



Midterm Exam – Fall 2024

Course Title:	Artificial Intelligence	Course Code:	CSC462	Credit Hours:	3
Course Instructor	Dr. Atifa Athar, Dr. Zeeshan, Ms. Khaula	Programme Name:	BS. Computer Science, BS. Software Engineering		
Time Allowed:	90 mins	Maximum Marks:	25		
Name & Registration No					

Question No 1.

Marks: 8

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

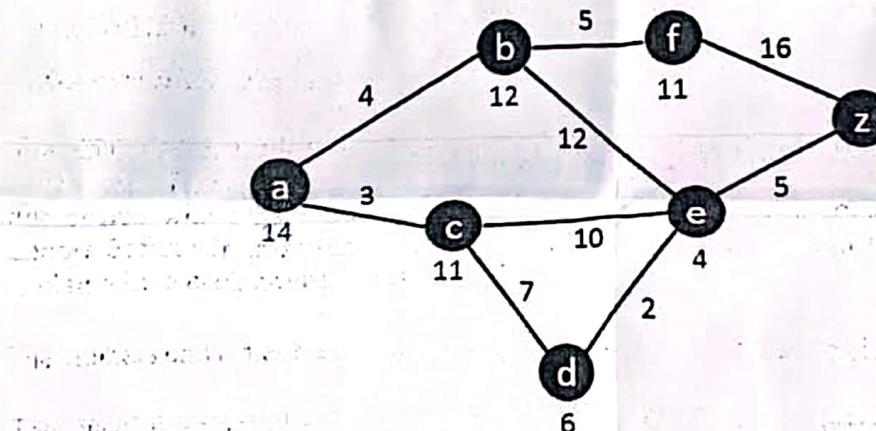
While designing an Autonomous Drone Agent for Package Delivery you need to identify the PEAS that can be used to operate within this specific context.

Question No 2.

Marks: 9

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

Consider the following Graph with cost and heuristic values. "a" is the Start State and "z" is the Goal State. You are required to find the path along with total cost from a to z by applying the A* algorithm.



Question No 3.

Marks: 8

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

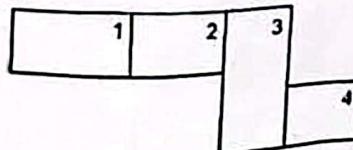
For CUI FA22, a visit is planned to Lahore Safari Park. There are seven animals and four enclosures. Because there are more animals than enclosures, some animals have to share the enclosures with others. However, the animals are very picky about who they live with. The Lahore Safari administration is having trouble assigning animals to enclosures. You are required to plan where each animal goes.

The animals chosen are a Lion, Antelope, Hyena, Evil Lion, Hornbill, Meerkat, and Boar.

They have given you the plans for the zoo layout. All enclosures need not to be filled.

Each animal has restrictions about where it can be placed.

1. The LION and the EVIL LION hate each other and do



- not want to be in the same enclosure.
2. The MEERKAT and BOAR are best friends and have to be in the same enclosure.
 3. The HYENA smells bad. Only the EVIL LION will share his enclosure.
 4. The EVIL LION wants to eat the MEERKAT, BOAR, and HORNBILL.
 5. The LION and the EVIL LION want to eat the ANTELOPE so badly that the ANTELOPE cannot be in either the same enclosure or in an enclosure adjacent to the LION or EVIL LION.
 6. The LION annoys the HORNBILL, so the HORNBILL doesn't want to be in the LION's enclosure.
 7. The LION is king, so he wants to be in enclosure No. 1.



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.

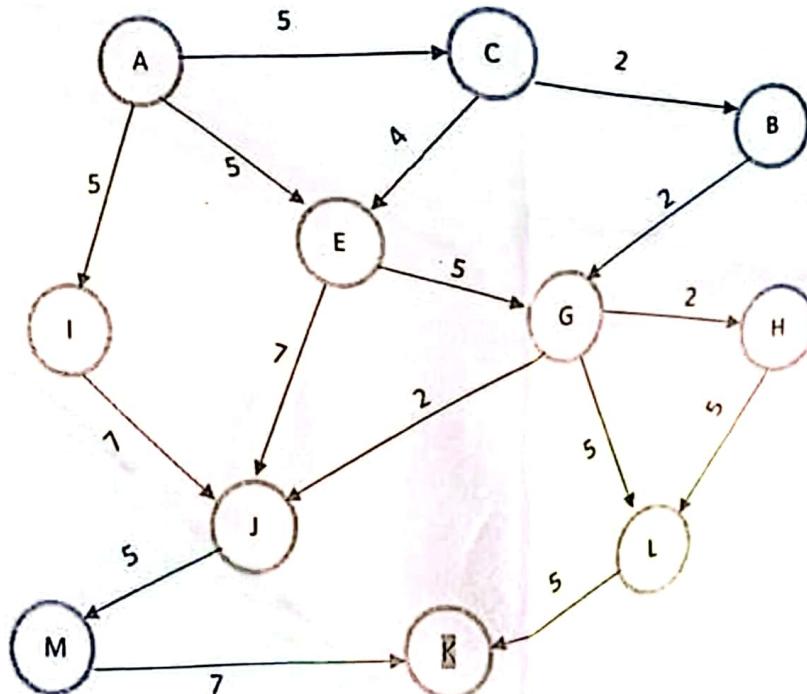
Question No 2.

