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SASURIE COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai

SASURIE
INSTITUTIONS

Near NH544, Coimbatore Bypass, Near Vijayamangalam Tollgate,Tirupur 638056

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION - 1

CURRICULAR ASPECTS

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL

SASURIE COLLEGE OF ENGINEERING

SASURIE
COLLEGE OF ENGINEERING
Vijayamangalam, Tiruppur.

SASURIE
INSTITUTIONS

Criterion 1	Curricular Aspects	100

1.1 Curricular Planning and Implementation (20)

1.1.1The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment
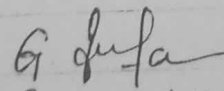
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9	Corrective Action Report
10	Quality Objective Monitoring Record
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13	Test Answer Sheet
14	Assignment Question paper
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Department : AI & DS.
Subject Code & Name : AD8402 & ARTIFICIAL INTELLIGENCE - I
Class & Batch : II & CSE (AI & DS)
Semester : IV

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11	Internal test question paper	
12	Model question paper	
13	Sample Answer paper for all test(Min-3)	
14	Content beyond the syllabus	
15	Tutorial Class – schedule and content	Soft copy
16	Assignment – schedule and paper	
17	PPT - handout	Soft copy
18	Video - Animation - Soft copy	Soft copy
19	Question bank	Soft copy
20	Sample university question papers(min 5 QP-recent exam)	Soft copy
21	Personal Log book – Updated	
22	Lecture Note	Soft copy
23	Special Class if any. Approval letter. Schedule. content covered.	Soft copy

	Prepared By	Approved By
Sign:	G. fufa	8
Name:	G. SOWHIYA	S. PRABAKARAN
	Faculty	HD

SASURIE
College of Engineering
Vijayamangalam, Tirupur

CLASS TIME TABLE- Academic Year 2021-22- EVEN Semester

Date 08.03.2022
Semester IV Year

Department AI&DS
Class II YEAR

HOUR / DAY	I 9.30am-10.15am	II 10.15am-11.00am	11.00am-11.10am	III 11.10am-11.55am	IV 11.55am-12.40pm	12.40pm-1.20pm	V 01.20pm-2.00pm	VI 02.00pm-02.40pm	02.40pm-02.50pm	VII 02.50pm-03.35pm	VIII 03.35pm-04.20pm
DAY 1	PRAYER		BREAK			LUNCH			BREAK		AI-I
DAY 2					AI-I						
DAY 3											AI-I
DAY 4				AI-I							
DAY 5					AI-I		AI-I				

S.No	Subject Code	Acronym	Name of the Subject	Name of the Staff & Department	No of hours
1	AD8402	AI -I	Artificial Intelligence I	Mrs.G.Sowmiya AP/CSE	6
			TOTAL		6

	Prepared By	Verified By	Authorized By
Sign	G.Sowmiya		
Name	Mrs.G.Sowmiya	Mr.S.Prabakaran	Dr.E.NANDAKUMAR
	Time table I/C	HD I/C	Principal
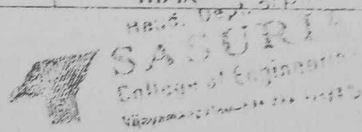
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Vijayamangalam - 638 056, Tirupur (Dt).

STUDENTS NAME LIST

Department: AI&DS

Year Sem.II - IV

Sl. No	Register Number	Student's Name	H/D
1	732420243001	BHARADWAJ S	H
2	732420243002	KATHIRAVAN T J	H
3	732420243301	INDHARESH	D

SIGN	*G. Sowmiya (signature)*	*(signature)*
NAME	Ms.G.SOWMIYA	Mr.S.PRABAKARAN
	CLASS ADVISOR	HOD
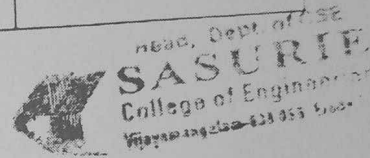
HOD, Dept of AI&DS
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AD8402   **ARTIFICIAL INTELLIGENCE I**   L T P C

                                                  3 0 0 3

OBJECTIVES:
The objective of this course is to enable the students to
- Understand the basic concepts of intelligent agents
- Develop general-purpose problem solving agents, logical reasoning agents, and agents that reason under uncertainty
- Employ AI techniques to solve some of today's real world problems.

