Lovely Professional University, Punjab

Course Code	Course Title	Course Planner	Lectures	Tutorials	Practicals	Credits
INT404	ARTIFICIAL INTELLIGENCE	23494::Ranjit Kaur	3	1	0	4
Course Weightage	ATT: 5 CA: 25 MTT: 20 ETT: 50	**Exam Category: 55: Mid Term Exam: All Subjective – End Term Exam: All Subjective**				
Course Orientation	COMPETITIVE EXAMINATION (Higher Education), KNOWLEDGE ENHANCEMENT					

	TextBooks (T)		
Sr No	**Title**	**Author**	**Publisher Name**
T-1	ARTIFICIAL INTELLIGENCE	KEVIN KNIGHT, ELAINE RICH, B. SHIVASHANKAR NAIR	MC GRAW HILL

	Reference Books (R)		
Sr No	**Title**	**Author**	**Publisher Name**
R-1	ARTIFICIAL INTELLIGENCE: A MODERN APPROACH	STUART RUSSEL, PETER NORVIG	PEARSON
R-2	ARTIFICIAL INTELLIGENCE AND INTELLIGENT SYSTEM	N. P. PADHY	OXFORD UNIVERSITY PRESS

Other Reading (OR)	
Sr No	**Journals articles as Compulsary reading (specific articles, complete reference)**
OR-1	Evolutionary Computation, IEEE Transactions on: http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=996017 ,
OR-2	Neural Networks:http://www.journals.elsevier.com/neural-networks/most-cited-articles/ ,
OR-3	International Journal of Fuzzy Logic and Intelligent Systems: http://acoms.kisti.re.kr/journal.do?method=viewFullTextArchive&journalSeq=J000021&menuId=0202&introMenuId=0202 ,

Relevant Websites (RW)		
Sr No	**(Web address) (only if relevant to the course)**	**Salient Features**
RW-1	http://www.trinity.edu/cbrown/bayesweb/	Bayes Theorem
RW-2	http://www.pr-owl.org/basics/bn.php	Bayesian belief networks
RW-3	http://what-when-how.com/artificial-intelligence/the-dempster-shafer-theory-artificial-intelligence/	The Dempster-Shafer Theory
RW-4	http://www.tutorialspoint.com/artificial_intelligence/artificial_intelligence_natural_language_processing.htm	Natural Language Processing
RW-5	http://www.cs.cf.ac.uk/Dave/AI2/node69.html	Conceptual Dependency
RW-6	https://www.cs.utexas.edu/users/novak/reso.html	Resolution in AI

RW-7	https://www.cs.utexas.edu/~mooney/cs343/slide-handouts/heuristic-search.4.pdf	Heuristic Search
RW-8	http://www.cs.odu.edu/~cs381/cs381content/logic/pred_logic/intr_to_pred_logic.html	Introduction to Predicate Logic
RW-9	http://lpn.swi-prolog.org/lpnpage.php?pageid=online	Prolog Tutorial
RW-10	http://intelligence.worldofcomputing.net/ai-search/ai-search-techniques.html#.WkXo-d-WbIU	AI Search Techniques
RW-11	http://neverstopbuilding.com/minimax	minimax Algorithm
RW-12	http://www.cs.bham.ac.uk/~jxb/IAI/w7.pdf	Production system
RW-13	https://cs.stanford.edu/people/eroberts/courses/soco/projects/2003-04/intelligent-search/alphabeta.html	Game playing
RW-14	https://towardsdatascience.com/types-of-machine-learning-algorithms-you-should-know-953a08248861	Machine Learning

Audio Visual Aids (AV)		
Sr No	**(AV aids) (only if relevant to the course)**	**Salient Features**
AV-1	http://nptel.ac.in/courses/106106126/	Artificial Intelligence video lectures

Software/Equipments/Databases		
Sr No	**(S/E/D) (only if relevant to the course)**	**Salient Features**
SW-1	http://www.swi-prolog.org/	SWI-PROLOG

LTP week distribution: (LTP Weeks)	
Weeks before MTE	7
Weeks After MTE	7
Spill Over (Lecture)	

