COMSATS University Islamabad (Lahore Campus)

√Midterm Exam ☐ Terminal Examination – SPRING 2022

Course Title:	Artificial Intelligence	Course Code:	CSC462	Credit Hours:	3
Course Instructor/s:	Dr. Atifa Athar Dr. Wajahat Mahmood Qazi, Dr. Zeeshan Gillani	Programme Name:	BS. Computer Science		
Time Allowed:	90 mins	Maximum Marks:			25

Important Instructions / Guidelines:

a. Start with prayer
b. Attempt your own exam
c. Write in legible handwriting
d. Write appropriate answers

Question No 1. **Marks: 9**

CLO: 1 *Bloom Taxonomy: Understanding*

Explain when it is inappropriate to use the following:

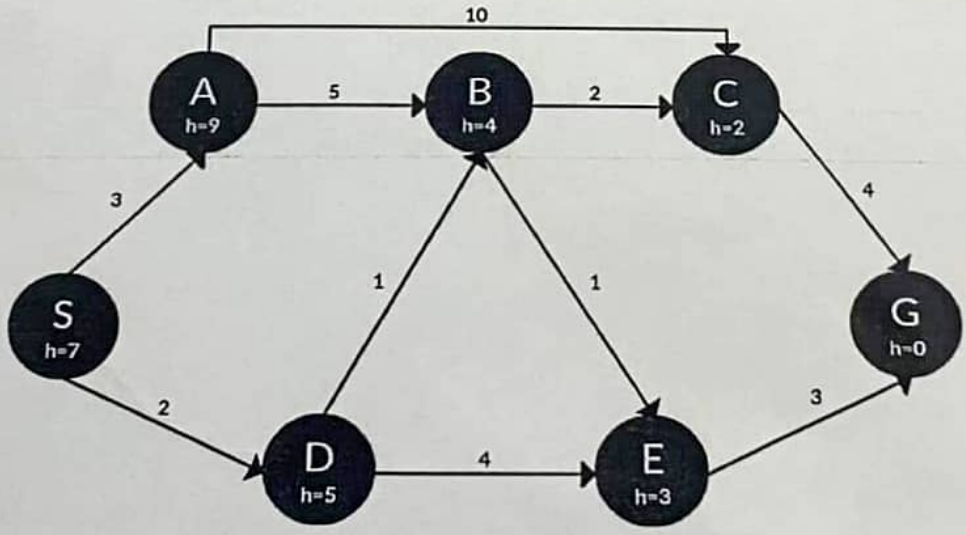
1. AI systems when designed to think rationally.
2. Goal Agent with planning
3. Reflex Agent

Question No 2. **Marks: 10**

CLO: 2 *Bloom Taxonomy: Applying*

a. Apply A* to find path from S to G.
b. Apply DFS to find path from S to G

Note: for both (a) and (b) write a complete step-by-step process.



Question No 2. **Marks: 6**

CLO: 2 *Bloom Taxonomy: Applying*

Apply genetic algorithm on string to print "Hello"

COMSATS University Islamabad (Lahore Campus)

√Midterm Exam ☐ Terminal Examination – FALL 2022

Course Title:	Artificial Intelligence	Course Code:	CSC462	Credit Hours:	3
Course Instructor/s:	Dr. Atifa Athar, Dr. Wajahat Qazi	Programme Name:	BS. Computer Science		
Time Allowed:	**90 mins**	**Maximum Marks:**			25

Important Instructions / Guidelines:

a. Start with prayer
b. Attempt your own exam
c. Write in legible handwriting
d. Write appropriate answers

Question No 1. **Marks: 8**

CLO: <1>; Bloom Taxonomy Level: <Understanding>

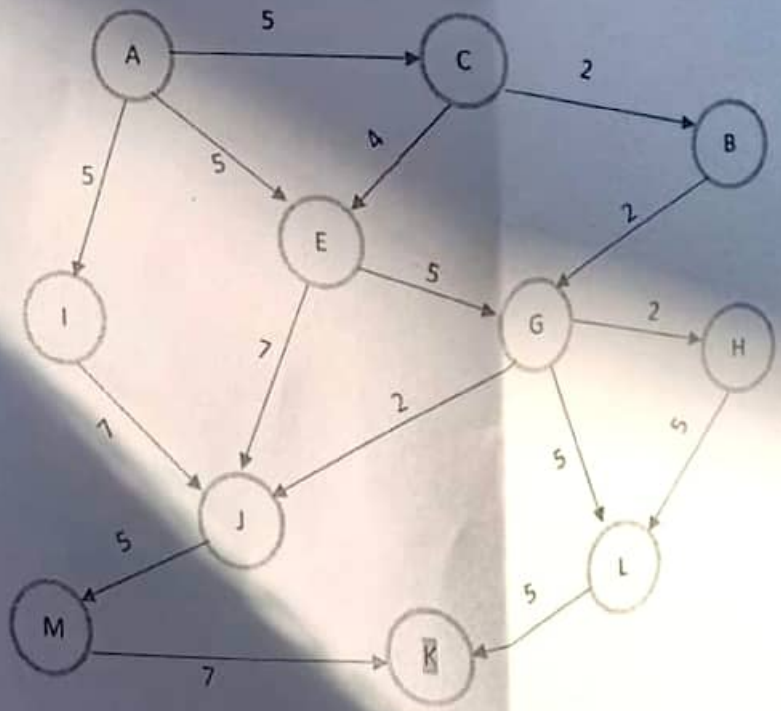
In order to make a safe city as an intelligent security and surveillance agent. Please explain Peas. Page and the type of agent that will be used in this scenario.

Question No 2. **Marks: 8**

CLO: <2>; Bloom Taxonomy Level: <Applying>

Calculate the path from node A to node K in the following graph by following the A* Algorithm. Show the working for path calculation. The cost of edges is given in the following table.

Node	A	B	C	E	G	H	I	J	K	L	M
Heuristic value	15	9	13	9	5	2	8	4	0	5	7



Question No 3. **Marks: 9**

CLO: <3>; Bloom Taxonomy Level: <Applying>

Apply ALPHA-BETA Pruning algorithm on the following tree. Show the complete working for every step according to the algorithm.