UNIT I   **INTELLIGENT AGENTS**   9

Introduction to AI – Agents and Environments – concept of rationality – nature of environments – structure of agents
Problem solving agents – search algorithms – uninformed search strategies

UNIT II   **PROBLEM SOLVING**   9

Heuristic search strategies – heuristic functions
Local search and optimization problems – local search in continuous space – search with non-deterministic actions – search in partially observable environments – online search agents and unknown environments

UNIT III   **GAME PLAYING AND CSP**   9

Game theory – optimal decisions in games – alpha-beta search – monte-carlo tree search – stochastic games – partially observable games
Constraint satisfaction problems – constraint propagation – backtracking search for CSP – local search for CSP – structure of CSP

UNIT IV   **LOGICAL AGENTS**   9

Knowledge-based agents – propositional logic – propositional theorem proving – propositional model checking – agents based on propositional logic
First-order logic – syntax and semantics – knowledge representation and engineering – inferences in first-order logic – forward chaining – backward chaining -- resolution

UNIT V   **KNOWLEDGE REPRESENTATION AND PLANNING**   9

Ontological engineering – categories and objects – events – mental objects and modal logic – reasoning systems for categories – reasoning with default information
Classical planning – algorithms for classical planning – heuristics for planning – hierarchical planning – non-deterministic domains – time, schedule, and resources -- analysis

COURSE OUTCOMES:
On successful completion of this course, the students will be able to
1. Explain autonomous agents that make effective decisions in fully informed, partially observable, and adversarial settings
2. Choose appropriate algorithms for solving given AI problems
3. Design and implement logical reasoning agents
4. Design and implement agents that can reason under uncertainty

TEXT BOOK
1. Stuart Russel and Peter Norvig, "Artificial Intelligence: A Modern Approach", Fourth Edition, Pearson Education, 2020.

REFERENCES
1. Dan W. Patterson, "Introduction to AI and ES", Pearson Education, 2007
2. Kevin Night, Elaine Rich, and Nair B., "Artificial Intelligence", McGraw Hill, 2008
3. Patrick H. Winston, "Artificial Intelligence", Third edition, Pearson Edition, 2006
4. Deepak Khemani, "Artificial Intelligence", Tata McGraw Hill Education, 2013 (http://nptel.ac.in/)

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LESSON PLAN

Faculty Name	G SOWMIYA		Designation Assistant Professor
Department	COMPUTER SCIENCE AND ENGINEERING		Semester/Year IV/II
Subject / Code	ARTIFICIAL INTELLIGENCE I/AD8402		
Academic Year	2021-2022		

S.No.	Proposed Date	Proposed Period	Details of Topic Covered	TA	Ref.	Actual Date	Actual Period	HOD
			UNIT I INTELLIGENT AGENTS					
1	10.3.22	8		1	1	15/3/22	4	
2	11/3/22	4,5	Agents and Environments	1	1	16/3/22	8	
3	12/3/22	8	concept of rationality	1	1	17/3/22	3	
4	14/3/22	8	nature of environments	1	1	18/3/22	4,5	
5	15/3/22	4	structure of agents	1	1	21/3/22	8	
6	16/3/22	8	Problem solving agents	1	1	22/3/22	4	
7	17/3/22	3	search algorithms	1	1	23/3/22	8	
8	18/3/22	4,5	Characteristics of search algorithm	1	1	24/3/22	3	
9	21/3/22	8	uninformed search strategies	1	1	25/3/22	4,5	
			UNIT II PROBLEM SOLVING					
10	22/3/22	4	Heuristic search strategies	1	1	26/3/22	4	
11	23/3/22	8	heuristic functions	1	1	29/3/22	4	
12	24/3/22	3	Example for heuristic search strategies	1	1	30/3/22	8	
13	25/3/22	4,5	Local search	1	1	31/3/22	3	
14	26/3/22	4	optimization problems	1	1	1/4/22	4,5	
15	29/3/22	4	local search in continuous space	1	1	11/4/22	8	
16	30/3/22	8	search with nondeterministic actions	1	1	12/4/22	4	
17	31/3/22	3	search in partially observable environments	1	1	13/4/22	8	
18	1/4/22	4,5	online search agents and unknown environments	1	1	18/4/22	8	
			UNIT III GAME PLAYING AND CSP					
19	11/4/22	8	Game theory ,optimal decisions in games	1	1	19/4/22	4	
20	12/4/22	4	alpha-beta search	1	1	20/4/22	8	
21	13/4/22	8	monte carlo tree search	1	1	21/4/22	3	
22	18/4/22	8	stochastic games,partially observable games	1	1	22/4/22	4,5	
23	19/4/22	4	Constraint satisfaction problems	1	1	23/4/22	8	
24	20/4/22	8	constraint propagation	1	1	25/4/22	8	
25	21/4/22	3	backtracking search for CSP	1	1	26/4/22	4	
26	22/4/22	4,5	local search for CSP	1	1	27/4/22	8	
27	23/4/22	8	Structure of CSP	1	1	28/4/22	3	

