



## **Computer Science engineering**

### **III Year – I Sem**

#### **COMPUTER NETWORKS**

**(CS503PC)**

##### **Course Outcomes:**

- 1) Gain the knowledge of the basic computer network technology.
- 2) Gain the knowledge of the functions of each layer in the OSI and TCP/IP reference model.
- 3) Obtain the skills of subnetting and routing mechanisms.
- 4) Familiarity with the essential protocols of computer networks,
- 5) how essential protocols of computer networks can be applied in network design and implementation.

#### **PRINCIPLES OF PROGRAMMING LANGUAGES**

**(Professional Elective - I)**

**(CS515PE)**

##### **Course Outcomes:**

- 1) Acquire the skills for expressing syntax and semantics in formal notation
- 2) Identify and apply a suitable programming paradigm for a given computing application  
Gain knowledge of and able to compare the features of various programming languages
- 3) Understand the core principles that govern programming languages.
- 4) Compare and contrast various language paradigms and their features.
- 5) Design simple interpreters or compilers for basic languages.



## **SOFTWARE ENGINEERING**

### **(CS502PC)**

#### **Course Outcomes:**

- 1) Ability to translate end-user requirements into system and software requirements, using e.g. UML
- 2) structure the requirements in a Software Requirements Document (SRD).
- 3) Identify and apply appropriate software architectures and patterns to carry out high level design of a system
- 4) be able to critically compare alternative choices.
- 5) Will have experience and/or awareness of testing problems and will be able to develop a simple testing report

## **INFORMATION RETRIEVAL SYSTEMS**

### **(Professional Elective – II)**

### **( CS721PE)**

#### **Course Outcomes:**

- 1) Ability to apply IR principles to locate relevant information large collections of data
- 2) Ability to design different document clustering algorithms
- 3) Implement retrieval systems for web search tasks.
- 4) Design an Information Retrieval System for web search tasks
- 5) Implement and Understand Advanced IR Topics

## **WEB TECHNOLOGIES**

### **(CS504PC)**

#### **Course Outcomes:**

- 1) gain knowledge of client-side scripting, validation of forms and AJAX programming
- 2) understand server-side scripting with PHP language
- 3) Apply Security Measures in Web Development
- 4) understand what is XML and how to parse and use XML Data with Java
- 5) To introduce Server-side programming with Java Servlets and JSP

**FORMAL LANGUAGES AND AUTOMATA THEORY****(CS501PC)****Course Outcomes:**

- 1) Able to understand the concept of abstract machines and their power to recognize the languages.
- 2) Able to employ finite state machines for modeling and solving computing problems.
- 3) Able to design context free grammars for formal languages.
- 4) Able to distinguish between decidability and undecidability.
- 5) Able to gain proficiency with mathematical tools and formal methods.

**COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB****(CS506PC)****Course Outcomes:**

- 1) Implement data link layer framing methods
- 2) Analyze error detection and error correction codes.
- 3) Implement and analyze routing and congestion issues in network design.
- 4) Implement Encoding and Decoding techniques used in presentation layer
- 5) To be able to work with different network tools

**ADVANCED COMMUNICATION SKILLS LAB****(EN508HS)****Course Outcomes:**

- 1) Gathering ideas and information to organise ideas relevantly and coherently.
- 2) Making oral presentations.
- 3) Writing formal letters.
- 4) Transferring information from non-verbal to verbal texts and vice-versa.
- 5) Writing project/research reports/technical reports.
- 6) Participating in group discussions.
- 7) Engaging in debates.
- 8) Facing interviews.
- 9) Taking part in social and professional communication.

**SOFTWARE ENGINEERING LAB****(CS505PC)****Course Outcomes:**

- 1) Ability to translate end-user requirements into system and software requirements
- 2) Ability to generate a high-level design of the system from the software requirements
- 3) Will have experience and/or awareness of testing problems and will be able to develop a simple testing report



## **Fundamentals Of AI**

**(AM611OE)**

### **Course Outcomes:**

- 1) Gain the knowledge of what is AI, risks and benefits of AI, limits of AI and the ethics involved in building an AI application.
- 2) Understand the nature of environments and the structure of agents.
- 3) Possess the ability to select a search algorithm for a problem and characterize its time and space complexities.
- 4) Possess the skill for representing knowledge using the appropriate technique
- 5) Gain an understanding of the applications of AI

