BIT POLYTECHNIC,BALASORE

LESSON PLAN

Semester: *5th*	**Year** :*3rd Year*	**Course:Deploma**
Branch :*CSE*	**Sub**:*AI & ML* **Sub Code :**	**Total Credit** :*NA*
Name of the Faculty: **Designation :** **Department :**	HITIK KUMAR BEHERA *Lecture* *CSE*	
Recommended Books	**Text book**: **1.** Elaine Rich, Kevin Knight, & Shivashankar B Nair, Artificial Intelligence, McGraw Hill,3rd ed.,2009 **2.** Stuart Russell, Peter Norvig, Artificial Intelligence -A Modern Approach, 4/e, Pearson, 2003. **Reference Books**: **1.** Nils J Nilsson, Artificial Intelligence: A New Synthesis, Morgan Kaufmann Publications,2000	

Sl. No.	Lecture No.	Topics to be covered	No. of Classes
		MODULE-1	**10**
1	Lecture-01	The Foundations of Artificial Intelligence, INTELLIGENT AGENTS Agents and Environments,	
2	Lecture-02	Good Behavior: The Concept of Rationality, the Nature of Environments, the Structure of Agents,	
3	Lecture-03	SOLVING PROBLEMS BY SEARCH – Problem-Solving Agents, Formulating problems, Searching for Solutions	
4	Lecture-04	Uninformed Search Strategies, Breadth-first search, Depth-first search, Searching with Partial Information,	
5	Lecture-05	Informed (Heuristic) Search Strategies, Greedy best-first search, A* Search, CSP, Means-End-Analysis.	
		MODULE-2	**10**
11	Lecture-11	ADVERSARIAL SEARCH – Games, The Mini-Max algorithm, optimal decisions in multiplayer games	
12	Lecture-12	Alpha-Beta Pruning, Evaluation functions, Cutting off search, LOGICAL AGENTS – Knowledge-Based agents	
13	Lecture-13	Logic, Propositional Logic, Reasoning Patterns in Propositional Logic, Resolution, Forward and Backward chaining	
14	Lecture-14	FIRST ORDER LOGIC – Syntax and Semantics of First-Order Logic, Using First-Order Logic , Knowledge Engineering in First-Order Logic	
15	Lecture-15	INFERENCE IN FIRST ORDER LOGIC – Propositional vs. First-Order Inference	
16	Lecture-16	Unification and Lifting, Forward Chaining, Backward Chaining, Resolution	

		MODULE-3	
17	Lecture-17	UNCERTAINTY – Acting under Uncertainty, Basic Probability Notation	**10**
18	Lecture-18	The Axioms of Probability, Inference Using Full Joint Distributions	
19	Lecture-19	Independence, Bayes' Rule and its Use, PROBABILISTIC REASONING	
20	Lecture-20	Representing Knowledge in an Uncertain Domain	
21	Lecture-21	The Semantics of Bayesian Networks	
22	Lecture -22	Efficient Representation of Conditional Distribution	
23	Lecture -23	Exact Inference in Bayesian Networks	
24	Lecture -24	Approximate Inference in Bayesian Networks	
		MODULE-4	
25	Lecture -25	LEARNING METHODS – Statistical Learning, Learning with Complete Data	**10**
26	Lecture -26	Learning with Hidden Variables, Rote Learning	
27	Lecture -27	Learning by Taking Advice, Learning in Problem-solving	
28	Lecture -28	learningfrom Examples: Induction, Explanation-based Learning	
29	Lecture -29	Discovery, Analogy, FormalLearning Theory	
30	Lecture -30	Neural Net Learning and Genetic Learning	
31	Lecture -31	Expert Systems: Representingand Using Domain Knowledge	
32	Lecture-32	Expert System Shells, Explanation, Knowledge Acquisition	