Detailed Plan For Lectures

Week Number	Lecture Number	Broad Topic(Sub Topic)	Chapters/Sections of Text/reference books	Other Readings, Relevant Websites, Audio Visual Aids, software and Virtual Labs	Lecture Description	Learning Outcomes	Pedagogical Tool Demonstration/ Case Study / Images / animation / ppt etc. Planned	Live Examples
Week 1	Lecture 1	Introduction(What is intelligence?)	T-1 R-1 R-2	OR-2 OR-3 AV-1	Lecture 1 should be utilized to discuss lecture zeros. Lecture 2 should be utilized to discuss AI problems, Underlying assumptions, AI techniques.	Students will learn Foundations of artificial intelligence(AI), History of AI, Basics of AI, AI Problems.	Demonstration using Power Point Presentation.	Driver-less car, AI robots.

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Week 1	Lecture 1	Introduction(Foundations of artificial intelligence(AI))	T-1 R-1 R-2	OR-2 OR-3 AV-1	Lecture 1 should be utilized to discuss lecture zeros. Lecture 2 should be utilized to discuss AI problems, Underlying assumptions, AI techniques.	Students will learn Foundations of artificial intelligence(AI), History of AI, Basics of AI, AI Problems.	Demonstration using Power Point Presentation.	Driver-less car, AI robots.
		Introduction(History of AI)	T-1 R-1 R-2	OR-2 OR-3 AV-1	Lecture 1 should be utilized to discuss lecture zeros. Lecture 2 should be utilized to discuss AI problems, Underlying assumptions, AI techniques.	Students will learn Foundations of artificial intelligence(AI), History of AI, Basics of AI, AI Problems.	Demonstration using Power Point Presentation.	Driver-less car, AI robots.
	Lecture 2	Introduction(What is intelligence?)	T-1 R-1 R-2	OR-2 OR-3 AV-1	Lecture 1 should be utilized to discuss lecture zeros. Lecture 2 should be utilized to discuss AI problems, Underlying assumptions, AI techniques.	Students will learn Foundations of artificial intelligence(AI), History of AI, Basics of AI, AI Problems.	Demonstration using Power Point Presentation.	Driver-less car, AI robots.
		Introduction(Foundations of artificial intelligence(AI))	T-1 R-1 R-2	OR-2 OR-3 AV-1	Lecture 1 should be utilized to discuss lecture zeros. Lecture 2 should be utilized to discuss AI problems, Underlying assumptions, AI techniques.	Students will learn Foundations of artificial intelligence(AI), History of AI, Basics of AI, AI Problems.	Demonstration using Power Point Presentation.	Driver-less car, AI robots.
		Introduction(History of AI)	T-1 R-1 R-2	OR-2 OR-3 AV-1	Lecture 1 should be utilized to discuss lecture zeros. Lecture 2 should be utilized to discuss AI problems, Underlying assumptions, AI techniques.	Students will learn Foundations of artificial intelligence(AI), History of AI, Basics of AI, AI Problems.	Demonstration using Power Point Presentation.	Driver-less car, AI robots.
	Lecture 3	Introduction(Basics of AI)	T-1 R-1 R-2	OR-1	AI techniques, AI problems.	Students will learn different Artificial Intelligence Techniques, nature of AI problems.	Lecture delivery using Power Point Presentation, Problem-based learning.	Tic-Tac-Toe game development using move table and without move table.
		Introduction(Artificial Intelligence Problems)	T-1 R-1 R-2	OR-1	AI techniques, AI problems.	Students will learn different Artificial Intelligence Techniques, nature of AI problems.	Lecture delivery using Power Point Presentation, Problem-based learning.	Tic-Tac-Toe game development using move table and without move table.

