

Practical Plan

T.E. (AI & DS) (Semester V)

Subject: *Artificial Intelligence Lab (Practical)*

Teacher-in-charge: Prof. Saurabh Kulkarni

Subject code: CSL 502

Academic Term: July – October 2022

Lab Outcomes:

Upon completion of this course students will be able to:

CSL502.1 Identify suitable agent architecture for given AI problem.

CSL502.2 Implement simple programs using Prolog

CSL502.3 Implement various search techniques for problem solving agent

CSL502.4 Represent natural language description as statements in logic and apply inference rules to it.

CSL502.5 Construct a Bayesian Belief Network for a given problem and draw probabilistic inferences from it.

CSL502.6 To study the components of expert system

Relationship of lab outcomes with program outcomes:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO	PO	PSO1
CSL502.1	3	3		1					3	3			1
CSL502.2	3	3	3	1	2								2
CSL502.3	3	3	3	1	2								2
CSL502.4	3	3	2	2									
CSL502.5	3	3			2								
CSL502.6	3	2			1								

Provide justification of LO to PO mapping

CSL502.1	PO1	Students have to use knowledge of Computer Engineering concepts for different agent architectures.
	PO2	Students need to identify the correct agent architecture to solve the given problem Students need to identify the correct environment characteristics for given problem Students need to differentiate between different agent architectures and environment types
	PO4	Students can select appropriate agent architecture and environment types for given problem/case study

	PO-9	Students need to demonstrate effective communication, problem-solving, conflict-resolution skills Students should treat other team members respectfully Students should listen to other members Students should present results as a team, with smooth integration of contributions from all team members.
	PO-10	Students need to critically think about the solution and represent the same Students need to listen and integrate viewpoints of the others Students need to deliver effective oral presentation to other class members.
CSL502.2	PO1	Students have to use knowledge of programming languages.
	PO2	Students need to identify appropriate Prolog concept to solve a problem
	PO3	Students need to implement the solution.
	PO4	Students need to select appropriate Prolog structures/concepts to solve a problem
	PO5	Students need to demonstrate the proficiency in using discipline-specific tool called Prolog.
CSL502.3	PO1	Students need to use concepts of data structure and algorithm course learnt previously.
	PO2	Students need to apply computer engineering principles to formulate solution
	PO3	Students need to implement the solution.
	PO4	Students need to design and develop appropriate procedures based on study objective
	PO5	Students need to demonstrate the proficiency in using discipline-specific tool called Prolog.
CSL502.4	PO1	Students need to use concepts of data structure and algorithm course learnt previously.
	PO2	Students need to apply computer engineering principles to formulate modules of system with required applicability Students need to apply engineering mathematics to implement solution
	PO3	Students need to produce variety of potential design solutions suited to meet the requirement
	PO4	Students need to develop appropriate procedures based on the study objectives

CSL502.5	PO1	Students need to apply concepts of probability in modeling of computer-based system Students need to apply theory and principles of computer science and engineering to solve problem
	PO2	Students need to identify mathematical algorithmic knowledge that applies to given problem Students need to apply computer engineering principles to formulate modules of system with required applicability Students need to apply engineering mathematics to implement the solution
	PO5	Students need to demonstrate proficiency in using discipline-specific tools
CSL502.6	PO1	Students need to apply theory and principles of computer science and engineering
	PO2	Students need to apply computer engineering principles to formulate modules of a system with required applicability.
	PO5	Students need to identify modern engineering tools, techniques and resources for engineering activities

LO Assessment Tools:

<i>Lab Outcomes</i>	Practical & Viva Exam	Journal Assessment	Course exit survey
CSL502.1	30%	70%	100%
CSL502.2	30%	70%	100%
CSL502.3	30%	70%	100%
CSL502.4	30%	70%	100%
CSL502.5	30%	70%	100%
CSL502.6	30%	70%	100%

CO calculation= (0.8 *Direct method + 0.2*Indirect method)

Rubrics for assessing Course Outcome with each assessment tool:

