The slope of a line bisecting the 1st and 3rd quadrant is	◯ 0	◯ 1	◯ $\frac{\pi}{4}$	◯ –1
17	In parabola $y^2 – 12x = 0$ the length of focal chord is	◯ 12	◯ –12	◯ $\frac{3}{4}$	◯ $\frac{4}{3}$
18	The equation of normal to the elips $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$ at a point $P(x_1, y_1)$ is	◯ $\frac{xx_1}{a^2}+\frac{yy_1}{b^2}=1$	◯ $\frac{x_1^2}{a^2}+\frac{y_1^2}{b^2}=1$	◯ $\frac{y-y_1}{y_1/b^2}=\frac{x-x_1}{x_1/a^2}$	◯ $\frac{xx_1}{a^2}-\frac{yy_1}{b^2}=1$
19	The differential equation $\frac{d^3y}{dx^3}-3\left(\frac{d^2y}{dx^2}\right)^2+x^2\left(\frac{dy}{dx}\right)^3+2y=3$ is of degree.	◯ 1	◯ 2	◯ 3	◯ None of these
20	If the function values f(a) and f(c) at x=a and x=c have opposite signs then the root lies in the interval.....	◯ [c,a]	◯ [a,c]	◯ (c,a)	◯ (a,c)