Week 1	Lecture 3	Introduction(Artificial Intelligence Techniques)	T-1 R-1 R-2	OR-1	AI techniques, AI problems.	Students will learn different Artificial Intelligence Techniques, nature of AI problems.	Lecture delivery using Power Point Presentation, Problem-based learning.	Tic-Tac-Toe game development using move table and without move table.
Week 2	Lecture 4	Problem Spaces and Search (Defining the problem as a state space search)	T-1 R-2	RW-12	State space search and production system.	Students will understand state space, state space search, and production system.	Lecture delivery using Power Point Presentation.	Water-Jug Problem.
		Problem Spaces and Search (Production systems)	T-1 R-2	RW-12	State space search and production system.	Students will understand state space, state space search, and production system.	Lecture delivery using Power Point Presentation.	Water-Jug Problem.
	Lecture 5	Problem Spaces and Search (Problem characteristics)	T-1	RW-12	Four Types of production system and Eight problem characteristics.	Students will learn about different AI problems characteristics and production system characteristics.	Lecture delivery using Power Point Presentation, problem-based learning	Characteristics of Water-Jug problem, general problem solver.
		Problem Spaces and Search (Production system characteristics)	T-1	RW-12	Four Types of production system and Eight problem characteristics.	Students will learn about different AI problems characteristics and production system characteristics.	Lecture delivery using Power Point Presentation, problem-based learning	Characteristics of Water-Jug problem, general problem solver.
	Lecture 6	Problem Spaces and Search (Issues in designing search problems)	T-1 R-1	RW-10	Discussion related to different issues in designing search program.	Students will learn to apply BFS on AI problems like water jug, tic-tac-toe, 8-puzzle.	Lecture delivery using Power Point Presentation, problem-based learning.	Apply BFS on Water-Jug-Problem.
		Problem Spaces and Search (Breadth first search (BFS))	T-1 R-1	RW-10	Discussion related to different issues in designing search program.	Students will learn to apply BFS on AI problems like water jug, tic-tac-toe, 8-puzzle.	Lecture delivery using Power Point Presentation, problem-based learning.	Apply BFS on Water-Jug-Problem.
Week 3	Lecture 7	Problem Spaces and Search (Depth first search(DFS))	T-1 R-2	RW-7	Depth First Search, Bi-directional search, Iterative Deepning.	Students will learn to apply DFS on AI problems like water jug, tic-tac-toe, 8-puzzle.	Lecture delivery using Power Point Presentation, problem-based learning.	Apply DFS on Water-Jug-Problem.

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Week 3	Lecture 7	Problem Spaces and Search (Bi-directional Search)	T-1 R-2	RW-7	Depth First Search, Bi-directional search, Iterative Deepning.	Students will learn to apply DFS on AI problems like water jug, tic-tac-toe, 8-puzzle.	Lecture delivery using Power Point Presentation, problem-based learning.	Apply DFS on Water-Jug-Problem.
		Problem Spaces and Search (Iterative Deepening)	T-1 R-2	RW-7	Depth First Search, Bi-directional search, Iterative Deepning.	Students will learn to apply DFS on AI problems like water jug, tic-tac-toe, 8-puzzle.	Lecture delivery using Power Point Presentation, problem-based learning.	Apply DFS on Water-Jug-Problem.
	Lecture 8	Informed Search Strategies (Heuristic functions)	T-1 R-1	DK-1	Heuristic function and its application, generate and test search algorithm. Term paper should allocate to students.	Students will learn the selection of heuristic functions and application of generate and test algorithm.	Lecture delivery using Power Point Presentation, problem-based learning	A random guess of distance in human mind can be considered as heuristic distance.
		Informed Search Strategies (Generate and Test)	T-1 R-1	DK-1	Heuristic function and its application, generate and test search algorithm. Term paper should allocate to students.	Students will learn the selection of heuristic functions and application of generate and test algorithm.	Lecture delivery using Power Point Presentation, problem-based learning	A random guess of distance in human mind can be considered as heuristic distance.
	Lecture 9	Informed Search Strategies (Hill Climbing)	T-1 R-1	RW-7	Hill climbing algorithm and its application.	Students will learn Hill Climbing searching algorithm and its application on problem like water-jug, block-world.	Demonstration using Power Point Presentation, problem-based learning	Solve Water-Jug problem of 5-3 liter jugs using Hill Climbing.
Week 4	Lecture 10	Informed Search Strategies (Simulated Annealing)	T-1 R-1		Simulated Annealing and its application, Class test 1 should be allocated to students.	Students will learn Simulated Annealing basics and its applications to solve water jug problems.	Demonstration using Power Point Presentation, problem-based learning.	Explain with the example of metal annealing process.
	Lecture 11	Informed Search Strategies (Best first search)	T-1 R-2	RW-7 DK-1	Lecture 11 should utilized to discuss Best first search and its application.Lecture 12 should utilized to discuss A*, AND OR graph and AO* algorithm	Students will learn the basics of Best First Search, its advantages over Hill climbing algorithm and A* algorithm.	Demonstration using Power Point Presentation, problem-based learning.	

