



ARSD College, University of Delhi

Model Course Handout/Lesson Plan

Course Name : B.Sc. Honors (Electronics)						
Semester	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Credit (C)
IV	558	Artificial Intelligence(SEC)	2	-	-	2
Teacher/Instructor(s)		Mrs. Ritu Bansal				
Session		Even Semester 2021-22				

Course Objective:

Artificial intelligence (AI) is a major step forward in how computer system adapts, evolves and learns. This course will give an opportunity to gain expertise in one of the most fascinating and fastest growing areas of computer science through classroom program that covers fascinating and topics related to human intelligence and its applications in industry, defense, healthcare, agriculture and many other areas.

Lesson Plan:

Unit No.	Learning Objective	Lecture No.	Topics to be covered
1.		1-2	Concept of AI agents, History, current status, scope
		3-4	Environments, Problem Formulations
		5-6	Review of Tree and Graph structures
		7-8	State Space representations, Search Graph, Search Tree
		9-10	Random search, search with closed and open list
		11-12	Depth First and Depth First search, Heuristic search,
		13-14	Best Fit search, A* Algorithm, Game search
2.		15-16	Probability, Conditional Probability
		17-18	Bayes rule, Bayesian Network Representation,
		19-20	Construction and inference, temporal model, hidden Markov Model, MDP formulations
		21-22	Utility theory, utility function, direct utility estimation
		23-24	Value iteration, policy iteration,
		25-26	Partially observable MDPs
		27-28	Passive Reinforcement Learning,
29-30	Adaptive dynamic programming, temporal difference.		

Evaluation Scheme:

No.	Component	Duration	Marks
1.	Internal Assessment		25
	• Quiz		
	• Class Test		
	• Attendance		
	• Assignment		
2.	End Semester Examination	1 hr	25

Details of the Course		
Unit	Contents	Contact Hours
1.	Concept of AI, history, current status, scope, agents, environments, Problem Formulations, Review of Tree and Graph structures, State Space representations, Search Graph, Search Tree, Random search, search with closed and open list, Depth First and Depth First search, Heuristic search, Best Fit search, A* Algorithm, Game search.	14
2.	Probability, Conditional Probability, Bayes rule, Bayesian Network Representation, construction and inference, temporal model, hidden Markov Model, MDP formulations, utility theory, utility function, value iteration, policy iteration, partially observable MDPs, Passive Reinforcement Learning, direct utility estimation, adaptive dynamic programming, temporal difference.	16
	Total Hours	30
Suggested Books:		
Sl. No.	Name of Authors/Books/Publishers	Year of Publication/Reprint
1.	Stuart Russel and Peter Norvig, "Artificial Intelligence : A Modern Approach", 3 rd edition, Prentice Hall	Not Available
2.	David Poole and Alan Mackworth, "Artificial Intelligence: Foundations for Computational Agents, Cambridge University Press	2010
Mode of Evaluation:		Internal Assessment / End Semester Exam

Teacher:

Mrs. Ritu Bansal
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Department of Electronic Science