Artificial Intelligence and Applications Practical

B. Sc. (Information Technology)		**Semester – V**	
Course Name: Artificial Intelligence and Applications Practical		**Course Code: USIT5P4 (Elective I)**	
Periods per week (1 Period is 50 minutes)		**3**	
Credits		**2**	
		Hours	**Marks**
Evaluation System	**Practical Examination**	**2½**	**50**
	Internal	**--**	**--**

List of Practical	
1.	**Write programs for the following:**
a.	Implement depth first search algorithm.
b.	Implement breadth first search algorithm.
2.	**Write programs for the following:**
a.	Simulate 4-Queen / N-Queen problem.
b.	Solve tower of Hanoi problem.
3.	**Write programs for the following:**
a.	Implement alpha beta search.
b.	Implement hill climbing problem.
4.	**Write programs for the following:**
a.	Implement A* algorithm.
b.	Solve water jug problem.
5.	**Write programs for the following:**
a.	Simulate tic – tac – toe game using min-max algorithm.
b.	Shuffle deck of cards.
6.	**Write program for the following:**
a.	Design an application to simulate number puzzle problem.
7.	**Write program for the following:**
a.	Solve constraint satisfaction problem.
8.	**Write programs for the following:**
a.	Derive the expressions based on Associative Law.
b.	Derive the expressions based on Distributive Law.
9.	**Write program for the following:**
a.	Derive the predicate. (for e.g.: Sachin is batsman, batsman is cricketer) - > Sachin is Cricketer

10.	**Write program for the following:**
a.	Write a program which contains three predicates: male, female, parent. Make rules for following family relations: father, mother, grandfather, grandmother, brother, sister, uncle, aunt, nephew and niece, cousin. Question: i. Draw Family Tree. ii. Define: Clauses, Facts, Predicates and Rules with conjunction and disjunction

Books and References:

Sr. No.	Title	Author/s	Publisher	Edition	Year
1.	Artificial Intelligence: A Modern Approach	Stuart Russel and Peter Norvig	Pearson	Third	2015
2.	A First Course in Artificial Intelligence	Deepak Khemani	TMH	First	2017
3.	Artificial Intelligence: A Rational Approach	Rahul Deva	Shroff Publisher	First	2018
4.	Artificial Intelligence	Elaine Rich, Kevin Knight and Shivashankar Nair	TMH	Third	2009
5.	Artificial Intelligence & Soft Computing for Beginners	Anandita Das Bhattacharjee	SPD	First	2013