Week 4	Lecture 11	Informed Search Strategies (A* algorithm)	T-1 R-2	RW-7 DK-1	Lecture 11 should utilized to discuss Best first search and its application.Lecture 12 should utilized to discuss A*, AND OR graph and AO* algorithm.	Students will learn Hill Climbing searching algorithm and its application on problem like water-jug, block-world.	Demonstration using Power Point Presentation, problem-based learning.	
	Lecture 12	Informed Search Strategies (Best first search)	T-1 R-2	RW-7 DK-1	Lecture 11 should utilized to discuss Best first search and its application.Lecture 12 should utilized to discuss A*, AND OR graph and AO* algorithm	Students will learn the basics of Best First Search, its advantages over Hill climbing algorithm and A* algorithm.	Demonstration using Power Point Presentation, problem-based learning.	
		Informed Search Strategies (A* algorithm)	T-1 R-2	RW-7 DK-1	Lecture 11 should utilized to discuss Best first search and its application.Lecture 12 should utilized to discuss A*, AND OR graph and AO* algorithm.	Students will learn Hill Climbing searching algorithm and its application on problem like water-jug, block-world.	Demonstration using Power Point Presentation, problem-based learning.	
Week 5	Lecture 13	Informed Search Strategies (Constraint satisfaction)	T-1 R-2		Different Constraint satisfaction problems will be discussed like Crypt-arithmetic problem, Missionary-Cannibal problem.	Students will learn to solve different constraint satisfaction problems like cryptarithmetic problems.	Demonstration using Power Point Presentation, problem-based learning.	Cryptarithmetic problems like SEND +MORE=MONEY.
	Lecture 14				Test 1			
	Lecture 15	Knowledge Representation (Representations & mappings)	T-1		Knowledge representation techniques, various approaches and issues in knowledge representation.	Students will learn about different mapping approaches, approaches in knowledge representation and issues in knowledge representation.	Demonstration using Power Point Presentation, problem-based learning.	
		Knowledge Representation (Approaches in knowledge representation)	T-1		Knowledge representation techniques, various approaches and issues in knowledge representation.	Students will learn about different mapping approaches, approaches in knowledge representation and issues in knowledge representation.	Demonstration using Power Point Presentation, problem-based learning.	

Week 5	Lecture 15	Knowledge Representation (Issues in knowledge representation)	T-1		Knowledge representation techniques, various approaches and issues in knowledge representation.	Students will learn about different mapping approaches, approaches in knowledge representation and issues in knowledge representation.	Demonstration using Power Point Presentation, problem-based learning.	
Week 6	Lecture 16	Knowledge Representation (Propositional logic)	R-1		Propositional logic and its application. conversion of English statement in propositional logic.	Students will learn basics of Propositional logic and its application in knowledge representation.	Demonstration using Power Point Presentation, problem-based learning.	
	Lecture 17	Knowledge Representation (Predicate logic)	T-1 R-1	RW-8	Predicate logic and its application. conversion of predicate logic to CNF.	Students will learn the basics of Predicate logic and its application in knowledge representation.	Demonstration using Power Point Presentation, problem-based learning.	
	Lecture 18	Knowledge Representation (Procedural versus declarative knowledge)	T-1	RW-9 SW-1	Logic programming in PROLOG will be discuss in this lecture.	Students will learn various types of knowledge and programming in prolog.	Demonstration using Power Point Presentation, problem-based learning.	Solving family tree examples,computing factorial od a number in PROLOG.
		Knowledge Representation (Logic programming)	T-1	RW-9 SW-1	Logic programming in PROLOG will be discuss in this lecture.	Students will learn various types of knowledge and programming in prolog.	Demonstration using Power Point Presentation, problem-based learning.	Solving family tree examples,computing factorial od a number in PROLOG.
Week 7	Lecture 19	Knowledge Representation (Forward versus backward reasoning)	T-1	RW-6	Forward and backward reasoning, Resolution principle.	Students will learn various methods of reasoning and their comparisons.	Demonstration using Power Point Presentation, problem-based learning.	
		SPILL OVER						
Week 7	Lecture 21				Spill Over			
		MID-TERM						
Week 8	Lecture 22	Statistical reasoning (Probability & Bayes' theorem)	T-1	RW-1	Basic probability concept, Bayes theorem.	Students will learn basic probability concepts and Bayes theorem application in statistical reasoning.	Demonstration using Power Point Presentation, problem-based learning.	

