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University
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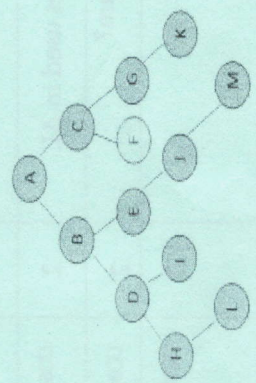
END SEM EXAMINATION
School of Engineering & IT

Program	Master of Computer Application	
Subject Name	Artificial Intelligence	
	Semester	II
	Year	June 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phone</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussion with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Paper(s)</u>. 	
Knowledge Level (KL)	K1 : Remembering	K3 : Applying
	K2 : Understanding	K4 : Analysing
		K5 : Evaluating
		K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)			
Q. N1	QUESTIONS	Marks	COs
i	How does Human Intelligent Differ from Artificial Intelligence?	2	CO1
ii	What is the role of AI in daily life?	2	CO1
iii	What is Biological Neural Network?	2	CO3
iv	Define Back Propagation Linear Method?	2	CO2
v	Define Soft Computing.	2	CO3
vi	What are the limitations of AI?	2	CO2
vii	What is Fuzzy Controller?	2	CO4
viii	Define any two the searching techniques used in AI.	2	CO5
ix	Give Four Applications of DFS Algorithm?	2	CO5
x	What is Fuzzifier?	2	CO4

Section B (Answer any FOUR out of SIX) – 20 Marks (Each question Carry 05 Marks)			
Q.No.	QUESTIONS	Marks	COs
2	Differentiate between Artificial Neural Network and Biological Neural Network.	05	CO1
3	List out the Various Programming Methods Used in AI?	05	CO4
4	With the Help of a Neat Diagram, explain AI Knowledge Cycle?	05	CO5
5	With the Help of a neat diagram, Explain Fuzzy Controller?	05	CO3
6	List out the two major problem solving technique used in Soft Computing.	05	CO4
7	What do you understand by hill climbing method? List out various types of Hill Climbing Method?	05	CO2

Section C (Answer any THREE out of FIVE) – 30 Marks- (Each question Carry 10 Marks)			
Q.No.	QUESTIONS	Marks	COs
8	Briefly, explain Model based reflex agent and Utility based agent?	10	CO1
9	Given two Fuzzy Set $A = [1/2, 0.3/4, 0.5/6, 0.2/8]$ $B = [0.5/2, 0.4/4, 0.1/6, 1/8]$ Perform the Following a. $A \cup B$ b. $A \cap B$ c. \bar{A} & \bar{B} d. $A B$ & $B A$ e. $\overline{A \cup B}$	10	CO2
10	What do you understand by DFS? Write its algorithm and trace the path for the following	10	CO3
11	What is perceptron? Write the difference between single layer perceptron and multi-layer Perceptron	10	CO4



12	With the help of a diagram explain, working of a biological neuron? List out the differences between Biological neuron and AI neuron?	10	CO1	K1
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CO- Course Outcomes, KL- Knowledge Level, PO – Program Outcome

Course Outcomes	CO1	CO2	CO3	CO4	CO5
	Analyze the foundation and basic concept of Artificial Intelligence.	Apply various problem solving methodology to develop AI enabled system.	Analyze the concept of representing the knowledge and the process of inference to derive new representations of the knowledge.	Apply the concept of soft computing notion for Planning, Game playing and NLP in AI and basic techniques in the classical systems.	Analyze the concept of Fuzzy Logic.

