17CS32E3 – INTELLIGENT SOFTWARE AGENTS

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| **Course Category:** | Professional Elective | **Credits:** | 3 |
| **Course Type:** | Theory | **Lecture – Tutorial – Practical:** | 3-0-0 |
| **Prerequisite:** | Need to have knowledge in Artificial Intelligence | **Sessional Evaluation:****Univ.Exam Evaluation:****Total Marks:** | 4060100 |
| **Objectives** | * To learn the principles, architecture, design and roles of software agents
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| **Course Outcomes** | Upon the successful completion of the course, the students will be able to: |
| CO1 | Learn the fundamental concepts of software agents in Information Society |
| CO2 | Know when multi-agent system is useful |
| CO3 | Understand the security issues in multi-agent systems |
| CO4 | Explore development methods and tools in the design of software agents |
| CO5 | Design applications of Intelligent Software Agents |
| CO6 | Specify how Intelligent Software Agents are useful in real-world |
| **Course Content** | UNIT – I**Agents as Tools of the Information Society:** On the Way to the Information Society, Tools of the Information Society, Intelligent Software Agents, Economic Potential. **Fundamental Concepts of Intelligent Software Agents:** Definition of Intelligent Software Agents, Characteristics of Intelligent Software Agents, Classification**.**UNIT – II**Base Modules of Agent Systems:** Areas of Influence, Architecture.**Communication and Cooperation in Multi-Agent Systems:** Introduction, Distributed Problem Solving, Communication, Cooperation Protocols, Negotiations, Matchmaking and Brokering.UNIT – IIICommunication and Cooperation in Multi-Agent Systems:Learning and Planning in Multi-Agent Systems, Security, Demands Made on the Base Systems-Introduction, Agent Runtime Environment, Middleware, Computer Operating System and Communications System, Development Tendencies- Introduction, Intelligent Agents in Multimedia Environments, Multimedia and Intelligent Agents.UNIT – IVDevelopment Methods and Tools: Agent-Oriented Analysis and Design-Object-Oriented Analysis, Agent-Oriented Methods, Agent Languages- Requirements, Java, Telescript, Tcl/ Tk, Safe-Tcl, Agent-Tcl, Component-Based Software Development.UNIT – VApplication Areas for Intelligent Software Agents: Introduction, Information Retrieval and Filtering: Introduction, Simple Search Engines, Meta Search Engines.News Watcher: Introduction, Market Overview, PointCast Network, Free Loader, Concepts, Architecture.Advising and Focusing: Introduction, Market Overview, IBM Web Browser Intelligence, Letizia  UNIT – VI**Entertainment:** Introduction, Market Overview, Life style Finder, Firefly.**Groupware:** Introduction, Market Overview, Lotus Notes Mail, MAXIMS, PLEIADES. **Electronic Commerce:** Introduction, Simple Buying Agents, Complex Buying Agents, Agent-Based Marketplace. Manufacturing. |
| **Text Books and References:** | **Text Book:**1. Intelligent software agents: foundations and applications by[Walter Brenner,](http://www.google.co.in/search?tbo=p&tbm=bks&q=+inauthor:%22Walter+Brenner%22) Rüdiger [Zarnekow,](http://www.google.co.in/search?tbo=p&tbm=bks&q=+inauthor:%22R%C3%BCdiger+Zarnekow%22)Hartmut Wittig Springer, 1998.

**Reference Books:**1. Intelligent Software Agents, Rich ard Murch, Tony Johnson, Prentice Hall, 2000.
2. Software Agents, Bradshaw, MIT Press, 2000.
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| **E-Resources** | 1. [**https://nptel.ac.in/courses**](https://nptel.ac.in/courses)
2. [**https://freevideolectures.com/university/iitm**](https://freevideolectures.com/university/iitm)
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