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

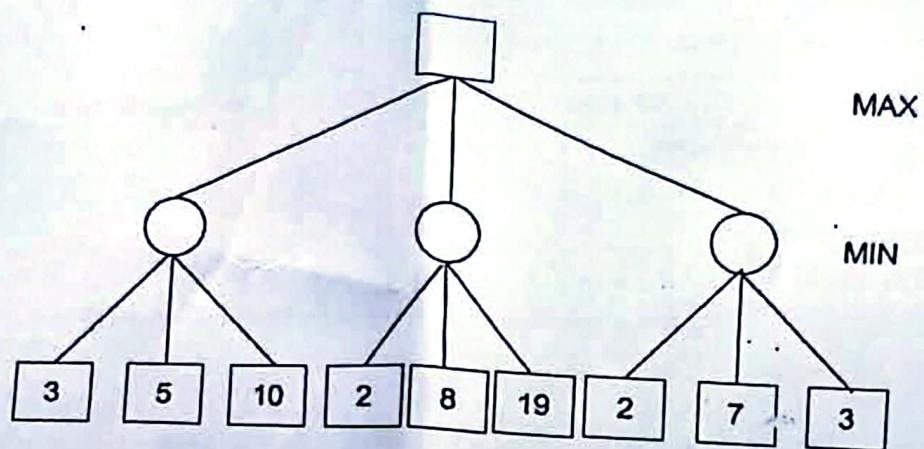


Marks: 9

Question No 3.

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.





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:									
<ul style="list-style-type: none"> 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*

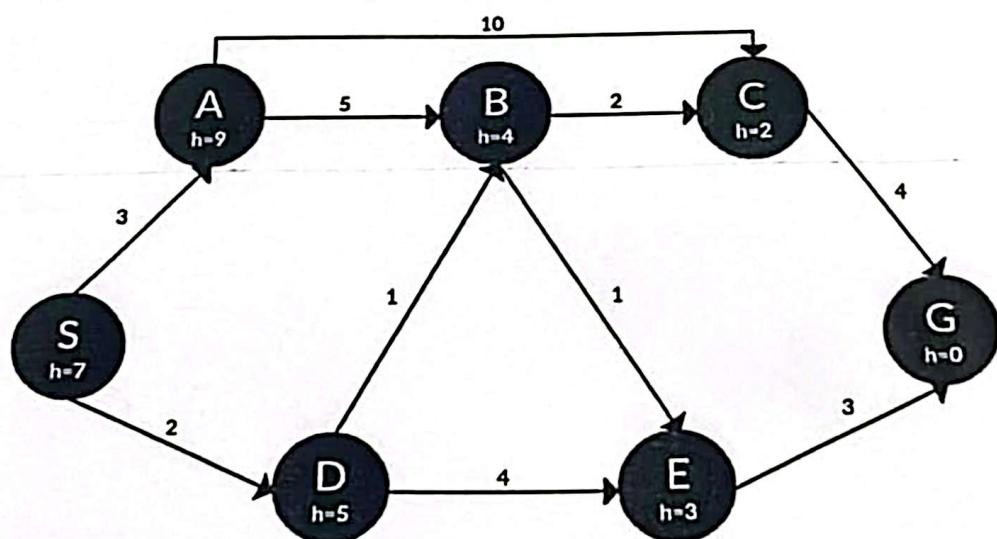
Explain when it is inappropriate to use the following:

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"



Midterm Exam □ Terminal Examination – FALL 2023

Course Title:	Artificial Intelligence	Course Code:	CSC462 [Credit Hours:]
Course Instructor/s:	Dr. Atifa Athar, Dr. Wajahat Qazi, Ms. Asmara Safdar	Programme Name:	BS. Computer Science
Time Allowed:	90 mins	Maximum Marks:	25
Important Instructions / Guidelines:			
<ul style="list-style-type: none"> a. Start with prayer b. Attempt your own exam c. Write in legible handwriting d. Write appropriate answers 			

Question No 1.**Marks: 12****CLO: <1>; Bloom Taxonomy Level: <Understanding>**

Consider a situation in the figure below where a human and a robot are working in proximity. Robots are working as assistants and their job is to provide tools to the human worker.

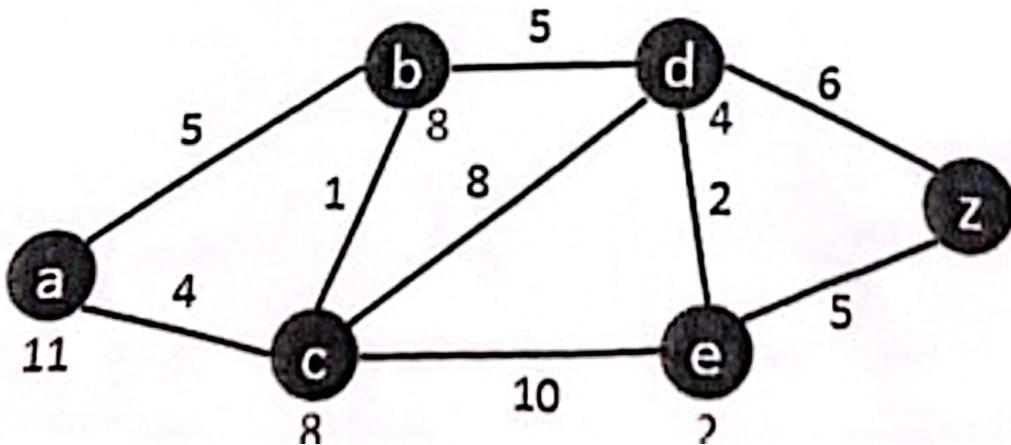


For the given scenario answer following

- a. Explain how the reflex-based agent is not appropriate for this scenario. (4)
- b. Explain how a utility-based agent is appropriate for this scenario. (4)
- c. Explain the type of environment for this scenario wr.t to the robot. (4)

Question No 2.**Marks: 10+3 = 13****CLO: <2>; Bloom Taxonomy Level: <Applying>**

- a. Apply the steps of the UCS Algorithm and A* Search algorithm to find the shortest path from **a** to **z** using the following graph:
- b. Find out the admissibility of given heuristics.