GRAFICAL REPRESENTATION

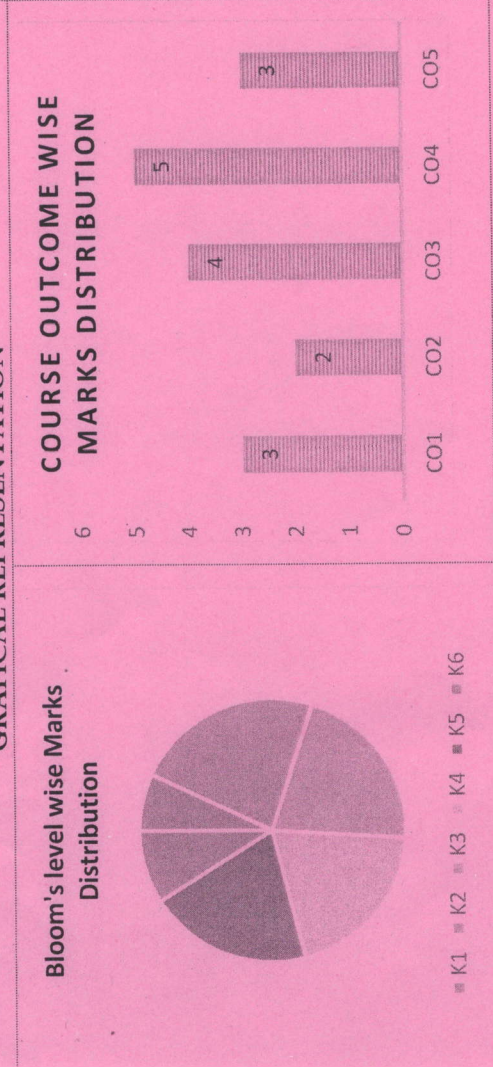
Bloom's Level wise Marks Distribution

■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome wise Marks Distribution

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Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Identify and define different requirements for the given problem and present in the IEEE format.	
CO2	Use modern tool to create UML diagrams to create the design for the given problem.	
CO3	Draw class diagram, analyse the different types of association that exists as per the given problem and represent them using UML notations	
CO4	Analyse the given system to identify actors, use cases to design use case diagrams for the given problem using RSA/ open source tool.	
CO5	Design the static/ dynamic models to meet application requirements of the given system.	



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			Semester II	Year June 2024
Master of Computer Application				
Software Engineering				
<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will come under Unfair Means and will Result in the Cancellation of the Paper(s). 				
Time: 3 Hour Max. Marks : 70				
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	K2 : Understanding	K4 : Analysing	K6 : Creating	

Section A (Each question Carry 02 Marks from Q1-i to x – 20 Marks)				
Q. N	QUESTIONS	Marks	COs	KL
i	What are the characteristics of good Software?	2	CO2	K1
ii	What is the importance use case diagram?	2	CO1	K1
iii	Explain the concept of Iterative model.	2	CO5	K6
iv	What is requirement analysis and specification?	2	CO1	K3
v	Explain the importance of Software Engineering	2	CO4	K4
vi	Explain Software design.	2	CO3	K2
vii	Define Class and Object.	2	CO1	K5
viii	What is the need of SDLC?	2	CO4	K3
ix	What do you mean by Data Flow diagram?	2	CO5	K2
x	Explain the different levels of DFD.	2	CO1	K6

Section B (Answer any FOUR out of SIX) – 20 Marks

(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	What are the different properties of good SRS	05	CO2	K1
3	Explain the Spiral model with a neat clean diagram	05	CO4	K3
4	What are the different use case relationships and features? Explain with proper diagram	05	CO5	K6
5	Explain the concept of Critical System. What are the different types of Critical System?	05	CO1	K4
6	What are the different strategies of Software Design?	05	CO4	K4
7	What is the difference between Functional and Non-Functional Requirements?	05	CO3	K2

Section C (Answer any THREE out of FIVE) – 30 Marks-

(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	What is Software Engineering? What are the attributes of good software?	10	CO2	K1
9	What do you mean by signal generalization? What do you mean by actors in use case diagram?	10	CO4	K6
10	What do you mean by object and class? Why OOD concept is important for software Engineering?	10	CO5	K4
11	Why DFD is important? What do you mean by multiple inheritance?	10	CO3	K6
12	Draw a use case diagram for Hotel Management system?	10	CO4	K5

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END SEM EXAMINATION
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	Year	June 2024
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Section A (Each question Carry 02 Mark from Q1-i to x) - 20 Marks