Faculty Name	G SOWMIYA
Department	COMPUTER SCIENCE AND ENGINEERING
Subject / Code	ARTIFICIAL INTELLIGENCE 1/AD8402
Academic Year	2021-2022

S.No.	Proposed Date	Proposed Period	Details of Topic Covered	TA	Ref.	Actual Date	Actual Period	HOD
			UNIT IV LOGICAL AGENTS	1,2	1	29/4/22	4,5	
28	29/4/22	8	Knowledge-based agents ,propositional logic	1,2	1	30/4/22	3	
29	26/4/22	4	propositional theorem proving , propositional model checking	1,2	1	2/5/22	8	
30	27/4/22	8	agents based on propositional logic	1,2	1	4/5/22	8	
31	28/4/22	3	First-order logic	1,2	1	5/5/22	3	
32	29/4/22	4,5	syntax and semantics	1	1	6/5/22	4,5	
33	30/4/22	3	knowledge representation and engineering	1	1	16/5/22	8	
34	8/5/22	8	inferences in first-order logic	1	1	17/5/22	4	
35	4/5/22	8	forward chaining – backward chaining	1	1	18/5/22	8	
36	5/5/22	3	resolution					
			UNIT V KNOWLEDGE REPRESENTATION AND PLANNING					
37	6/5/22	4,5	Ontological engineering ,categories and objects, events	1,2	1	19/5/22	3	
38	16/5/22	8	Mental objects and modal logic	1	1	20/5/22	4,5	
39	17/5/22	4	Reasoning systems for categories ,reasoning with default information	1	1	23/5/22	8	
40	18/5/22	8	Classical planning	1	1	24/5/22	4	
41	7/5/22	3	Algorithms for classical planning	1	1	25/5/22	8	
42	20/5/22	4,5	Hierarchical planning	1	1	26/5/22	3	
43	23/5/22	8	Non-deterministic domains	1	1	27/5/22	4,5	
44	24/5/22	4	Time, schedule, and resources	1	1	28/5/22	4	
45	25/5/22	8	Analysis	1	1	3/5/22	8	

Reference books (Ref):

1 Stuart Russel and peter norvig Artificial intelligence A Modern Approach 2020.

Teaching Aids (TA):

1 Black Board with Chalk

2 Overhead Projector

3 LCD Projector

4 Others (Field visits, Charts, Cutset Models)

Prepared by	Verified by	Authorized by
Sign		
Name Ms.G SOWMIYA	Mr. S.PRABAKARAN	Dr. E.Nandakumar
Faculty	HOD	Principal

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TEST PLAN FOR SUBJECT

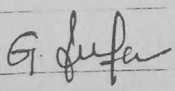Subject : ARTIFICIAL INTELLIGENCE - I   Faculty G.SOWHIYA
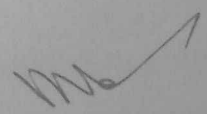
Semester : IV   Year II

Department : CSE [AIDS]

S. No.	Description	Planned Date/Month	Actual Conducted Date / Month	Remarks
1.	Internal Test I	19.4.22	20.4.22	college reopen date 15.03.22 only
2.	Internal Test II	14.5.22	18.05.22	college reopen date 15.03.22 only
3.	Internal Test III	11.6.22	15.06.22	College reopen date 15.03.22 only

	Prepared By	Approved By
Sign:	G. Sufa	
Name:	G. SOWHIYA	S. PRABAKARAN
	Faculty	HD

Head, Dept. of CSE
SASURIE
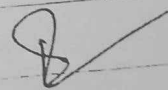College of Engineering
Vijayamangalam-638 956, Erode

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Vijayamangalam - 638 056, Tirupur (Dt).

RESULT ANALYSIS OF TEST

Subject : ARTIFICIAL INTELLIGENCE - I   Date   20/4/22

Department   CSE [AI & DS]

Class   : II

Semester   : IV

Exam details & date   : Internal Test I

Faculty   : G. SOWMIYA

Number of students   : 03

No. of students attended   : 03

No. of students absent   : NIL

No. of students passed   : 01

No. of students failed   : 02

Percentage of failures   : 66

RESULT DATA:

Marks	0-25	26-50	51-75	76-90	91-100
No. of Students	—	2	1	—	—

	Prepared By	Approved By
Sign:	G. fufa	S. PRABAKARAN
Name:	G. SOWMIYA	HD
	Faculty	

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RESULT ANALYSIS OF TEST

Subject : ARTIFICIAL INTELLIGENCE -1   Date : 18.05.22

Class : II   Department : CSE[AI DS].