COMSATS University Islamabad (Lahore Campus)

Midterm Exam Terminal Examination – Spring 2024

Course Title:	Artificial Intelligence	Course Code:	CSC462	Credit Hours:	3
Course Instructor	Dr. Atifa Athar, Dr. Zeeshan Gilani, Ms. Asmara Safdar	Programme Name:	BS(CS), BS(SE)		
Time Allowed:	180 mins		Maximum Marks:	50	
Name & Registration No					

Question No 1.

Marks: 5+5 = 10

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

Consider a hypothetical city, in which there is an evil agent, that captures and kills chickens. Due to this, the population of chicken is dropping rapidly. This evil agent has a certain type of thermal signature that we can detect. The problem is, that an evil agent radiates thermal energy when it observes a chicken. You have been asked to propose a solution for developing a 'Chicken Saver Robot' (CSR). CSR will somehow, monitor the movement of chickens in the city and will try to identify the potential zone(s) where the evil agent will attack Chickens. The primary objective of CSR is to capture the evil agent; while doing so, it also has to ensure the safety of itself and the chickens. This is the first phase of the development of CSR, you are required to answer the following questions related to its design decisions:

- Which taxonomy will you choose to design the CSR agent and also list down five sensors that you will select for designing the CSR agent?
- Which agent architecture will you select for the design and why?

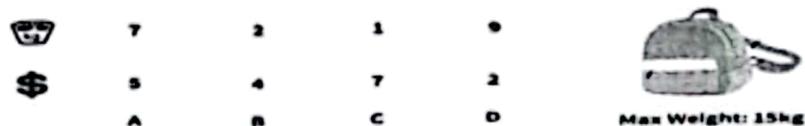
Question No 2.

Marks: 10

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

Consider we have a knapsack that can hold 15kg of weight at max. We have 4 items A, B, C, and D; having weights of 7kg, 2kg, 1kg, and 9kg; and value \$5, \$4, \$7, and \$2 respectively. Based on a given set of items, the total weight of each chromosome should be less than the maximum weight capacity of the Knapsack.

You are required to apply a Genetic algorithm to solve this problem.


Question No 3.

Marks: 2+2+6 = 10

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

Consider the following Scenario to provide a CSP solution to this problem. Also, allocate Domain Values to all variables and draw the constraint graph.

The Comsats Time Travel Society (CTTS) has invited seven famous historical figures to each give a lecture at the annual CTTS convention, and you've been asked to create a schedule for them. Unfortunately, there are only four-time slots available (1 pm - 4 pm), and you discover that there are some restrictions on how you can schedule the lectures and keep all the convention attendees happy. For instance, physics students will be disappointed if you schedule Niels Bohr and Isaac Newton to speak during the same time slot because those students were hoping to attend both of those lectures.

After talking to some students who are planning to attend this year's convention, you determine that the students fall into certain groups, each of which wants to see some subset of the time-traveling speakers. (Fortunately, each student identifies with at most one of the groups.) You write down everything you know:

The list of guest lecturers consists of Alan Turing, Ada Lovelace, Niels Bohr, Marie Curie, Socrates, Pythagoras, and Isaac Newton.

1. Turing has to get home early to help win World War II, so he can only be assigned to the 1 pm slot.
2. The Physics students want to see the physicists: Bohr, Curie, and Newton.
3. The mathematics students want to see the mathematicians: Lovelace, Pythagoras, and Newton.
4. The members of the Ancient Psychology Club want to see the ancient Greeks: Socrates and Pythagoras.
5. The visiting students want to see the female speakers: Lovelace and Curie.
6. The CS students want to see the British speakers: Turing, Lovelace, and Newton.
7. Finally, you decide that you will be happy if and only if you get to see both Curie and Pythagoras. (Yes, even if you belong to one or more of the groups above.)

Question No 4.

Marks: 10

CLO: <4>; Bloom Taxonomy Level: <Applying>

Construct a conceptual dependency graph for the following statements

1. The C++ book is on a brown table.
2. The C++ book has 500 pages.
3. Ahmed read a C++ Book.
4. Ahmad believes that Saira loves to program in C++.
5. Ahmad and Saira are class fellows.
6. They both registered in the Department of Computer Science at Comsats
7. In reality, Saira doesn't love to program in C++.
8. Saira sat on the grass between N Block and Labs.
9. Ahmed likes to work on Machine learning Projects of Intelligent Diagnosis.
10. Ahmed is a sister of Saira

Question No 5.

Marks: 10

CLO: <5>; Bloom Taxonomy Level: <Analyzing>

Using the provided dataset about customers and their purchase decisions regarding computers, apply the Naive Bayes classifier to predict whether a new customer will buy a computer based on the following information:

1. Age: Young
2. Income: Medium
3. Gender: Male
4. Marital Status: Single

Calculate the likelihood of the customer buying a computer (Buys Computer = Yes) and not buying a computer (Buys Computer = No) based on the Naive Bayes classifier.