Q. N1	QUESTIONS	Marks	COs	KL
i	How do you handle overflow and underflow conditions in a Queue?	2	CO1	K1
ii	What is the difference between an array and a linked list?	2	CO2	K3
iii	What is the difference between a heap and a binary search tree (BST)?	2	CO5	K1
iv	What is a stack overflow?	2	CO2	K2
v	What are the operations performed on a stack?	2	CO5	K1
vi	Explain the concept of a multi-dimensional array.	2	CO2	K5
vii	How is a Queue implemented in an array?	2	CO5	K4
viii	How would you reverse an array in-place in linear time and constant space?	2	CO3	K6
ix	Can an array be resized at runtime?	2	CO4	K3
x	What is a double-ended queue (Deque)?	2	CO2	K1

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Write a Program to find Minimum and Maximum elements of an array using recursion.	5	CO2	K4
3	Explain the operation of Array in detail.	5	CO1	K2
4	Write a Program in C to print the Pascal Traingle.	5	CO4	K4
5	Explain depth first search algorithm.	5	CO2	K3
6	Write a Program in C to find the largest three distinct elements in an array	5	CO5	K4
7	Write a Program in C to delete the middle and last node of a Linked List.	5	CO3	K2

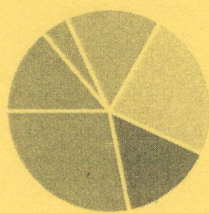
Section C (Answer any THREE out of FIVE) – 30 Marks-
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	What are the different Basic Operations of Stack Data Structures?	10	CO2	K6
9	Write a C Program to print the Fibonacci series using Recursion.	10	CO5	K4
10	Explain Dynamic memory allocation.	10	CO4	K3
11	What are the different operations on queue? Write algorithms for all.	10	CO5	K4
12	Explain the working of Merge Sort on the following data: 10,15,0,17,20,25,30,16,70,6.	10	CO3	K2

CO1	Different operation can be implemented in data structure.
CO2	Prefix to postfix stack can be done on any given expression
CO3	Insertion or deletion of data using link list
CO4	Any expression can be converted into tree structure.
CO5	Minimize the over use of traversing.

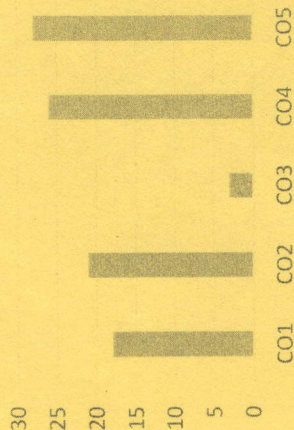
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Bloom's Level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution



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END SEM EXAMINATION
School of Engineering & IT

Program	Master of Computer Application	
Subject Name	Computer Networking	
	Semester	II
	Year	June 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phone</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussion with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Paper(s)</u>. 	
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Section A (Each question Carry 02 Marks from Q1-i to x – 20 Marks)			
Q. N 1	QUESTIONS	Marks	COs
i	What are the Principles of Reliable Data Transfer?	2	CO1
ii	Explain the Congestion Control, TCP's Congestion Control.	2	CO2
iii	Why Protocols are required?	2	CO5
iv	What is Switching & Forwarding?	2	CO2
v	What is Cryptography?	2	CO5
vi	What is Link State Routing?	2	CO2
vii	What is RSA?	2	CO5
viii	What is Wi-Max?	2	CO3
ix	What is Flooding?	2	CO4
x	What is the mode of Communication? Classify.	2	CO2

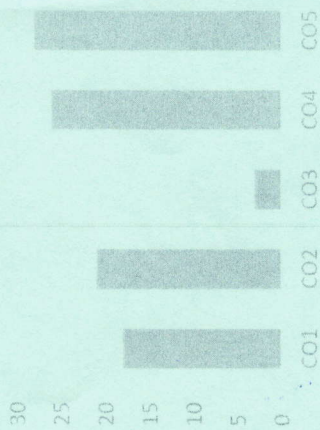
Course Outcomes	CO1	Apply the basic concepts of networking and to analyse different parameters such as bandwidth, delay, throughput of the networks for the given problem.
	CO2	Apply different techniques to ensure the reliable and secured communication in wired and wireless communication.
	CO3	Analyse the networking concepts of TCP/IP for wired and wireless components.
	CO4	Identify the issues of the Transport layer to analyse the congestion control mechanism.
	CO5	Design network topology with different protocols and analyse the performance using NS2.

