

**CENTRAL UNIVERSITY OF HARYANA, MAHENDARGARH**

**B.Tech (CSE) 5<sup>th</sup> Semester (1<sup>st</sup> Sessional), Oct-2023**

**Microprocessor and Interfacing (BT CS 504A)**

**M.Marks:20**

**Time: 60 min.**

**Note: Attempt all the questions.**

- Q.1 a)** Give the signal description of 8086 microprocessor in minimum mode and briefly explain. [4]
- b)** What are the assembler directives? Explain [4]
- Q.2** Draw the block diagram of 8086 microprocessor. What are the functions of BIU and EU? [4]
- Q.3 a)** Convert in to machine equivalent for assembly language instruction of 8086 microprocessor
- i)** MOV CX, AX
- ii)** MOV AX, 1248H[SI] [2X4=8]
- b)** Write a program in assembly language of 8086 microprocessor to find the largest element in a block of data.

**\*\* Department of CSE, SOET, CUH Mahendergarh\*\* Mid Term (Sessional Exam 1st )**

**Course: B. Tech. (CSE 3rd year) 5<sup>th</sup> Sem**

**Subject Title: Computer Networks**

**Roll No ----- Paper Code:BT CS 503A**

**Max Marks: 20**

**Time Allowed: 1 hour**

**Note: Attempt all questions..**

1	A pure ALOHA network transmits 400-bit frames on a shared channel of 200 kbps. (a) What is the requirement to make this frame collision-free? What is the throughput if the system (all stations together) produces b. 1000 frames per second c. 500 frames per second d. 250 frames per second Justify all the answers with reason.	7
2	Describe CSMA/CD protocol with the help of flow diagram.	6
3	What is subnet and subnet mask? One of the addresses in a block is 167.199.170.82/27. Find the number of addresses in the network, the first address and the last address using a network mask. Show proper steps.	7

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**Note: Attempt all questions..**

1	What are the five layers in the Internet protocol stack? What are the principal responsibilities of each of these layers?	5
2	Describe how Web caching can reduce the delay in receiving a requested object. Will Web caching reduce the delay for all objects requested by a user or for only some of the objects? Why	5
3	Why do HTTP, FTP and SMTP run on top of TCP rather than on UDP?	5
4	In our rdt protocols, why did we need to introduce sequence numbers and timers?	5



**\*\* Department of CSE, SOET, CUH Mahendergarh\*\*****Sessional Exam-I, October 2023****Course: B. Tech. (CSE) 5<sup>th</sup> Sem****Subject Title: Analysis & Design of Algorithms****Paper Code: BT CS 501A****Max Marks: 20****Time Allowed: 1 hour****Note: Attempt any FOUR questions.**

1	Create a function to solve the Exponential Problem using Divide and Conquer strategy. The function takes (int x, int n) as input.	5																														
2	Generate the Recurrence relation for the Selection sort in the worst case and also derive the time complexity of it using the same recurrence relation.	5																														
3	Write a function to find the cycle in a graph using the disjoint set data structure. Here the graph is represented as an adjacency matrix.	5																														
4	Consider a weighted complete graph G on the vertex set $\{v_1, v_2, \dots, v_n\}$ such that the weight of the edge $(v_i, v_j)$ is $2 i-j $ . Generate the formula to find the total weight of the minimum spanning tree.	5																														
5	Consider the below table for jobs given with profit and deadline: <table border="1" data-bbox="103 673 1313 880"> <thead> <tr> <th>Job</th> <th>J1</th> <th>J2</th> <th>J3</th> <th>J4</th> <th>J5</th> <th>J6</th> <th>J7</th> <th>J8</th> <th>J9</th> </tr> </thead> <tbody> <tr> <td>Profit</td> <td>15</td> <td>20</td> <td>30</td> <td>18</td> <td>18</td> <td>10</td> <td>23</td> <td>16</td> <td>25</td> </tr> <tr> <td>Deadline</td> <td>7</td> <td>2</td> <td>5</td> <td>3</td> <td>4</td> <td>5</td> <td>2</td> <td>7</td> <td>3</td> </tr> </tbody> </table> Draw the Gantt Chart and also find the maximum profit earned?	Job	J1	J2	J3	J4	J5	J6	J7	J8	J9	Profit	15	20	30	18	18	10	23	16	25	Deadline	7	2	5	3	4	5	2	7	3	5
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Central University of Haryana  
Department of Computer Science and Engineering.

Mid Sem-I Branch: CSE (3<sup>rd</sup> year) Subject- Python Programming

MM: 20

Time: 01:00 Hours

Note: Attempt any two questions in each part.

Part A	<ul style="list-style-type: none"><li>➤ Write Python code to check if a given year is a leap year or not.</li><li>➤ Describe Arithmetic Operators, Assignment Operators, Comparison Operators, Logical Operators and Bitwise Operators in detail with examples.</li><li>➤ Explain the Identifiers, Keywords, Statements, Expressions, and Variables in Python programming language with examples.</li></ul>	5+5=10
Part B	<ul style="list-style-type: none"><li>➤ Discuss the relation between tuples and lists, tuples and dictionaries in detail with an example.</li><li>➤ Explain the basic data types available in Python with examples.</li><li>➤ Discuss the following methods of os module: chdir() b) rmdir() c) walk() d) listdir() e) getcwd()..</li></ul>	5+5=10