Indicator				
Timeline (3)	More than two sessions late (0)	More than one session late (1)	One session late (2)	On time (3)
Depth of Understanding (4)	Unsatisfactory (1)	Superficial (2)	Satisfactory (3)	Adequate (4)
Completeness (3)	Not submitted (0)	Major topics are omitted or addressed minimally (1)	Most major and some minor points are covered and are accurate (2)	All major and minor points are covered and are accurate (3)

Practical Session Plan

CLASS		TE Artificial Intelligence & Data Science, Semester V	
Academic Term		July – October 2022	
Subject		Artificial Intelligence Lab(CSL 502)	
Evaluation System			Hours
	Practical & Oral Examination		--
	Term work		--
	Total		--
		Marks	Marks
			25
			25
			50
Time Table	Day	Batch	Time
	Monday	A	01:30PM-03:30PM
	Wednesday	C	11:00AM-01:00PM
	Thursday	B	11:00AM-01:00PM
	Thursday	D	02:30PM-04:30PM
Title of Experiments			
Sr.	Title	Attained LO	
1	To provide PEAS description and identify suitable agent architecture	CSL502.1	
2	To use Prolog basics to solve AI problems	CSL502.2	
3	To use Prolog lists and operations to solve AI problems	CSL502.2	
4	To use Prolog for uninformed search strategy	CSL502.3	
5	To perform informed search using Prolog	CSL502.4	
6	To perform adversarial search using Prolog	CSL502.5	
7	To make inference by FOPL techniques	CSL502.4	
8	To implement Bayesian Network for given problem	CSL502.5	
9	Study of expert system: a case study	CSL502.6	

10	Presentation on advanced research topics in AI	CSL502.3, CSL502.5	
Newly added experiments			
1	Presentation on advanced research topics in Software Testing and Quality Assurance		
Practical Session Plan			
Batch	Dates		Remarks
	Planned	Actual	
Experiment No. 1			
A	01-08-2022	01-08-2022	
C	03-08-2022	03-08-2022	
B	04-08-2022	04-08-2022	
D	04-08-2022	04-08-2022	
Experiment No. 2			
A	08-08-2022	08-08-2022	
C	10-08-2022	10-08-2022	
B	11-08-2022	11-08-2022	
D	11-08-2022	11-08-2022	
Experiment No. 3			
A	15-08-2022	19-08-2022	Due to Independence Day holiday, it was conducted on 19-08-2022
C	17-08-2022	17-08-2022	
B	18-08-2022	18-08-2022	
D	18-08-2022	18-08-2022	
Experiment No. 4			
A	22-08-2022	22-08-2022	
C	24-08-2022	24-08-2022	
B	25-08-2022	25-08-2022	
D	25-08-2022	25-08-2022	
Experiment No.5			
A	12-09-2022	12-09-2022	Due to mid term break followed by Unit Test, Practical sessions were resumed by 12-09-2022
C	14-09-2022	14-09-2022	
B	15-09-2022	15-09-2022	
D	15-09-2022	15-09-2022	
Experiment No. 6			
A	19-09-2022	19-09-2022	
C	21-09-2022	21-09-2022	
B	22-09-2022	22-09-2022	

D	22-09-2022	22-09-2022	
Experiment No. 7			
A	26-09-2022	26-09-2022	
C	28-09-2022	28-09-2022	
B	29-09-2022	29-09-2022	
D	29-09-2022	29-09-2022	
Experiment No. 8			
A	03-10-2022	03-10-2022	
C	05-10-2022	08-10-2022	Due to Dussehra Holiday it was rescheduled on 08-10-2022
B	06-10-2022	06-10-2022	
D	06-10-2022	06-10-2022	
Experiment No. 9			
A	10-10-2022	10-10-2022	
C	12-10-2022	12-10-2022	
B	13-10-2022	13-10-2022	
D	13-10-2022	13-10-2022	
Experiment No. 10			
A	20-10-2022	20-10-2022	
C	25-10-2022	25-10-2022	
B	27-10-2022	27-10-2022	
D	27-10-2022	27-10-2022	