Week 8	Lecture 23	Statistical reasoning (Bayesian networks)	T-1	RW-2	Solving examples of burglary alarm system using Bayesian belief networks.	Students will learn Bayesian belief networks and its application in Statistical reasoning.	Demonstration using Power Point Presentation, problem-based learning.	
	Lecture 24	Statistical reasoning (Certainty factors & rule-based systems)	T-1		Measure of belief, measure of disbelief, Certainty factors and its application in Statistical reasoning.	Students will learn to compute measure of belief, measure of disbelief and Certainty factors of MYCIN rules.	Lecture delivery using Power Point Presentation, Problem-based learning.	
Week 9	Lecture 25	Statistical reasoning (Dempster-Shafer-Theory)	T-1	RW-3	Dempster Shafer theory to combine mass functions of beliefs.	Students will learn to apply Dempster Shafer theory to combined more than one beliefs of hypothesis.	Lecture delivery using Power Point Presentation, Problem-based learning.	
	Lecture 26	Weak and Strong Slot & Filler Structures(Semantic nets)	T-1		Semantic networks, partition semantic networks.	Students will learn semantic networks and able to construct semantic networks of English statements.	Lecture delivery using Power Point Presentation, Problem-based learning.	
	Lecture 27				Test 2			
Week 10	Lecture 28	Weak and Strong Slot & Filler Structures(Frames)	T-1		Frames, comparison of semantic net with frames.	Students will learn frames, metaclass, and its application in knowledge representation.	Lecture delivery using Power Point Presentation, Problem-based learning.	
	Lecture 29	Weak and Strong Slot & Filler Structures(Conceptual dependency)	T-1	RW-5	Action adder, Picture producer, action and picture adder in English statement and its dependency.	Students will learn to represent English statements to conceptual dependency representation.	Lecture delivery using Power Point Presentation, Problem-based learning.	
	Lecture 30	Weak and Strong Slot & Filler Structures(Scripts)	T-1		Props, Roles, Actions, Scenes, Entry and Exit condition of scripts.	Students will learn different components of scripts and able to write script of given problem.	Lecture delivery using Power Point Presentation, Problem-based learning.	
Week 11	Lecture 31	Natural Language Processing(Introduction to NLP and information retrieval)	T-1	RW-4	Introduction about Natural Language processing, information retrieval and detailed description of the NLP phases	Students will learn different stages of natural language processing with example of creation of parse tree for given rules, grammar and dictionary.	Lecture delivery using Power Point Presentation, Problem-based learning.	

