East Delta University

School of Science, Engineering and Technology
B.Sc. (Hons.) Semester Midterm Examination – Spring 2022
Name of the Course (Course Code): Artificial Intelligence (CSE317)

Marks: 25   **Time: 1 hour 30 minutes**

(a) Answer any five (05) questions
(b) Figures to the right indicate full marks.

1.	**a.**	Define AI in two categories.	**2**
	b.	A Turing Test approach is a machine that acting humanly. Do you agree with this statement, justify your opinion.	**3**
2.	**a.**	What is relational agent? What are the factors are involved in rational agent?	**3**
	b.	Give the PEAS description of an interactive English tutor system.	**2**
3	**a.**	What are the phases are involved in designing a utility based agent?	**3**
	b.	While driving, which is the best policy?	**2**

   a. Always put your directional blinker on before turning
   b. Never use your blinker
   c. Look in mirrors and use your blinker only if you observe a car that can observe you?

What kind of reasoning did you need to do to arrive at this policy (logical, goal-based or utility based)?

4.	Describe formal definition for the following problem statements:	**5**

   i.   In a cryptarithmetic problem, letters stand for digits and aim is to find a substitution of digits for letters such that sum is arithmetically correct.
   ii. The goal of 8-queens problem is to place eight queens on a chessboard such that no queen attacks any other.
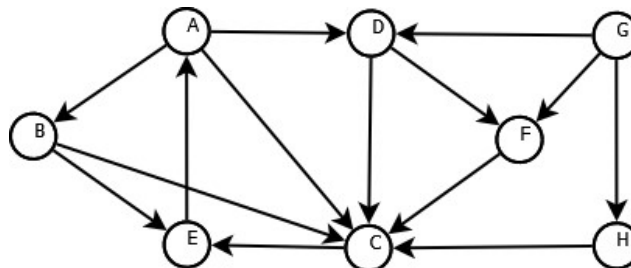
5.   **5**

Fig.1: A directed graph
Apply a comparative evaluation in fig-1 using DFS and BFS

6.	**a.**	Describes the hill climbing algorithm with suitable figure.	**3**
	b.	Describe the drawbacks of the hill climbing algorithm.	**2**