Semester : IV

Exam details & date   : Inteenal II & 18.5.22.

Faculty   : G. SOWMIYA

Number of students   : 3

No. of students attended   : 3

No. of students absent   : NIL

No. of students passed   : 03

No. of students failed   : NIL

Percentage of failures   : NIL

RESULT DATA:

Marks	0-25	26-50	51-75	76-90	91-100
No. of Students	─	─	3	─	─

	Prepared By	Approved By
Sign:	G. Syfa	
Name:	G. SOWMIYA	S. PRABAKARAN
	Faculty	HD

Head, Dept. of CSE
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Vijayamangalam-638 056, Erode.

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PRINCIPAL
SASURIE COLLEGE OF ENGINEERING,
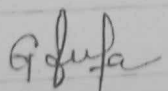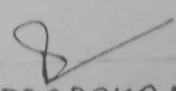Vijayamangalam - 638 056, Tirupur (Dt).

RESULT ANALYSIS OF TEST

Subject : ARTIFICIAL INTELLIGENCE -I   Date : 15/6/22

Class : II   Department : CSE [AI & SE]

Semester : IV

Exam details & date : Internal Test III [Model Exam] 15/6/2

Faculty : G. SOWMIYA

Number of students : 03

No. of students attended : 01

No. of students absent : 02

No. of students passed : 0

No. of students failed : 1

Percentage of failures : 100 /

RESULT DATA:

Marks	0-25	26-50	51-75	76-90	91-100
No. of Students	—	1	—	—	—

	Prepared By	Approved By
Sign:	G fufa	
Name:	G. SOWMIYA	S. PRABAKARAN
	Faculty	HD

Head, Dept. of CSE
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CORRECTIVE ACTION REPORT

Dept : E [AI & DS] Test : II

Subject : ARTIFICIAL INTELLIGENCE - I Semester : IV 2

S.No	Internal Test	Percentage of marks	Root Cause (Metrics)	Corrective Action	Deadline date	Remarks
1	Internal Test I	34%	16 mark not written ~~not~~ very well	Assignment Given	22.4.22	
2	Internal Test II	100%	~~70%~~ ~~in~~ Two mark want to concentrate	Assignment Given	17.5.22	
3	Model Exam	0%	students absent ~~70~~ 16 mark not written well	Assignment Given	17.6.22	

	Prepared By		Approved By
Sign:	G. Sufa		S. PRABAKARAN
Name:	G SOWMYA		HD
	Faculty		

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QUALITY OBJECTIVE MONITORING RECORD

Department : CSE [AI & DS]

Year : II

Semester : IV

Subject : Artificial Intelligence - I .

S.No	Quality Objective	Internal Test-I		Internal Test-II		Model Test-I	
		Expecting result	Obtained result	Expecting result	Obtained result	Expecting Result	Obtained result
1	To make student obtain knowledge on Artificial Intelligence I	90%	34%	90%	100%	90%	0%

	Prepared By	Approved By
Sign:	G. Sufa	
Name:	G. SOWNIYA	S. PRABAKARAN
	Faculty	HD

MARK LIST

Department: Computer Science and Engineering

Year/Sem III / VI

Sl. No	Register Number	Student's Name	INTERNAL MARK 1	INTERNAL MARK 2	MODEL EXAM MARK
1	732420243001	BHARADWAJ.S	34	58	AB
2	732420243002	KATHIRAVAN.J	42	60	AB
3	732420243301	INDHARESH	70	55	46

SIGN		
NAME	G SOWMIYA	S.Prabhakaran
	FACULTY	HOD

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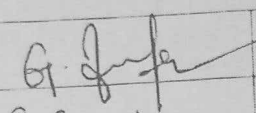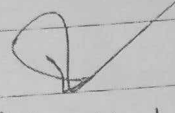Vijayamangalam, Tirupur

MODEL EXAMINATION - I		Date/Session	15.06.2022/FN	Marks	100
Course code	AD8402	Course Title	ARTIFICIAL INTELLIGENCE - 1		
Regulation	2021	Duration	3 Hours	Academic Year	2021-2022
Year	II	Semester	IV	Department	AI&DS

COURSE OUTCOMES

CO1:	Explain autonomous agents that make effective decisions in fully informed partially observable and adversarial settings.
CO2:	Choose appropriate algorithms for solving given AI problems.
CO3:	Design and implement logical reasoning agents.
CO4:	Design and implement agents that can reason under uncertainty

