5th Semester (Level-3, Semester-I), **Midterm Examination of B.Sc. Engg.(CSE)**, January-June/2021, Session: 2018-19
Course Code: CIT-315 Course Title: Artificial Intelligence
Full Marks: 15 Duration: 1 hour

1. What is blind search? How to evaluate an algorithm's performance? Compare search strategies in terms of the four evaluation criteria set. 05

2. Write the advantage of informed search. How to make heuristic function? Define and illustrate admissible heuristic and consistent heuristic for estimating optimality of A* search algorithm. 05

3. Define logical agent. Write down a simple algorithm of a generic knowledge-based agent. Given a percept, the agent adds the percept to its knowledge base, asks the knowledge base for the best action, and tells the knowledge base that it has in fact taken that action. 02

4. What is propositional logic? Drives a propositional logic from Wumpus world is a cave consisting of rooms connected by passageways. 03

Department of Computer and Communication Engineering
Patuakhali Science and Technology University
Final Examination
CCE 310 - Software Development Project 1

Time Duration: Hours.   *Full Marks:70*

1. Write a sample project proposal based on your developed project in Software
    Development Project 1 course. Please try to cover the following part in your sample
    project proposal.   15

    - Objective and Introduction
    - Proposed Solution
    - Scope of work
    - Schedule and Timeline
    -Authorization and Conclusion

2. Project Work   30
3. Project Report   10
4. VIVA   15

Patuakhali Science and Technology University
Department of Computer Science and Information Technology

5th Semester (Level-3, Semester-I), Midterm Examination of B.Sc. Engg.(CSE), January-June/2021, Session: 2018-19

Course Code: CIT-313 Course Title: Computer Architecture

Full Marks: 15 Duration: 50 minutes

[Figures in the right margin indicate full marks]

Answer all the following questions.

1.	List and briefly define the possible states that define an instruction-execution.	3
2.	Consider a hypothetical microprocessor generating a 16-bit address (for example, assume that the program counter and the address registers are 16 bits wide) and having a 16-bit data bus.	3
	i) What is the maximum memory address space that the processor can access directly if it is connected to a "16-bit memory"? 4096	
	ii) What is the maximum memory address space that the processor can access directly if it is connected to an "8-bit memory"? 32	
	iii) What architectural features will allow this microprocessor to access a separate "I/O space"? 32, 16	
	If an input and an output instruction can specify an 8-bit I/O port number, how many 8-bit I/O ports can the microprocessor support? How many 16-bit I/O ports? Explain.	1.5
3.	Give the elements for designing bus.	3
4.	Why study Computer Organization and architecture? Describe the structure and functions of a computer.	2
5.	Describe the evolution of DRAM and processor characteristics.	2.5
6.	Prepare a question on **semiconductor main memory** and answer it yourself?	