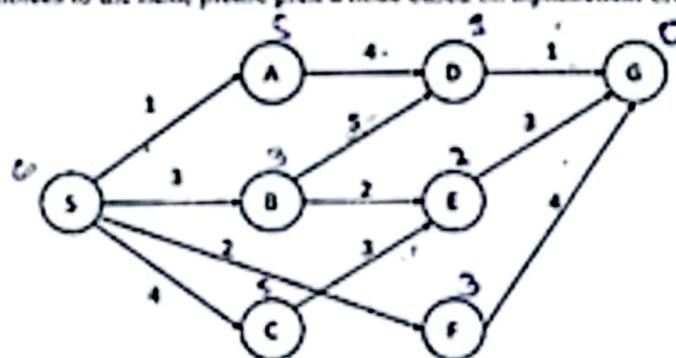
Course Title:	Artificial Intelligence	Course Code:	CSC462	Credit Hours:	3				
Course Instructor/s:	Dr. Atifa Athar, Dr. Wajahat Mahmood Qazi,	Programme Name:	BS. Computer Science						
Time Allowed:	180 mins		Maximum Marks:	50					
Important Instructions / Guidelines:									
<ul style="list-style-type: none"> a. Start with prayer b. Attempt your own exam c. Write in legible handwriting 									

Question No 1.

Marks: 12

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

Consider the following search problem, represented as a graph. The start state is S and the only goal state is G. For questions that require a heuristic, use the one given below. Note: When you have multiple choices to the next, please pick a node based on alphabetical order.



Heuristics	
S to G	6
A to G	5
B to G	3
C to G	5
D to G	1
E to G	2
F to G	3
G to G	0

- (a) What is the exploration order and the solution if we use the UCS tree search? Show the complete traversal order when you pick a node.
- (b) What is the exploration order and the solution if we use the A* tree search? Show the complete traversal order when you pick a node.
- (c) What is the exploration order and the solution if we use the Greedy tree search? Show the complete traversal order when you pick a node.

Question No 2.

Marks: 4+2= 6

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

What are the basic steps involved in performing a Monte Carlo simulation? Identify at least two limitations of Monte Carlo Simulations.

Question No 3.

Marks: 10

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

Suppose you're trying to schedule a Friday meeting for Joe, Mary, and Sue. Sue has to be at the meeting with at least one other person. Mary is available at 2 P.M., 3 P.M., and 4 P.M. Formulate this problem as CSP, stating the Constraints and Domains. Provide a solution for the given scenario.

Question No 4.

Marks: 12

CLO: <4>; Bloom Taxonomy Level: <Applying>

Construct a conceptual dependency graph for the following statements

Course Title:	Advanced DBT - Databases	Course Code:	CS20001
Course Instructor:	Dr. Attaq Altar, Dr. Wajahat Mahmood Qazi, Dr. Zeeshan Gillani	Programme Name:	BS Computer Science
Time Allowed:	180 mins	Maximum Marks:	50

Important Instructions / Guidelines:

- Start with prayer
- Attempt your own exam
- Write in legible handwriting
- Write appropriate answers

Question No 1.**Marks: 10****CLO: 2****Bloom Taxonomy: Applying**

Suppose a genetic algorithm uses chromosomes of the form $x = abcdefgh$ with a fixed length of eight genes. Each gene can be any digit between 0 and 9. Let the fitness of individual x be calculated as:

$$f(x) = (a + b) - (c + d) + (e + f) - (g + h)$$

and let the initial population consist of four individuals with the following chromosomes:

$$x_1 = 6\ 5\ 4\ 1\ 3\ 5\ 3\ 2$$

$$x_2 = 8\ 7\ 1\ 2\ 6\ 6\ 0\ 1$$

$$x_3 = 2\ 3\ 9\ 2\ 1\ 2\ 8\ 5$$

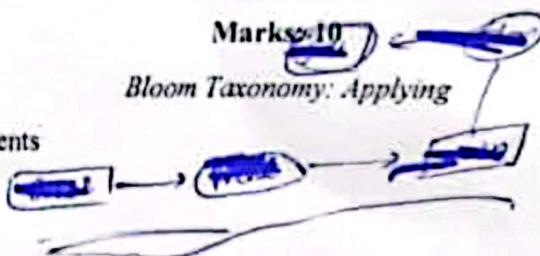
$$x_4 = 4\ 1\ 8\ 5\ 2\ 0\ 9\ 4$$

- Evaluate the fitness of each individual, showing all your workings, and arrange them in order with the fittest first and the least fit last.
- Perform the crossover and mutation operations:

Question No 2.**Marks: 10****CLO: 4****Bloom Taxonomy: Applying**

Construct a conceptual dependency graph for following statements

- Bilal bought mobile phone from Zain
- Zain will start his job
- Tariq ate rice with spoon
- Abu Bakar is attending programming lecture
- Zain constructed a model car

