

MTH-101 Final Term Exams Preparation Virtual University

Sr	Questions	Answers Choice
1	Let $f(x)$ is the function such that as x approaches a real number, either from left or right hand side, the function value increase or decrease unboundedly then $\lim f(x)$	A. Exist B. Does not exist C. Not Sure
2	If a slope m of a nonvertical line is $m=1$ then the angle of inclination of the line is	A. $\frac{\pi}{4}$ B. $\frac{\pi}{2}$ C. $\frac{\pi}{5}$ D. $\frac{\pi}{5}$
3	A function f is called antiderivative of a function on a given interval if _____ $=f(x)$, for all x in that interval	A. $F'(x)$ B. $F(x)$ C. $f(x)$ D. $f'(x)$
4	If $x > 0$ then $\frac{d}{dx}[\ln x] =$ _____	A. 1 B. x C. $\frac{1}{x}$ D. $\ln \frac{1}{x}$
5	If a quantity y depends on another quantity x in such a way that each value of x determines exactly one value of y , we say that y is _____ of x	A. relation B. Function C. Not a function D. Not a Relation
6	$(x^2-4)/(x-2)$ Natural domain is	A. $(-\infty, 2) \cup (2, \infty)$ B. $(-\infty, 2)$ C. $(-\infty, 0)$ D. None of these
7	Suppose that we apply Newton method to approximate the real solution of the equation $x^3 - 2x^2 - 1 = 0$ if we start at $x_1 = 2$, then which of the following is value of x_2 ?	A. 6 B. 2.25 C. 0 D. 2
8	The mean value of theorem states that " Let function f can be differentiable on (a, b) and continuous on $[a, b]$ then there is no exist at least one point c in (a, b) where _____	A. $f'(c) = \frac{f(b) - f(a)}{b - a}$ B. $f(c) = \frac{f(b) - f(a)}{b - a}$ C. $f(c) = f(a) - f(b) / b - a$
9	$\log_b a^r =$ _____?	A. $\log_{b^r} b$ B. $r \log_{b^r} b$ C. $\log_{b^r} b / a$ D. $\log_{b^r} b / \log_{b^r} a$
10	$y = 1/1-x$ dy/dx if then	A. 1 B. -1 C. $1/(1-x)^2$
11	graph $x = y^2$ is symmetric about	A. x axis B. y axis C. origin
12	If the geometric series $a + ar + ar^2 + ar^3 + \dots + ar^{k-1}$ which of the following is true for the given series	A. converges B. Diverges C. Give no information
13	If a quantity y depends on another quantity x in such a way that each value of x determines exactly one value of y , we say that y is _____ of x	A. relation B. function C. not a function D. not a relation
14		A. 2.71 B. 1.71

14	What is the base of natural logarithm ?	B. 10 C. 5
15	$y=f(x)$ then the average rate of change of y with respect to x over the interval $[x_0, x_1]$ is the _____ joining the points $(x_0, f(x_0))$ and $(x_1, f(x_1))$ on the graph of f	A. Slope of the secant line B. Slope of the tangent line C. Secant line D. none of these
16	$d(\tan x)/dx =$ ____	A. $\sec x$ B. $\sec^2 x$ C. $\operatorname{cosec}^2 x$ D. $\operatorname{cosec} x$
17	$2/3$ is known as	A. even number B. irrational number C. natural number D. rational number
18	$\log_b ac =$ ____	A. $\log_b a + \log_b c$ B. $\log_b a - \log_b c$ C. $\log_b a / \log_b c$ D. $\log_b a * \log_b c$
19	According to the power rule of differentiation, if $f(x) = x^n$ where n is a real number then $d/dx[x^n] =$	A. x^{n-1} B. nx^{n-1} C. nx^{n+1}
20	Which of the following option is true for the sequence $a_n = \{1/n\}_{n=1}$ which of the following option is true for the sequence	A. Increasing B. Decreasing C. Non increasing D. Non Decreasing