Answer any 02 out of 03 Questions

1 Resolve the following system using the Cramer's Rule.   7.5

$$0.14 X_1 - 0.1X_2 - 0.2X_3 = 7.85$$
$$0.10X_1 + 7X_2 - 0.3X_3 = -19.3$$
$$0.30X_1 - 0.2X_2 + 10X_3 = 71.4$$

2 Use the Gauss-Elimination technique to resolve the following system.   7.5

$$3X_1 - 0.1X_2 - 0.2X_3 = 7.85$$
$$0.10X_1 + 7X_2 - 0.3X_3 = -19.3$$
$$X_1 - 0.2X_2 + 10X_3 = 71.4$$

3 Apply the Factorization process to locate the root of the following system   7.5

$$X_1 + X_2 - X_3 = 2$$
$$2X_1 + 3X_2 + 5X_3 = -3$$
$$3X_1 + 2X_2 - 3X_3 = 6$$

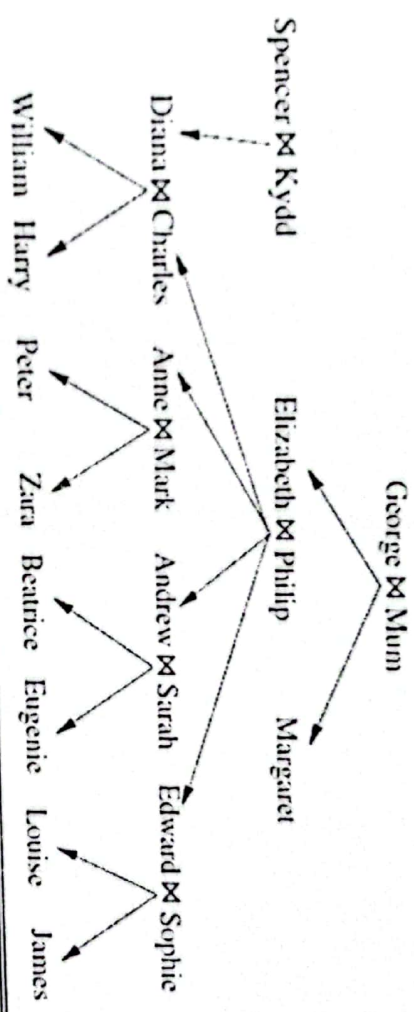**Figure 8.7** A typical family tree. The symbol "⋈" connects spouses and arrows point to children.

8.15 Write axioms describing the predicates *Grandchild, Greatgrandparent, Ancestor, Brother, Sister, Daughter, Son, FirstCousin, BrotherInLaw, SisterInLaw, Aunt,* and *Uncle*. Find out the proper definition of mth cousin n times removed, and write the definition in first-order logic. Now write down the basic facts depicted in the family tree in Figure 8.7. Using a suitable logical reasoning system, TELL it all the sentences you have written down, and ASK it who are Elizabeth's grandchildren. Diana's brothers-in-law. Zara's great-grandparents, and Eugenie's ancestors.

Patuakhali Science and Technology University

Faculty of Computer Science and Engineering

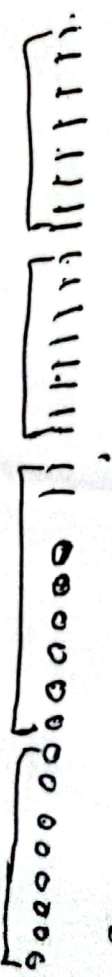Dept. of Computer and Communication Engineering

Mid: I

Course Code: CCE 313   Semester: 5th   Time: 55 Min   Course Title: Computer Network

Batch : 16th   Marks 15   Session 2018-2019

1 An classful address in a block is given as 222.8.17.9. Find the number of addresses in the block, the first address, and the last address. Draw also the block diagram of this IP address topology.   3

2 Suppose you have given a classful block of IP 140.15.0.0. Now you need to divide this IP block to four subnetwork with equal IP address space of each block. Now extracting the first address last address, subnetwork mask to follow the proper procedure and also draw the diagram of the sub network.   5

3 Suppose Alice, who always accesses the Web using Internet Explorer from her home PC, contacts Amazon.com for the first time. Let us also suppose that in the past she has already visited the eBay site. Now, what will happen, when the request comes into the Amazon Web server for the first time and then one week later? Illustrate the communication process between Alice's browser and the Amazon web server with respect to cookies.   4

4 What is the function of conditional GET?   3

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Department of Computer Science and Information Technology

5th Semester (Level-3, Semester-1), Midterm Examination of B.Sc. Engg.(CSE), January-June/2021, Session: 2018-19
Course Code: CIT-311 Course Title: Microprocessor and Assembly Language
Full Marks: 15 Duration: 50 minutes

[Figures in the right margin indicate full marks]
Answer all the following questions.

1. What is a von Neumann machine? Write down the major difference between Intel 8085 and 8086 microprocessor. 2

2. What is the difference between an intersegment and intrasegment jump? Show which JMP instruction assembles (short, near, or far) if the JMP THERE instruction is stored at memory address 10000H and the address of THERE is: 2
i. 10020H
ii. F1000H

3. Convert an 8B91:004CH from machine language to assembly language. If a MOV SI,[BX+2] instruction appears in a program, what is its machine language equivalent? 3 8

4. What will be the CS:IP of physical address BCDEFh where CS=FFF0? How is the local descriptor table addressed in the memory system? 3

5. Which register locates the global descriptor table? Describe the content of the segment register at protected mode memory addressing. 3

6. Explain the instruction with respect to 8086 microprocessor MOV AX, [BX]. 2

P.A = ESXD H + IP
↓
MOV BX,

1000

10	A	1060	0.A
11	B	1011	1.C
12	C	1100	2.B
13	D	1101	3.D
14	E	1110	F.0
15	F	1111	