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Bloom's Levelwise Marks Distribution



Course Outcome Wise Marks Distribution



Section B (Answer any FOUR out of SIX) – 20 Marks

(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Write in brief about: a) Manchester Encoding b) Differential Manchester Coding	05	CO2	K4
3	Explain Dijkstra's Algorithm with an example. How it is helpful in routing?	05	CO1	K2
4	Write the name of different methods used for error detection & correction & explain any one of them.	05	CO4	K4
5	What do you mean by Simplex protocol for a noisy channel? Classify & explain.	05	CO2	K3
6	Differentiate between TCP & UDP.	05	CO5	K4
7	What is Multiplexing? Explain one kind of multiplexing technique.	05	CO3	K2

Section C (Answer any THREE out of FIVE) – 30 Marks-

(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Explain the services provided by the Application Layer.	10	CO2	K6
9	What is Cryptography? Explain different types of Cryptography.	10	CO5	K4
10	Classify & explain different kinds of Congestion control techniques.	10	CO4	K3
11	Classify & explain different kind of Ciphers with examples.	10	CO5	K4
12	Draw and explain the architecture and work function of Bluetooth.	10	CO3	K2

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Subject Name	Semester	II
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Knowledge Level (KL)	K1 : Remembering	K3 : Applying
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Section A (Each question Carry 02 Marks from Q1-i to x) – 20 Marks

Q. N1	QUESTIONS	Marks	COs	KL
i	What is Data abstraction?	2	CO1	K2
ii	What is Schema?	2	CO1	K1
iii	What is Relational Database? *	2	CO2	K2
iv	What is the database?	2	CO2	K4
v	Define the "integrity rules"	2	CO4	K5
vi	What is Data Independence?	2	CO3	K3
vii	What is Relational Algebra?	2	CO2	K3
viii	What is a view?	2	CO3	K2
ix	What is a multi-valued attribute?	2	CO4	K3
x	What is database recovery?	2	CO3	K6

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 5 Marks)

Q.No.	QUESTIONS	Marks	COs	KL
2	Explain Functional dependency and Trivial functional dependency with examples	5	CO3	KL4
3	What is a foreign key constraint, and how does it enforce referential integrity in a relational database?	5	CO4	KL1
4	What do you mean by SQL? What are the characteristics of SQL?	5	CO2	KL2
5	Discuss the advantages and disadvantages of using stored procedures in a database system.	5	CO1	KL4
6	Explain how the group by clause works. What is the difference between Where and Having clauses? Explain with an example each.	5	CO3	KL3
7	Explain Functional dependency and Trivial functional dependency with examples.	5	CO4	KL1

Section C (Answer any THREE out of FIVE) – 30 Marks-
(Each question Carry 10 Marks)

Q.No.	QUESTIONS	Marks	COs	KL
8	Explain how concurrency can lead to inconsistency. What is a deadlock? Can it occur in a serializable schedule? If so, give an example. How can it be detected and resolved?	10	CO2	KL2
9	Describe the process of normalization in database design. Provide examples of each normal form (1NF, 2NF, 3NF) and explain how they help in reducing data redundancy and ensuring data integrity. Discuss the trade-offs involved in achieving higher normal forms.	10	CO3	KL4
10	Design an ER diagram for keeping track of information about an AIRLINE database taking into account at least six entities.	10	CO2	KL6
11	Explain the challenges of concurrency control in database systems and the different concurrency control mechanisms used to ensure data consistency. Compare and contrast optimistic and pessimistic concurrency control strategies, highlighting their strengths and weaknesses in different scenarios. Furthermore, discuss transaction management in a DBMS, including isolation levels, ACID properties, and transaction logging.	10	CO5	KL2
12	a. Define a conceptual data model and explain its purpose in the database design process.	10	CO2	KL5

b. Discuss the key components of a conceptual data model, such as entities, attributes, and relationships.

