Practical Plan

T.E. (ECS) (Semester VI)

Subject: Artificial Intelligent *(Practical)*

Teacher-in-charge: Prof. Prajakta Bhangale

Subject code: ECC602

Academic Term: Jan – May 2023

Course Outcomes:

At the end of the course, students will be able to;

1. Identify suitable Agent Architecture for a given real world AI problem
2. Implement simple programs using Prolog.
3. Implement various search techniques for a Problem-Solving Agent.
4. Represent natural language description as statements in Logic and apply inference rules to it.
5. Construct a Bayesian Belief Network for a given problem and draw probabilistic inferences from it.

Relationship of course outcomes with program outcomes:

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**
ECL602:1	2													
ECL 602:2	2		2		2								1	
ECL 602:3	2		2		2									
ECL 602:4	2												1	
ECL 602:5	2				2								1	

Provide justification of PO to CO mapping

ECL602:1	**PO1**	Application knowledge of mathematics, science and engineering fundamentals to understand the various Agents and problem solving strategies of intelligent system
ECL 602:2	**PO1**	Students will use knowledge of mathematics, science and engineering fundamentals to understand various searching techniques.
	PO5	Modern tools like SWI prolog will be used to implement various basic Prolog queries and adversarial search techniques in AI.
	PO3	Students will design searching algorithms for the given problem.
ECL 602:3	**PO1**	Application knowledge of mathematics, science and engineering fundamentals to understand the various facts and query writing using basic Prolog.
	PO5	Modern tools like SWI prolog,Jupyter Notebook for python will be used to implement various searching techniques in AI.
	PO3	Students will design a knowledge base for the given problem statement using Prolog.
ECL 602:4	**PO1**	Application knowledge of mathematics, science and engineering fundamentals to understand the various facts and query writing using basic Prolog.
ECL 602:5	**PO1**	Application knowledge of mathematics, science and engineering fundamentals to construct Baysian and Belief networks.
	PO5	Modern tools like Jupyter Notebook for python will be used to implement Baysian network t in AI.

Sr.No.	Title	LO/CO	PI	BL
1	A. Design of Intelligent System Using PEAS. B. Design the state space problem for given Problem statements	LO1 CO1	1.3.1,1.4.1	3
2	Implement Search strategy	LO3 CO2	1.1.1,1.3.1,1.4.1 5.1.1,5.2.1	3
3	Write a program in prolog to implement simple facts and Queries	LO2 CO3	1.1.1,1.3.1,1.4.1 5.1.1,5.2.1	3
4	Implement adversarial search using min-max algorithm using Prolog.	LO2 CO2	1.1.1,1.3.1,1.4.1 5.1.1,5.2.1	3
5	To Create a Bayesian Network for the given Problem Statement and draw inferences from it. (You can use any Belief and Decision Networks Tool for modeling Bayesian works.	LO5 CO4	1.1.1,1.3.1,1.4.1 5.1.1,5.2.1	3
6	Represent natural language description as statements in Logic and apply inference rules to it	LO4	1.1.1,1.3.1,1.4.1	2
7	Assignment 1	CO1, CO2,	1.1.1,1.3.1,1.4.1 2.1.3,2.1.4,2.2.2 2.2.3,2.2.4	
8	Assignment 2	CO3	1.1.11.3.1,1.4.1 2.1.3,2.1.4,2.2.2,2. 2.3	
9	Quiz	CO5	1.1.11.3.1,1.4.1 2.1.3,2.1.4,2.2.2,2. 2.3	

CO Assessment Tools:

Course Outcomes	***Direct Method***				***Indirect Method***
	Quiz	Assignment	Journal Assessment	Oral Exam	Course exit survey
ECL602:1	5%	10%	35%	50%	100%
ECL 602:2	5%	10%	35%	50%	100%
ECL 602:3	5%	10%	35%	50%	100%
ECL 602:4	5%	10%	35%	50%	100%
ECL 602:5	5%	10%	35%	50%	100%

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

Rubrics for assessing Course Outcome with each assessment tool:

1	**Timeline (2)**	N.A	Two sessions late (0.5)	One session late (1)	Early or on time (2)
2	**Output (3)**	Practical not performed (0)	Practical performed but failed to show output due to some error.(1)	Output shown but not as expected (Partial output) (2)	Expected output shown (3)
3	**Code optimization (3)**	Practical not performed (0)	Code is unstructured and difficult to understand(1)	The code is structured (2)	The code is structured and optimized (3)
4	**Knowledge about the topic (2)**	N.A	Not able to answer any question (0)	Able to answer few questions (1)	Answered all the questions with relevant explanation(2)

Practical Session Plan

CLASS	**TE ECS, Semester VI**
Academic Term	**Jan – May 2023**
Subject	**Artificial Intelligence(ECL602)**

Evaluation System		***Hours***	***Marks***
	Practical Examination	--	--
	Oral Examination	--	25
	Term work	--	25
	Total	--	50

Time Table	***Day***	***Batch***	***Time***
	Monday	***A batch***	***11.15-1.15***
	Wednesday	***B batch***	***1.45-3.45***
	Thursday	***C Batch***	***1.45-3.45***
	Friday	***D Batch***	***1.45-3.45***

Title of Experiments

Sr. No.	***Title***	***Attained COs***	***Attained POs***
1	A. Design of Intelligent System Using PEAS. B. Design the state space problem for given Problem statements.	CO1 LO1	PO1

2	Implement Search strategy	CO2 LO3	PO1,PO3,PO5
3	Write a program in prolog to implement simple facts and Queries.	CO3 LO2	PO1,PO5
4	Implement adversarial search using min-max algorithm using Prolog.	CO2 LO2	PO1,PO3,PO5
5	To Create a Bayesian Network for the given Problem Statement and draw inferences from it.(You can use any Belief and Decision Networks Tool for modeling Bayesian works.	CO4 LO5	PO1,PO3,PO5
6	Represent natural language description as statements in Logic and apply inference rules to it.	LO4	PO1

Newly added experiments

1	Represent natural language description as statements in Logic and apply inference rules to it.		LO4		PO1

Practical Session Plan

Batch	***Dates***		***Remarks***
	Planned	***Actual***	
Experiment No. 1			
A	23/1	23/1	
B	25/1	25/1	
C	2/2	2/2	
D	27/1	3/2	
Experiment No. 2			
A	30/1	23/1	Completed in online extra Lab
B	1/2	25/1	

C	2/2	2/2	
D	3/2	3/2	
Experiment No. 3			
A	13/2	30/1	
B	16/2	1/2	
C	16/2	16/2	
D	17/2	17/2	
Experiment No. 4			
A	27/2	13/2	
B	22/3	15/2	Took Extra lab online
C	16/2	16/2	
D	17/2	17/2	
Experiment No.5			
A	20/3	17/2	
B	29/3	8/3	
C	23/3	23/3	
D	30/3	30/3	
Experiment No. 6 Simulation of Binary modulation and demodulation of BPSK			
A	20/3	20/3	
B	29/3	15/3	

C	23/3	23/3	
D	30/3	30/3	

Submitted By	**Approved By**
Prof. Prajakta Bhangale	ii) Dr. D. V Bhoir Sign:
Sign:	ii) Prof. K. Narayanan Sign:
	iii) Prof. Shilpa Patil Sign:
Date of Submission: 3/2/2023	**Date of Approval:**
Remarks by PAC (if any)	