**Question No 3.****Marks: 10****CLO: 4****Bloom Taxonomy: Applying**

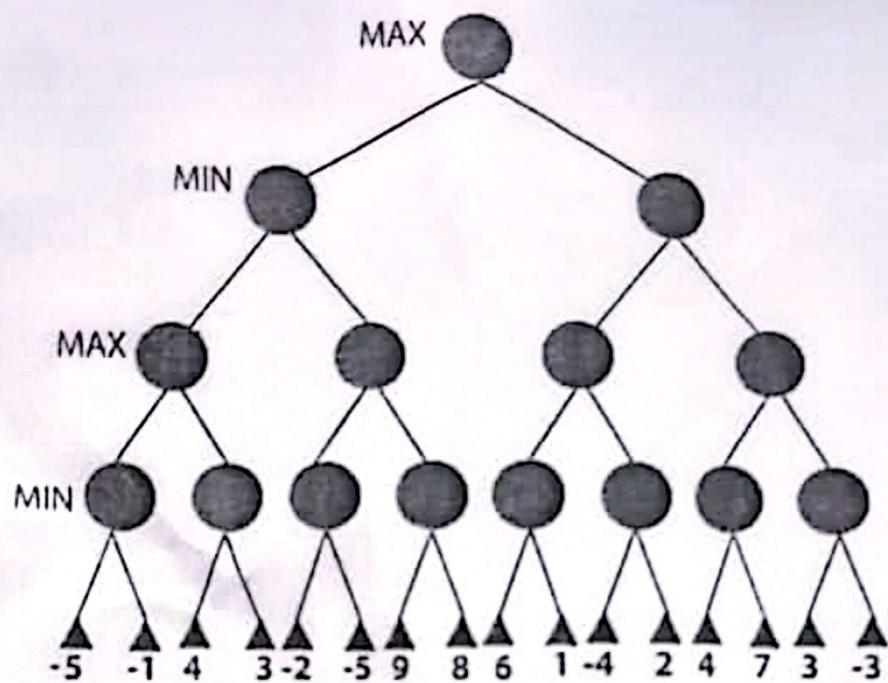
Construct a decision table for an automatic Geyser using following rules:

- Water in the Geyser should have a temperature between 26°C and 40°C .
- The Geyser turns on when the temperature drops below 26°C .
- The Geyser turns off when the temperature rises to 40°C .
- The Geyser will also turn off when the water in the Geyser, drops below the minimum level.
- The pilot will remain on when the temperature is above 26°C and above 40°C .

• Question No 4.**Marks: 10****CLO: 2****Bloom Taxonomy: Applying**

Under what conditions we can apply alpha-beta pruning and constraint satisfaction algorithm. Explain with the help of an example.

Apply the Min-Max searching algorithm on the figure given below.



1. P.M.W.L.
Ans -



COMSATS University Islamabad, Lahore Campus

Final Term Exam -SP 2023

Course Title:	Artificial Intelligence		Course Code:	CSC???	Credit Hours:	4(3,1)
Instructor/s:	Dr. Wajahat M. Qazi		Program Name:	BCS		
Semester:	Batch: SP20		Section:	A, B		Date:
Time Allowed:	3 Hours		Maximum Marks:		50	
Student's Name:			Reg. No.	FA20-BCS-049		

Important Instructions / Guidelines:

- Mobile phones are strictly not allowed.

✓ Question 1:

[15]

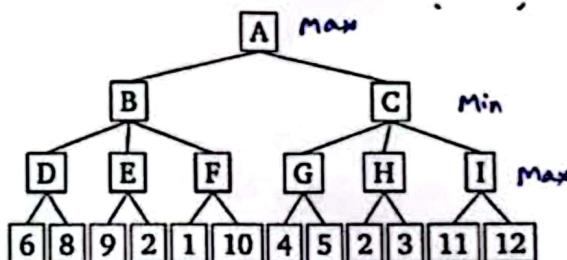
Apply following algorithms on the given game tree.

- MiniMax Algorithm
- Alpha Beta Pruning Algorithm

[7.5]

[7.5]

0309 620600



✓ Question 2:

[15]

Apply following knowledge representation methods where applicable on the given paragraph.

- Semantic Network

[7.5]

- Conceptual Graphs ✓

[7.5]

Bilal and Ahmad are friends. They live near Saira house. Saira is boss of Bilal. Ahmad believes that Bilal likes to eat pizza. Saira has a car whose registration number is 123.

✓ Question 3:

[10]

Apply conceptual dependency on the given paragraph

Bilal bought furniture from Saira. Saira is eating her lunch. Bilal is attending meeting. Saira is giving a lecture.

✓ Question 4:

[10]

Explain the difference between backward and forward chaining in the designing of an expert system.



