BAHRIA UNIVERSITY, (Karachi Campus)

Department of Software Engineering

Assignment 1 - 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:	**1 Week**
Submission Date:	**18-10-2022**	Max. Marks:	**5 Marks**

Question No. 1 **[CLO1: 5 Marks]**

Solve the inequality and show answer in interval notation

- i) $\frac{6-x}{4} \leq \frac{3x-4}{2}$
- ii) $\left|\frac{3}{2}z - 1\right| \leq 2$
- iii) $\left|\frac{3p}{5} - 1\right| > \frac{2}{5}$
- iv) $x^2 - 5x + 6 \geq 0$

Question No. 2

Write an equation for line described

- **i)** Passes through $(-1,3)$ with slope -2
- **ii)** The vertical line passes through (-1.4)
- **iii)** The horizontal line $(-5,4)$

Question No. 3

A particle starts at $A(-2,3)$ and its coordinate change by increments $\Delta x = 5, \Delta y = 0 - 6$. Find its new position.

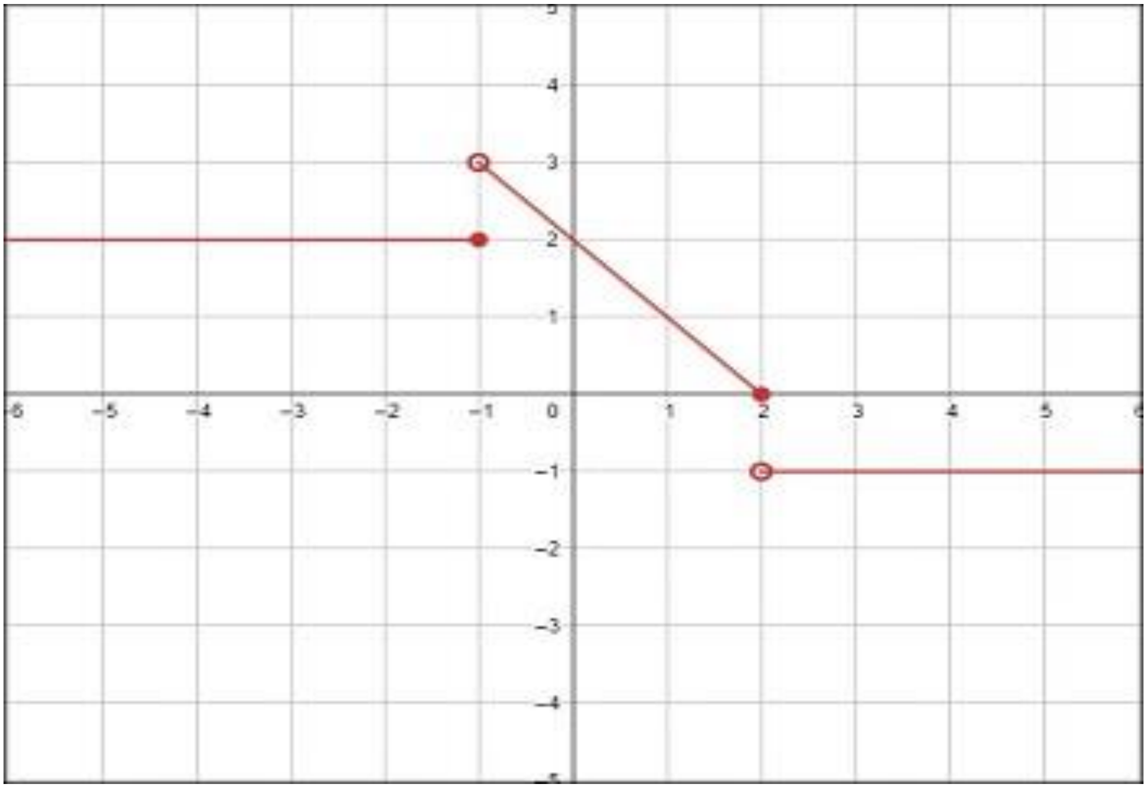
Question No. 4

Identifying the domain and range of the following functions

- i) $f(x) = \sqrt{-(16 - x^2)}$
- ii) $g(x) = \frac{1}{\sqrt{x^2}}$

Consider $h(x) = \sqrt{4 - \sqrt{x}}$ can $x < 0$? Can$\sqrt{x} > 4$? Find the domain of $h(x)$

Question No. 5

Find a formula in terms of x for the function below.