SY-CA-1

MGMU, UDICT, Aurangabad
Academic Year 2023-24
Part-I

Class: SY AIML
Subject: MLA
Duration : 1 Hr

CA– I
Date: /02/ 2024
Max Marks: 10

	Solve any Two question from Q1 to Q3	Marks
1	Discuss artificial Intelligent evolutions in detail	3
2	Explain of robotic intelligent agent concept that interacts with its environment through sensors and effectors with example	3
3	Explain in detail supervised learning model.	3
	Solve any One question from Q4 to Q5	
4	What are the key differences among the types of Data Analytics	4
5	Explain Cross-Industry Standard Process for Data Mining framework in detail.	4

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1	Discuss artificial Intelligent evolutions in detail	3
2	Explain of robotic intelligent agent concept that interacts with its environment through sensors and effectors with example	3
3	Explain in detail supervised learning model.	3
	Solve any One question from Q4 to Q5	
4	What are the key differences among the types of Data Analytics	4
5	Explain Cross-Industry Standard Process for Data Mining framework in detail.	4

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Continues Assessment I

Class: B Tech Second Year (IT/DS) **Sem: III IV**

Subject Name: Digital Logic Design **Subject Code: BTIT2203**

Que. 1	Solve any THREE questions.	CO	Marks
A	Convert **(235)10** into octal, hexadecimal, BCD, excess-3 code.	CO1	2
B	Perform **53 - 41** using 2's complement binary subtraction by using 8 bit binary number.	CO1	2
C	Perform following operation using BCD: **258 + 759**	CO1	2
D	Generate hamming code for **1110** by considering even parity and **1010** by considering odd parity	CO1	2
Que. 2	**Solve the following question.**		
A	Some hamming code transmitted with even parity checking. The following words are received. **a. 0101000 b. 0011101 c. 1100100 d. 1100110** **e. 1110011 f. 1111001 g. 1101001 h. 1000010** Find out the bit position of error using hamming code, if any.	CO1	4

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Continues Assessment I

Class: B Tech Second Year (IT/DS) Sem: III IV

Subject Name: Digital Logic Design Subject Code: BTIT2203

Que. 1	Solve any THREE questions.	CO	Marks
A	Convert **(235)10** into octal, hexadecimal, BCD, gray code.	CO1	2
B	Perform **53 - 41** using 2's complement binary subtraction by using 8 bit binary number.	CO1	2
C	Perform following operation using BCD: **258 + 759**	CO1	2
D	Generate hamming code for **1110** by considering even parity and **1010** by considering odd parity	CO1	2
Que. 2	**Solve the following question.**		
A	Some hamming code transmitted with even parity checking. The following words are received. **a. 0101000 b. 0011101 c. 1100100 d. 1100110** **e. 1110011 f. 1111001 g. 1101001 h. 1000010** Find out the bit position of error using hamming code, if any.	CO1	4

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CA I EXAMINATION – Feb 2024

COURSE: B.Tech in AIML **Sem:** IV **Class Test:** CA I

Subject Name: Convex Optimization **Subject Code:** BTAM2204

Date: 05/02/2024 **Total Marks:** 10

Note: Read Questions carefully

Q1.	Solve any two of the following Questions (5 Marks each)	CO	Level
1.	Define Mathematical Optimization? List few applications of Mathematical Optimization	CO1	1
2.	a) Write the steps for Least Square method. b) Find the least square line for the data given below. (1,5),(9,-2),(5,2),(3,4)	CO2	2
3.	Given the Linear Programming Problem using Graphical method Min Z= 3X+2Y Subject to: $5X+Y\geq 10$ $X+Y\geq 6$ $X+4Y\geq 12$ Where $X\geq 0$, $Y\geq 0$	CO2	2
4.	Write short notes on (any two) a) Chebyshev Theorem b) Uses of least squares c) Non-Linear programming	CO2	2

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CA-I

Class: B.Tech SY (IT/DS) **Sem:II**

Subject Name: AIML **Subject Code:BTIT2204**

Date: 05 / 02/2024 **Time: 01:00 a.m. to 01:45 a.m** **Total Marks:** 10

Sr. No.	**Solve any TWO of the following Questions.(Each question carries 5 Marks)**	**CO**	**Marks**
1	What is AI State and Explain its Applications?	CO1	5
2	Define Best first search and explain in details about heuristics algorithms?	CO1	5
3	Explain the contribution of Probability and Bayes' Theorem in AIML?	CO2	5
4	Explain the Procedural and Declarative Knowledge?	CO2	5

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CA-I

Class: B.Tech SY (IT/DS) **Sem:II**

Subject Name: AIML **Subject Code:BTIT2204**

Date: 05 / 02/2024 **Time: 01:00 a.m. to 01:45 a.m** **Total Marks:** 10

Sr. No.	**Solve any TWO of the following Questions.(Each question carries 5 Marks)**	**CO**	**Marks**
1	What is AI State and Explain its Applications?	CO1	5
2	Define Best first search and explain in details about heuristics algorithms?	CO1	5
3	Explain the contribution of Probability and Bayes' Theorem in AIML?	CO2	5
4	Explain the Procedural and Declarative Knowledge?	CO2	5