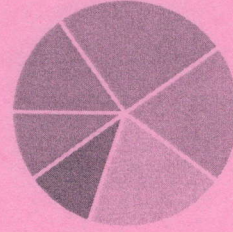
c. Provide an example of a conceptual data model for a university management system, identifying relevant entities, attributes, and relationships.

CO- Course Outcomes, **KL-** Knowledge Level, **PO** – Program Outcome

Course Outcomes	CO1	CO2	CO3	CO4	CO5
	Apply the basic concepts of database management in designing the database for the given problem.	Design entity-relationship diagrams to the given problem to develop database application with appropriate fields and validations.	Implement a database schema for a given problem domain.	Formulate SQL queries in Oracle to the given problem.	Apply normalization techniques to improve the database design to the given problem.

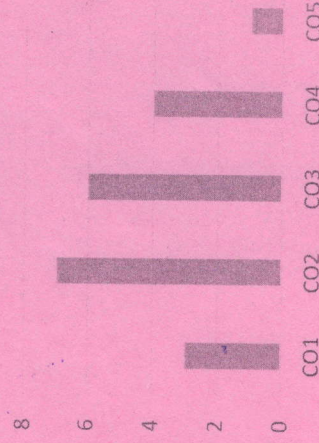
GRAFICAL REPRESENTATION

Bloom's Level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome Wise Marks Distribution



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END SEM EXAMINATION
School of Engineering & IT

Program	Master of Computer Application	
Subject Name	Web Technologies	
	Semester	II
	Year	June 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phone</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussion with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Paper(s)</u>. 	
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Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)			
Q.N	QUESTIONS	Marks	COs KL
1			
i	What is DATE object in JavaScript?	2	CO1 K2
ii	What is the difference between GET and POST methods in JavaScript?	2	CO1 K3
iii	Define Event. How events are handled in JavaScript	2	CO3 K1
iv	What is the use of \$ symbol in PHP, explain with an example.	2	CO2 K2
v	List various types of arrays supported by PHP. How to declare arrays in PHP.	2	CO3 K2
vi	Define XML? What are the advantages of XML.	2	CO2 K3
vii	Distinguish HTML and XHTML.	2	CO4 K1
viii	How to create a cookie using servlet	2	CO5 K1
ix	Define Common gateway interface.	2	CO5 K3
x	What is Session?	2	CO4 K2

CO1	Apply the concept and usages of web-based programming techniques.
CO2	Demonstrate the development of XHTML documents using JavaScript and CSS.
CO3	Design and implement user interactive dynamic web-based applications.
CO4	Demonstrate applications of Angular JS and jQuery for the given problem.
CO5	Create modern web applications using MEAN & FULL stack.

GRAFICAL REPRESENTATION

Bloom's level wise Marks Distribution



30	CO-1	CO-2	CO-3	CO-4	CO-5
25					
20					
15					
10					
5					
0					

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Define Form tag. Design a Registration page by using all Form controls.	05	CO1	K3
3	Build a JavaScript program to convert temperature from Celsius to Fahrenheit and viceversa.	05	CO4	K4
4	Define Simple AJAX Application.	05	CO5	K2
5	Define an Array? Explain about the types of Arrays in PHP with an example.	05	CO3	K3
6	Explain about Conditional Statements in PHP.	05	CO4	K4
7	Explain about XML Schema with an example.	05	CO2	K1

Section C (Answer any THREE out of FIVE) – 30 Marks-
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	a) Explain the structure of the HTML webpage with an example. b) Define List Tag with an example.	10	CO1	K1
9	a) Define Session and Cookies. Explain with an example program. b) Explain database connectivity in PHP with reference to MYSQL.	10	CO2	K3
10	Explain about Cascading Style Sheets with an example.	10	CO3	K4
11	Explain various operators and data types available in java script with examples.	10	CO4	K2
12	Develop a Servlet that handles an HTTP POST request.	10	CO5	K2