MULTI-AGENT SYSTEMS

(Honors)

Course Code	20IT6701D	**Year**	IV	**Semester**	I
Course Category	Honors	**Branch**	IT	**Course Type**	Theory
Credits	4	**L-T-P**	4-0-0	**Prerequisites**	-
Continuous Internal Evaluation :	30	**Semester End Evaluation:**	70	**Total Marks:**	100

Course Outcomes		**Blooms Taxonomy Level**
Upon successful completion of the course, the student will be able to		
CO1	Gain Knowledge in Multi-agent and intelligent agents	**L1**
CO2	Understand the development of software agents	**L2**
CO3	Understand Agents and security	**L2**
CO4	Analyze the applications of agents	**L4**
CO5	Evaluate the Multi agent efficiency.	**L5**

Contribution of Course Outcomes towards the achievement of Program Outcomes & Strength of correlations (H: High, M: Medium, L: Low)

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	3				3					3	3	3
CO2	3	3	3				3					3	3	3
CO3	3	3	3									3	3	3
CO4	3	3	3				3					2	3	3
CO5	2	2										2	2	2

Syllabus		
Unit No	**Contents**	**Mapped COs**
I	**Agent Definition And Programming:**, Agent Programming Paradigms, Agent Vs. Object, Aglet, Mobile Agents, Agent Frameworks, Agent Reasoning **Interface Agents**: Metaphors with Character, Processes, threads, Components, Java Beans, ActiveX, Sockets, RPCs, Distributed Computing	**CO1**
II	**Agent-Oriented Programming**: Jini Architecture, Actors and Agents, Typed and proactive messages, Interaction between agents, Reactive Agents, Agent negotiation, Software Agent for Cooperative Learning, , Self - interested agents in electronic commerce applications, , Agent Communication Languages	**CO2**
III	**Agent adaptability**: Agent-Based Framework for Interoperability, Agents for Information Gathering, Mobile Agent Applications, Towards an Industrial-Strength Open Agent Architecture, Agent Security Issues, Mobile Agents Security, Untrusted Agent, Authentication for agents, Security issues for aglets.	**CO3**
IV	**Multi-Agent System**: Theoretical approaches and NASA applications – Agent-based control for multi-UAV information collection- Agent-based decision support system for Glider pilots	**CO4**
V	**Multi-agent system in E-Health Territorial Emergencies** – Software Agents for computer network security- Multi-Agent Systems, Ontologies, and Negotiation for Dynamic Service Composition in Multi Organizational Environmental Management.	**CO5**

Learning Resources:
Textbooks:
1. Jeffrey M. Bradshaw, *Software Agents*, AAAI Press , 1997 **2.** Richard Murch, Tony Johnson, *Intelligent Software Agents*, Prentice Hall , 1999
References Text books:
1. Information Storage and Retrieval Systems: Theory and Implementation by Gerald J.Kowalski, Mark T.Maybury, Second Edition, Kluwer Academic Publishers