# 19CS42E2 - 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:** | 40  60  100 |
| **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, Learning and Planning in Multi-Agent Systems, Security.  UNIT-III  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-IV  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-V  Application 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,](about:blank) Rüdiger[Zarnekow,](about:blank)Hartmut Wittig Springer, 1998.   **Reference Books:**   1. Intelligent Software Agents, Rich ardMurch, Tony Johnson, Prentice Hall, 2000. 2. Software Agents, Bradshaw, MIT Press, 2000. | |
| **E-Resources** | 1. [**https://nptel.ac.in/courses**](about:blank) 2. [**https://freevideolectures.com/university/iitm**](about:blank) | |