Q.No.	Question	CO	BTS
	PART A **(Answer all the Questions 10 x 2 = 20 Marks)**		
1	Define Agent?	CO1	R
2	List some uniformed search techniques?	CO1	U
3	What is AI?	CO1	R
4	What is ontological engineering?	CO2	U
5	Different between propositional and first order periodic logic?	CO3	U
6	Write about optimal decision making game?	CO2	U
7	Define Game theory and types of games in AI.	CO2	R
8	List down characteristics of intelligent agents?	CO3	R
9	What is problem solving agents?	CO3	R
10	Define alpha-beta search?	CO1	U

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PART B
(Answer all the Questions 5 x 13 = 65 Marks)

11a	Detail about propositional theorem proving.	CO1	E
	OR		
11b	Illustrate inferences in first order logic.	CO1	E
12a	Explain detail about optimal decision making game.	CO2	C
	OR		
12b	i) .Explain about backtracking search in CSP. ii) Discuss about types of games in game theory	CO2	U
13 a	Describe online search agent and unknown environments.	CO3	E
	OR		
13 b	Explain about constrain satisfaction problem in AI.	CO2	E
14 a	Discuss about ontological engineering?	CO2	A
	OR		
14 b	Illustrate algorithm for classical.	CO4	C
15 a	Explain in detail about class of agents.	CO4	E
	OR		
15 b	Describe detail about uniformed search algorithm.	CO1	C

PART C
(Answer all the Questions 1 x 15 = 15 Marks)

16 a	Explain alpha-beta pruning algorithm and the minmax game playing algorithm with the example.	CO2	A
	OR		
16 b	Discuss about heuristic search strategy	CO1	A

Course Faculty

(Name/Sign/Date)

G.SOWMIYA

HoD

(Name/Sign/Date)

(S. Prabakaran)

Principal

(Name/Sign/Date)
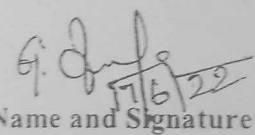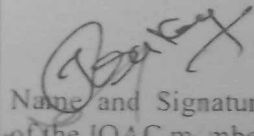
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SASURIE INSTITUTIONS

Internal Assessment Test Answer Book

Name	Intharesh .P			Year/ Semester/Section	II	IV	A
Register Number	732420243301	Date/Session	15.6.22/FN	Department			AI&DS
Course code	AD8402	Course Title	Artificial Intelligence - 1.				
Internal Assessment Test		IAT 1 ☐	IAT 2 ☐	IAT 3 ☐	Model ☑		
Name and Signature of the Invigilator with date			B. Manoharan 15/6/22 B. Moorthamy				

Instruction to the Student: Put tick mark to the question attended in the column against question.

Part A			Part B/ Part C					Total Marks
Q. No.	✓	Marks	Q. NO.	✓	a Marks	✓	b Marks	
1	✓	2	11					
2	✓	2	12					
3	✓	2	13					
4	✓	1	14	✓	10			10
5	✓	2	15	✓	8			8
6	✓	2	16	✓	9			9
7	✓	2			Grand Total			27
8	✓	2						
9	✓	2						
10	✓	2	46/100					
Total		19	Grand Total					

Name and Signature of the Examiner with date   17/6/22

To be filled by the examiner							
Course Outcomes	1	2	3	4	5	6	Total
Marks allotted	36	32	6	26	—	—	100
Marks Obtained	17	5	6	18	—	—	46

IQAC Audit - Remarks

Marks are verified.

Name and Signature of the IQAC member

Dr.M.VIJAYAKUMAR ME., Ph.D.,
PRINCIPAL
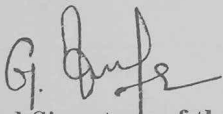SASURIE COLLEGE OF ENGINEERING,
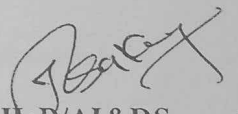Vijayamangalam - 638 056, Tirupur (Dt).

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE
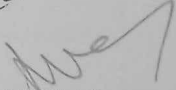
Assignment Question Paper

Assignment – 02		Date of Issue:	05.04.2022	Marks	10
Course code	AD8402	Course Title	ARTIFICIAL INTELLIGENCE - I		
Year	II	Semester/Section	IV/ A	Date of Submission:	19.04.2022

Q.No	Questions	CO
1	Explain in detail about game theory in AI.	CO2
2	Give brief notes on monte carlo tree search	CO2

Name and Signature of the Faculty Incharge

G.SOWMIYA

HoD/AI&DS

(S.Prabavaran)

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