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CA1 Examination – Feb 2024

Course: SY IT/ AIML/DS **Sem: IV**

Subject Name: DBMS **Subject Code: BTIT2205**

Max Marks: 10 **Date: 05/02/2024** **Duration:- 1 Hr.**

Q1)	Solve the following questions(any 2)	Marks
1	Define database. Also explain characteristics of database approach.	5M
2	Define and explain Data Model.	5M
3	Explain three schemas Architecture with neat labelled diagram	5M
4	Explain schemas and instances with suitable example.	5M

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CA1 Examination – Feb 2024

Course: SY IT/ AIML/DS **Sem: IV**

Subject Name: DBMS **Subject Code: BTIT2205**

Max Marks: 10 **Date: 05/02/2024** **Duration:- 1 Hr.**

Q1)	Solve the following questions(any 2)	Marks
1	Define database. Also explain characteristics of database approach.	5M
2	Define and explain Data Model.	5M
3	Explain three schemas Architecture with neat labelled diagram	5M
4	Explain schemas and instances with suitable example.	5M

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CA-I

Class: B. Tech SY (IT/AIML/DS) **Sem: IV**

Subject Name: Probability & Statistics **Subject Code:** BTIT2201

Date: 03/ 02 /2024 **Time: 11:00 a.m. to 11:45 AM** **Total Marks:** 10

Sr. No.	Solve any TWO of the following Questions.(Each question carries 5 Marks)	CO	Level
1	What is Central Tendency? Define Mean, Median and Mode with suitable example.	CO1	1
2	Explain Axiomatic Probability. Two coins are tossed 500 times, and we get: Two heads: 105 times One head: 275 times No head: 120 times Find the probability of each event to occur	CO1	2
3	Three identical boxes contain red and white balls. The first box contains 3 red and 2 white balls, the second box has 4 red and 5 white balls, and the third box has 2 red and 4 white balls. A box is chosen very randomly and a ball is drawn from it. If the ball that is drawn out is red, what will be the probability that the second box is chosen?	CO1	3
4	If two dice are thrown, what is the probability that the i) The sum is greater than 10 ii) The sum is neither 5 nor 8 .	CO1	2

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University Department of Information and Communication Technology

CA-I

Class: B. Tech SY (IT/AIML/DS) **Sem: IV**

Subject Name: Probability & Statistics **Subject Code:** BTIT2201

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4	If two dice are thrown, what is the probability that the i) The sum is greater than 10 ii) The sum is neither 5 nor 8 .	CO1	2

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University Department of Information & Communication Technology

Academic Year 2023-24

Class: SY IT Div-2/ AIML/DS — Semester-IV

Subject: Data Structures in JAVA — Class Assessment – I

Duration : 1 Hr — Date: 03/02/ 2024

Max Marks: 10

	Instructions to the Students: 1. Illustrate your answers with neat diagrams etc. where ever necessary 2. Attempt all questions	CO	BT Level	Marks
Q1	Describe characteristics of an algorithm. Write Pseudo code for adding elements of a list.	1	1	3

Q2	Compute time complexity for the given code:
	Algorithm AddM(A,B, n)
	{ for (i=1: i<=n; i++)
	{
	for(j=1:j<=n;j++)
	C[i,j] = A[i,j] + B[i,j];
	}
	}
		4	3	2

Q3	Compute time complexity for the given code:
	For (i=0; i<n; i++)
	{ Read(A[i])
	}
		4	3	2

Q4	Write Pseudo code for finding smallest and largest number in an array.	1	3	3

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University Department of Information & Communication Technology

Academic Year 2023-24

Class: SY IT Div-2/ AIML/DS — Semester-IV

Subject: Data Structures in JAVA — Class Assessment – I

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Q4	Write Pseudo code for finding smallest and largest number in an array.	1	3	3

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University Department of Information & Communication Technology

Academic Year 2023-24

Class: SY IT Div-1/ Div-3 — Semester-IV

Subject: Data Structures in JAVA — Class Assessment – I

Duration : 1 Hr — Date: 03/02/ 2024

Max Marks: 10

	Instructions to the Students: 1. Illustrate your answers with neat diagrams etc. where ever necessary 2. Attempt all questions	CO	BT Level	Marks
Q1	Define algorithm and explain all the criteria that every algorithm should satisfy.	1	1	2

Q2	Compute time complexity for the given code:
	Algorithm AddM(A,B, n)
	{
	for (i=1: i<=n; i++)
	{
	for(j=1:j<=n;j++)
	C[i,j] = A[i,j] + B[i,j];
	}
	}
		4	3	2

Q3	Write an algorithm for operations on stack.	4	3	3
Q4	Write Pseudo code for finding smallest and largest number in an array.	1	3	3

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University Department of Information & Communication Technology

Academic Year 2023-24

Class: SY IT Div-1/ Div-3 — Semester-IV

Subject: Data Structures in JAVA — Class Assessment – I

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	Algorithm AddM(A,B, n)
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	C[i,j] = A[i,j] + B[i,j];
	}
	}
		4	3	2

Q3	Write an algorithm for operations on stack.	4	3	3
Q4	Write Pseudo code for finding smallest and largest number in an array.	1	3	3

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