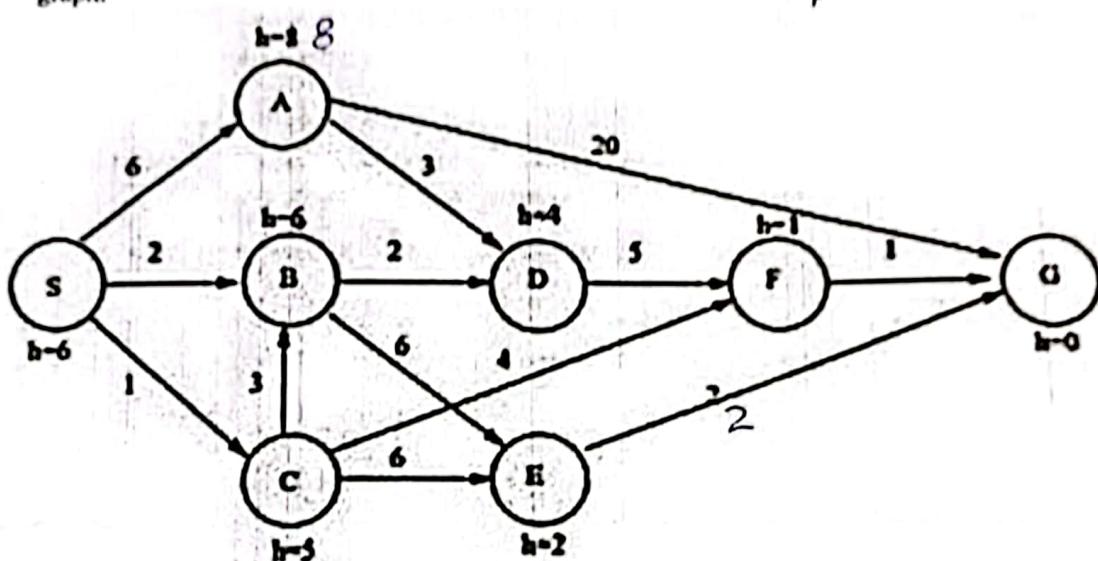
Course Title:	Artificial Intelligence	Course Code:	CSC462	Credit Hours:	3
Course Instructor	Dr. Zeeshan Gillani	Programme Name:	BS. Computer Science		
Time Allowed:	90 mins	Maximum Marks:	25		
Name & Registration No _____					

Question No 1.*Marks: 5***CLO: <1>; Bloom Taxonomy Level: <Understanding>**

To make a safe city as an intelligent security and surveillance agent. Please explain PEAS and the type of agent that will be used in this scenario.

Question No 2.*Marks: 10***CLO: <2>; Bloom Taxonomy Level: <Applying>**

- a. Apply the A* and greedy Search algorithm to find the shortest path from S to G using the following graph:

**Question No 3.***Marks: 10***CLO: <3>; Bloom Taxonomy Level: <Applying>**

Apply conceptual graph to represent knowledge for the following statements.

1. Aleena has an Oven.
2. Nadia is a friend of Aleena.
3. Nadia loves to bake the cake.
4. Aleena has a baking Dish.
5. Aleena gave her baking dish to Nadia.
6. Nadia bakes in Aleena's Oven.



COMSATS University Islamabad, Lahore Campus
Department of Computer Science

Midterm Exam – Semester Fall 2024

Course Title:	Artificial Intelligence		Course Code:	CS462	Credit Hours:
Course Instructor/s:	Khula Qadeer		Program Name:	BSE	
Semester:	25	Session:	G1(Section A, B, C)	Batch:	SP22-BSE
Total Marks:	Obtained Marks:		Date:	Oct 23 rd , 2024	
Student's Name:	Marks:		Reg. No.		

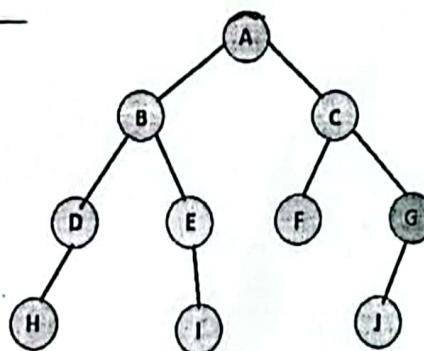
Important Instruction:

- Student is himself/herself responsible for successful submission of lab exam on Google Classroom.
- Return your question paper to your invigilator.
- Copied lab exam will get zero credit.

Question 1: (CLO-2 Applying)

[12 Marks]

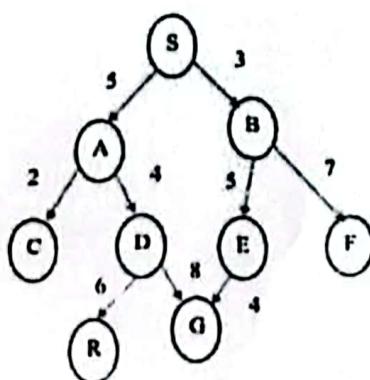
Implement the Iterative Deepening Depth-First Search algorithm (keeping max_depth = 3) on the given state space graph, starting state and a goal state. The output should be a set of actions or a path that will begin from initial state/node = A and end in the goal node G.



Question 2: (CLO-2 Applying)

[13 Marks]

Implement the uniform cost search algorithm on this graph using Python. Path cost is mentioned in the figure. The output should be a set of actions or a path that will begin from initial state/node = S and end in the goal node = R





COMSATS University Islamabad, Lahore Campus

Final Term Exam -SP 2023

Course Title:	Artificial Intelligence		Course Code:	CSC???	Credit Hours:	4(3,1)
Instructor/s:	Dr. Wajahat M. Qazi		Program Name:	BCS		
Semester:	Batch: SP20		Section:	A, B		Date:
Time Allowed:	3 Hours		Maximum Marks:		50	
Student's Name:			Reg. No.	FA20-BCS-049		

Important Instructions / Guidelines:

- Mobile phones are strictly not allowed.

✓ Question 1:

[15]

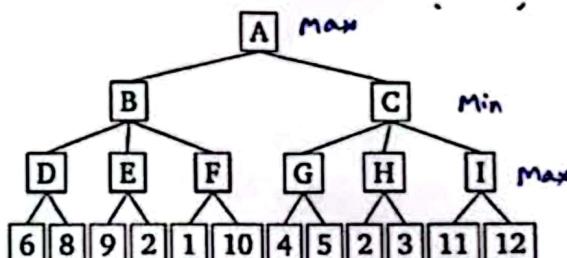
Apply following algorithms on the given game tree.

