Quiz#2 Solution

BAHRIA UNIVERSITY, (Karachi Campus)

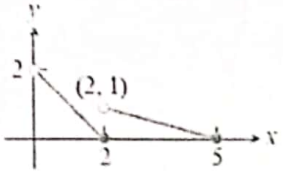
Department of Software Engineering

Quiz 2 - Fall 2022

COURSE TITLE:	Calculus and Analytical Geometry	COURSE CODE:	GSC-110
Class:	BSE-I (B)	Shift:	**Morning**
Course Instructor:	MR. DANIYAL UR REHMAN	Time Allowed:	**20 min**
Date:	11-11-2022	Max. Marks:	**10 Marks**

[CLO2: 2.5 Marks]

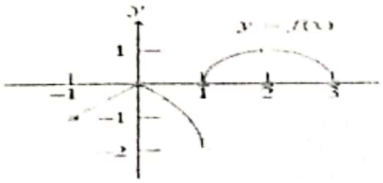
Question No. 1 Express the formula for piecewise function f(x) from the given figure



$$f(x) = \begin{cases} -x+2 & 0 < x \leq 2 \\ \frac{5-x}{3} & 2 < x < 5 \end{cases}$$

Question No. 2 a) Give the reason for discontinuity of function $f(x) = \frac{x^2-16}{x-4}$ at point $x = 4$ Since $f(x)$ does not define at $x=4$, then $\lim_{x\to 4} f(x) \neq f(4)$
Thus, $f(x)$ is discontinous at $x=4$

b) Given that the following statements about the function $y = f(x)$ graphed here. identify true false



i. $\lim_{x\to 2} f(x)$ does not exist False
ii. $\lim_{x\to 1} f(x)$ does not exist False
iii. $f(-1)$ = undefined False
iv. $f(3) = 0$ True

Question No. 3 Find the equation of the tangent to the curve $y = 3x + \frac{2}{x}$ at the point $(1, -3)$ $y' = 3 - \frac{2}{x^2}$ at $(1,-3)$ $m = 3 - \frac{2}{1^2} = 1$

$y+3 = 1(x-1)$

$x-1 = y+3$

$\boxed{x-y=4}$