## **INTELLECTUAL PROPERTY RIGHTS**

**(\*MC510)**

### **Course Outcomes:**

On successful completion of this course the student should be able to:

- 1) Distinguish and Explain various forms of IPRs. Identify criteria's to fit one's own intellectual work in particular form of IPRs.
- 2) Apply statutory provisions to protect particular form of IPRs.
- 3) Analyse rights and responsibilities of holder of Patent, Copyright, Trademark, Industrial Designetc.
- 4) Identify procedure to protect different forms of IPRs national and international level.
- 5) Develop skill of making search using modern tools and technics.

**Principal**

**computer Science engineering****III Year- II Sem****SOFTWARE TESTING METHODOLOGIES****(Professional Elective - III) (CS615PE)****Course Outcomes:**

- 1) Design and develop the best test strategies in accordance to the development model.
- 2) Understand Software Testing Principles and Life Cycle
- 3) Apply Different Types of Testing
- 4) Design and Implement Test Cases
- 5) Use Testing Tools and Techniques

**FUNDAMENTALS OF INTRNET OF THINGS****(EC600OE)****Course Outcomes:**

- 1) Interpret the impact and challenges posed by IoT networks leading to new architectural model
- 2) Illustrate the smart objects and the technologies to connect them to network.
- 3) Compare different Application protocols for IoT.
- 4) Infer the role of Data Analytics and Security in IoT.
- 5) Identify sensor technologies for sensing real world entities and understand the role of IoT in various domains of Industry.

**DESIGN AND ANALYSIS OF ALGORITHMS****(CS603PC)****Course Outcomes:**

- 1) Ability to analyze the performance of algorithms
- 2) Ability to choose appropriate data structures and algorithm design methods for a specified application
- 3) Ability to understand how the choice of data structures and the algorithm design methods impact the performance of programs
- 4) Implement and Analyze Classical Algorithms
- 5) Understand Graph Theory and its Algorithms

**SOFTWARE TESTING METHODOLOGIES LAB****(Professional Elective - III)****( CS625PE)****Course Outcomes:**

- 1) Design and develop the best test strategies in accordance to the development model.

**MACHINE LEARNING LAB****(CS604PC)****Course Outcomes:**

After the completion of the course the student can able to:

- 1) understand complexity of Machine Learning algorithms and their limitations;
- 2) understand modern notions in data analysis-oriented computing;
- 3) be capable of confidently applying common Machine Learning algorithms in practice and implementing their own;
- 4) Be capable of performing experiments in Machine Learning using real-world data.

**COMPILER DESIGN LAB****( CS605PC)****Course Outcomes:**

- 1) Design and develop interactive and dynamic web applications using HTML, CSS, JavaScript and XML
- 2) Apply client-server principles to develop scalable and enterprise web applications.
- 3) Ability to design, develop, and implement a compiler for any language.
- 4) Able to use lex and yacc tools for developing a scanner and a parser.
- 5) Able to design and implement LL and LR parsers.

**COMPILER DESIGN****(CS602PC)****Course Outcomes:**

- 1) Demonstrate the ability to design a compiler given a set of language features.
- 2) Demonstrate the the knowledge of patterns, tokens & regular expressions for lexical analysis.
- 3) Acquire skills in using lex tool & yacc tool for devleoping a scanner and parser. Design and implement LL and LR parsers
- 4) Design algorithms to do code optimization in order to improve the performance of a program in terms of space and time complexity.
- 5) Design algorithms to generate machine code.

**MACHINE LEARNING****( CS601PC)****Course Outcomes:**

- 1) Understand the concepts of computational intelligence like machine learning
- 2) Ability to get the skill to apply machine learning techniques
- 3) to address the real time problems in different areas
- 4) Understand the Neural Networks
- 5) Understand the Neural Networks usage in machine learning application





## **CYBER SECURITY**

### **Course Outcomes:**

- 1) Understand cyber-attacks, types of cybercrimes, cyber laws and also how to protect them self and ultimately the entire Internet community from such attacks
- 2) Understand the Fundamentals of Cyber Security
- 3) Apply Security Principles to Network Infrastructure
- 4) Learn about Cryptography and Encryption
- 5) Analyze and Defend Against Common Cyber Attacks

**Principal**