- MiniMax Algorithm
- Alpha Beta Pruning Algorithm

[7.5]

[7.5]

0309 620600



✓ Question 2:

[15]

Apply following knowledge representation methods where applicable on the given paragraph.

- Semantic Network

[7.5]

- Conceptual Graphs ✓

[7.5]

Bilal and Ahmad are friends. They live near Saira house. Saira is boss of Bilal. Ahmad believes that Bilal likes to eat pizza. Saira has a car whose registration number is 123.

✓ Question 3:

[10]

Apply conceptual dependency on the given paragraph

Bilal bought furniture from Saira. Saira is eating her lunch. Bilal is attending meeting. Saira is giving a lecture.

✓ Question 4:

[10]

Explain the difference between backward and forward chaining in the designing of an expert system.



COMSATS University Islamabad, Lahore Campus

Mid Term Exam-SP 2024

Course Title:	Artificial Intelligence			Course Code:	Credit Hours: 3(2,1)	
Course Instructor:	Ms. Asmara Safdar			Program Name:	BSE	
Semester:	6 th , 7 th , 8 th	Batch:	FA20,FA21-BSE	Section:	A,B	Date: 25/4/24
Time Allowed:	90 minutes			Maximum Marks:	25	
Student's Name:				Reg. No.	CIIT/-	LHR

Question No 1.

Marks: 5+5 = 10

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

Design an intelligent agent for a vacuum cleaning robot operating in a household environment (Perception, State, Action, Environment,). The agent should be able to:

- Perceive its environment using sensors to detect dirty areas and obstacles.
 - Keep track of its current location and the cleanliness of each room.
 - Take actions to move between rooms, clean dirty areas, and avoid obstacles.

- a) Implement a simple reflex agent architecture and describe how it operates in this scenario.
 - b) Discuss how you would modify the agent to incorporate more complex reasoning, such as planning and learning.

Question No 2.

Marks: 3+2=5

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

Consider a delivery robot navigating a warehouse to pick up and deliver items. The warehouse environment is represented as a grid, with obstacles and delivery locations marked. The robot's goal is to efficiently deliver items while avoiding collisions and following the shortest path.[3+2]

- a) Define the agent, environment, and statespace for this problem.
 - b) Explain how UCS (Uniform Cost Search) can be applied to find the optimal path for the robot to deliver items.

Question No 3.

Marks: 10

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

How can an intelligent agent be designed to solve an 8 puzzle game, starting from a given initial state, and using any algorithm that it should know to reach the specified goal state? (Implement the algo upto depth 2; stop when third level starts) [10]

1	2	3	1	2	3
8		4		6	4
7	6	5	8	7	5
Goal			Initial State		

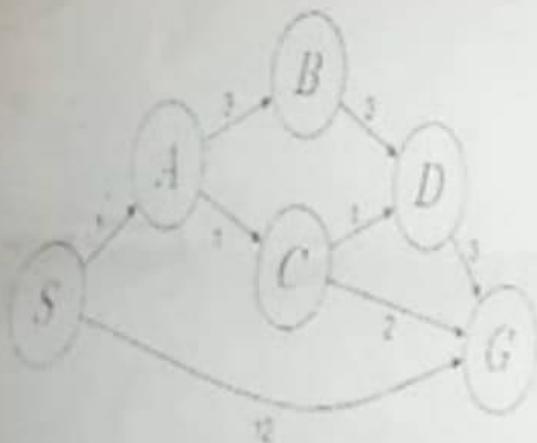


<input type="checkbox"/> Sessional-I	<input type="checkbox"/> Sessional-II	✓ Terminal Examination - SPRING 2018		
Course Title:	Artificial Intelligence	Course Code:	CSC475	Credit Hours: 3(2,1)
Course Instructor(s):	Dr. Wajahat Mahmood Qazi	Programme Name:	BS Computer Science	
Semester:	7 th	Batch:	Section:	Date:
Time Allowed:	180 Minutes		Maximum Marks:	60
Student's Name:			Reg. No.	
<u>Important Instructions / Guidelines:</u>				
<ul style="list-style-type: none"> Start with prayer Attempt your own exam Write in legible handwriting Write appropriate answers 				

Question 1:

Dry run DFS, BFS, Uniformed cost search and A* on the following graph and compute the path using $h(n)$ given in the table. Under what condition A* is optimal

Marks: 2+2+2+2+2= 10



State	$h(n)$
S	5
A	3
B	6
C	2
D	3
E	0
G	0

Question 2:

Marks: 5

Under what conditions genetic algorithm should be applied on a given problem.

Consider the problem of finding the shortest path using the graph given in question 1, such that each node is visited only once. How many genes will be used in a chromosome of each individual? How many genes will be needed to encode all pairs. Also state the formula to compute these pairs.

Question 3:

Marks: 10

You have been asked to train a robot to expect a reward when either a red or blue colour balls are shown to it. When both balls red and blue are shown at the same time, it does not expect to get a reward. You are required to provide a complete neural network-based solution along with the learning algorithm, encoding scheme and dataset required to train the robot.