Week 11	Lecture 31	Natural Language Processing(NLP phases)	T-1	RW-4	Introduction about Natural Language processing, information retrieval and detailed description of the NLP phases	Students will learn different stages of natural language processing with example of creation of parse tree for given rules, grammar and dictionary.	Lecture delivery using Power Point Presentation, Problem-based learning.	
	Lecture 32	Natural Language Processing(Spell checking)	T-1		Spell checking algorithm for removing different types of error in sentences.	Students will learn spell checking algorithm to remove different types of errors in a sentence.	Lecture delivery using Power Point Presentation, Problem-based learning.	
	Lecture 33	Natural Language Processing(Soundex algorithm)	T-1		Soundex algorithm to categorize the words.	Students will learn to use soundex algorithm to categorize the words on the basis of sound despite minor differences in spelling.	Lecture delivery using Power Point Presentation, Problem-based learning.	
Week 12	Lecture 34				Test 3			
	Lecture 35	Natural Language Processing(Applications of NLP)	T-1		NLP applications like machine translation, information retrieval, pattern matching, paraphrase detection, speech recognition etc.	Students will learn about various real time applications of NLP.	Demonstration using Power Point Presentation.	
	Lecture 36	Natural Language Processing(NLP techniques)	T-1		NLP techniques like rule-based approach, statistical approach, neural based machine translation	Students will learn about various NLP Techniques	Demonstration using Power Point Presentation.	
Week 13	Lecture 37	Game playing(The min-max search procedure)	T-1	RW-11	Min-Max algorithm, utility function, an example to apply min-max algorithm.	Students will learn to apply min-max search algorithm on various games like TICK-TAC-TOE, checkers.	Lecture delivery using Power Point Presentation, Problem-based learning.	
	Lecture 38	Game playing(Alpha-beta cutoffs)	T-1	RW-13	Alpha-beta pruning algorithm	Students will learn to apply alpha-beta pruning in game theory.	Lecture delivery using Power Point Presentation, Problem-based learning.	

Week 13	Lecture 39	Overview of Machine Learning(Definition of Machine Learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Types of learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Supervised learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Unsupervised learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Reinforcement learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	

Week 14	Lecture 40	Overview of Machine Learning(Definition of Machine Learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Types of learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Supervised learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Unsupervised learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		Overview of Machine Learning(Reinforcement learning)	T-1	RW-14	Overview of Machine learning, Types of learning, Supervised learning with example, Unsupervised learning with example, Reinforcement learning with example	Students will learn the basic concepts of machine learning	Demonstration using Power Point Presentation.	
		SPILL OVER						
Week 14	Lecture 42				Spill Over			
Week 15	Lecture 43				Spill Over			

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Week 15	Lecture 44				Spill Over			
	Lecture 45				Spill Over			

Scheme for CA:

CA Category of this Course Code is:A0203 (2 best out of 3)

Component	Weightage (%)
Test	50
Test	50
Test	50

Details of Academic Task(s)

Academic Task	Objective	Detail of Academic Task	Nature of Academic Task (group/individuals)	Academic Task Mode	Marks	Allottment / submission Week
Test 1	To analyse and evaluate the content and conceptual understanding of students individually.	Topics covered in week 1, 2 3 and 4	Individual	Offline	30	4 / 5
Test 2	To analyse and evaluate the content and conceptual understanding of students individually.	Topics covered in week 5, 6, 7 and 8	Individual	Offline	30	8 / 9
Test 3	To analyse and evaluate the content and conceptual understanding of students individually.	Topics covered in week 9, 10 and 11	Individual	Offline	30	11 / 12

Plan for Tutorial: (Please do not use these time slots for syllabus coverage)

Tutorial No.	Lecture Topic	Type of pedagogical tool(s) planned (case analysis,problem solving test,role play,business game etc)

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Tutorial1	Programs to Play Tic-tac-toe and question answering	Problem Solving
Tutorial2	State space search (Water-Jug problem, Block puzzle, Missionary cannibal problem)	Problem Solving
Tutorial3	Problems on heuristic search (A*, OR graph,AO)	Problem Solving
Tutorial4	Predicate logic(Conversion to CNF)	Problem Solving
Tutorial5	Problem based on predicate logic and resolution examples	Problem Solving
Tutorial6	Problem based on predicate logic and resolution examples	Problem Solving
Tutorial7	Programming in PROLOG (Facts, Rules and creating knowledge base)	Problem Solving
After Mid-Term		
Tutorial8	Programming in PROLOG (recursion and list)	Problem Solving
Tutorial9	Problem based on bayes theorem	Problem Solving
Tutorial10	Problem based on Bayesian belief networks	Problem Solving
Tutorial11	Problem based on certainity factor	Problem Solving
Tutorial12	Problem based on Damster shafer theory	Problem Solving
Tutorial13	Problem based on sementic net and frames	Problem Solving
Tutorial14	Problem based on conceptual dependencies and scripts	Problem Solving