■ Midterm Exam □ Terminal Examination – SPRING 2023

Course Title:	Artificial Intelligence	Course Code:	CSC462	Credit Hours:	M(2,1)
Course Instructor/s:	Muhammad Sohaib Iqbal	Programme Name:	BCS		
Session:	FA20-BCS-B	Date:	17-04-2023		
Time Allowed:	1 hr 30 min	Maximum Marks:	25		

Important Instructions / Guidelines:

FA20-BCS-049

- You are required to submit code files
- You are required to submit a zip folder consisting both of your files. Name your folder after your registration number. For example: FA20-RCS-022
- Submit your zip folder on google classroom.
- In case of cheating, 0 marks will be awarded

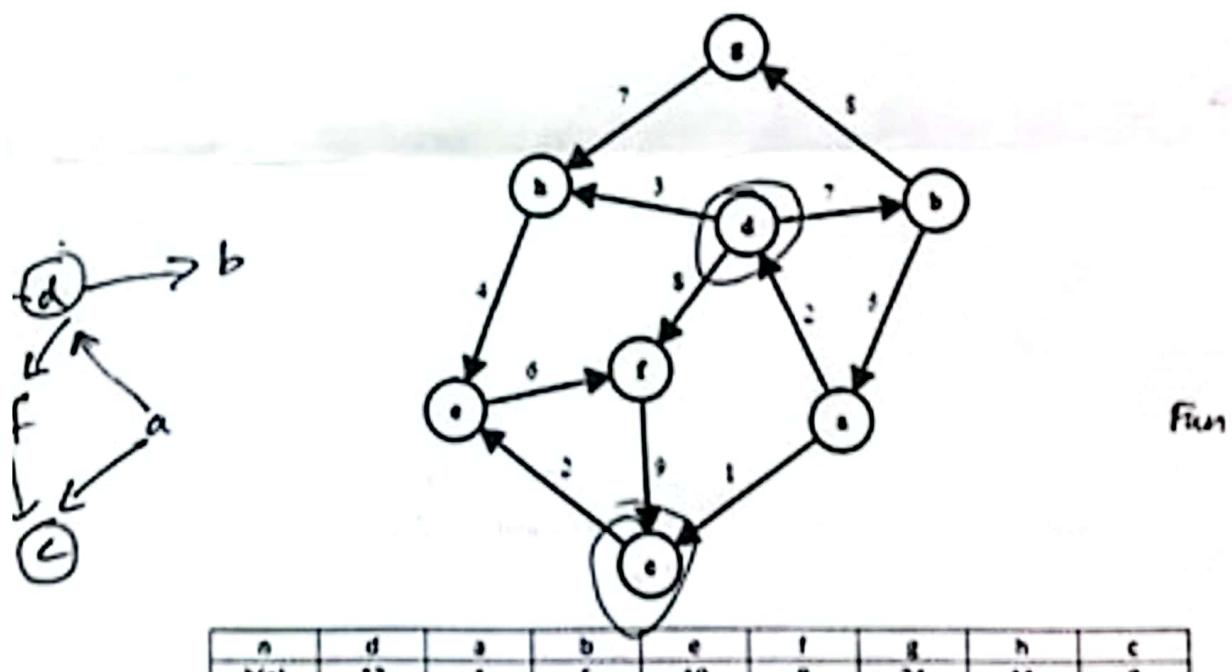
SYED TALHA MUSSAIN

Question No 1.

Marks: 15

CLO: <5>; Apply search algorithms to real-world problems; Bloom Taxonomy Level: <Apply>

Consider the state-space graph in the following figure and the heuristic values given in the table. Consider d as the start node and c as the goal node. Apply A* algorithm to find optimal path



\checkmark $\begin{matrix} d & b & a & c \\ d & f & g & \end{matrix}$ $\begin{matrix} 1 & 5 & 1 \\ 8 & 9 & \end{matrix}$ $\begin{matrix} 13 \\ 17 \\ \end{matrix}$
 d h e f c 22

Question No 2.

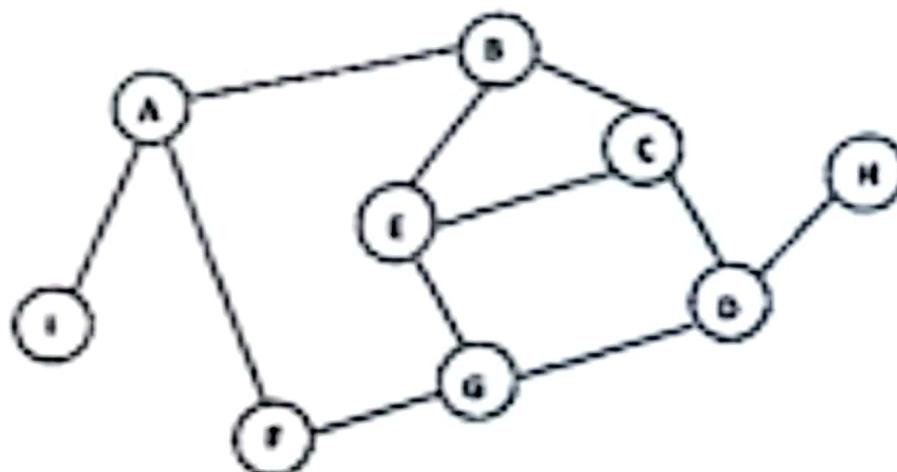
Marks: 10

CLO: <3>; Apply search algorithms to real-world problems; Bloom Taxonomy Level: <Apply>

For the given graph, apply BFS and DFS search

Start Node: A

Node to Search: G



Also explain which search algorithms require less numbers of traversals.