Department of Information Technology

Course Outcomes [CO'S]

CLASS: THIRDYEAR

SUBJECT/CODE: THEORY OF COMPUTATION [314441]

1. To construct finite state machines to solve problems in computing.
2. To write mathematical expressions for the formal languages
3. To apply well defined rules for syntax verification.
4. To construct and analyze Push Down, Post and Turing Machine for formal languages.
5. To express the understanding of the decidability and decidability problems.
6. To express the understanding of computational complexity.

SUBJECT/CODE: DATABASE MANAGEMENT SYSTEMS[314442]

1. To define basic functions of DBMS & RDBMS.
2. To analyze database models & entity relationship models.
3. To design and implement a database schema for a given problem-domain.
4. To populate and query a database using SQL DML/DDL commands.
5. Do Programming in PL/SQL including stored procedures, stored functions, cursors and packages.
6. To appreciate the impact of analytics and big data on the information industry and the external
7. Ecosystem for analytical and data services.

SUBJECT/CODE: SOFTWARE ENGINEERING AND PROJECT MANAGEMENT [314443]

8. To identify unique features of various software application domains and classify software applications.
9. To choose and apply appropriate lifecycle model of software development.
10. To describe principles of agile development, discuss the SCRUM process and distinguish agile process model from other process models.

11. To analyze software requirements by applying various modeling techniques.
12. To list and classify CASE tools and discuss recent trends and research in software engineering.
13. To understand IT project management through life cycle of the project and future trends in IT Project Management.

SUBJECT/CODE: OPERATING SYSTEM [314444]

1. Fundamental understanding of the role of Operating Systems.
2. To understand the concept of a process and thread.
3. To apply the cons of process/thread scheduling.
4. To apply the concept of process synchronization, mutual exclusion and the deadlock.
5. To realize the concept of I/O management and File system.
6. To understand the various memory management techniques.

SUBJECT/CODE: HUMAN-COMPUTER INTERACTION [314445]

1. To explain importance of HCI study and principles of user-centred design (UCD) approach.
2. To develop understanding of human factors in HCI design.
3. To develop understanding of models, paradigms and context of interactions.
4. To design effective user-interfaces following a structured and organized UCD process.
5. To evaluate usability of a user-interface design.
6. To apply cognitive models for predicting human-computer-interactions.

SUBJECT/CODE: SOFTWARE LABORATORY – I [314446]

1. To install and configure database systems.
2. To analyze database models & entity relationship models.
3. To design and implement a database schema for a given problem-domain
4. To understand the relational and document type database systems.
5. To populate and query a database using SQL DML/DDL commands.
6. To populate and query a database using MongoDB commands.

SUBJECT/CODE: SOFTWARE LABORATORY – II [314447]

1. To understand the basics of Linux commands and program the shell of Linux.
2. To develop various system programs for the functioning of operating system.
3. To implement basic building blocks like processes, threads under the Linux.
4. To develop various system programs for the functioning of OS concepts in user space like concurrency control and file handling in Linux.
5. To design and implement Linux Kernel Source Code.
6. To develop the system program for the functioning of OS concepts in kernel space like embedding the system call in any Linux kernel.

SUBJECT/CODE: SOFTWARE LABORATORY – III [314448]

1. To identify the needs of users through requirement gathering.
2. To apply the concepts of Software Engineering process models for project development.
3. To apply the concepts of HCI for user-friendly project development.
4. To deploy website on live webserver and access through URL.
5. To understand, explore and apply various web technologies.
6. To develop team building for efficient project development.

SUBJECT/CODE: COMPUTER NETWORK TECHNOLOGY [314450]

1. To know Responsibilities, services offered and protocol used at each layer of network.
2. To understand different addressing techniques used in network.
3. To know the difference between different types of network.
4. To know the different wireless technologies and IEEE standards.
5. To use and apply the standards and protocols learned, for application development.
6. To understand and explore recent trends in network domain.

SUBJECT/CODE: SYSTEMS PROGRAMMING [314451]

1. To learn independently modern software development tools and creates novel solutions for language
   processing applications.
2. To design and implement assemblers and macro processors.

3. To use tool LEX for generation of Lexical Analyzer.
4. To use YACC tool for generation of syntax analyzer.
5. To generate output for all the phases of compiler.
6. To apply code optimization in the compilation process.

SUBJECT/CODE: DESIGN AND ANALYSIS OF ALGORITHMS [314452]

1. To calculate computational complexity using asymptotic notations for various algorithms.
2. To apply Divide & Conquer as well as Greedy approach to design algorithms.
3. To practice principle of optimality.
4. To illustrate different problems using Backtracking.
5. To compare different methods of Branch and Bound strategy.
6. To explore the concept of P, NP, NP-complete, NP-Hard and parallel algorithms

SUBJECT/CODE: CLOUD COMPUTING [314453]

1. To understand the need of Cloud based solutions.
2. To understand Security Mechanisms and issues in various Cloud Applications
3. To explore effective techniques to program Cloud Systems.
4. To understand current challenges and trade-offs in Cloud Computing.
5. To find challenges in cloud computing and delve into it to effective solutions.
6. To understand emerging trends in cloud computing.

SUBJECT/CODE: DATA SCIENCE AND BIG DATA ANALYTICS [314454]

1. To understand Big Data primitives.
2. To learn and apply different mathematical models for Big Data.
3. To demonstrate their Big Data learning skills by developing industry or research applications.
4. To analyze each learning model come from a different algorithmic approach and it will perform
   differently under different datasets.
5. To understand needs, challenges and techniques for big data visualization.

6. To learn different programming platforms for big data analytics.

SUBJECT/CODE: SOFTWARE LABORATORY – IV [314455]

1. To implement small size network and its use of various networking commands.
2. To understand and use various networking and simulations tools.
3. To configure various client/server environments to use application layer protocols
4. To understand the protocol design at various layers.
5. To explore use of protocols in various wired and wireless applications.
6. To develop applications on emerging trends.

SUBJECT/CODE: SOFTWARE LABORATORY – V [314456]

1. To design and implement two pass assembler for hypothetical machine instructions.
2. To design and implement different phases of compiler (Lexical Analyzer, Parser, Intermediate code
   generation)
3. To use the compile generation tools such as “Lex" and "YACC”.
4. To apply algorithmic strategies for solving various problems.
5. To compare various algorithmic strategies.
6. To analyze the solution using recurrence relation.

SUBJECT/CODE: SOFTWARE LABORATORY – VI [314457]

1. To apply Big data primitives and fundamentals for application development.
2. To explore different Big data processing techniques with use cases.
3. To apply the Analytical concept of Big data using R/Python.
4. To visualize the Big Data using Tableau.
5. To design algorithms and techniques for Big data analytics.
6. To design Big data analytic application for emerging trends.

SUBJECT/CODE: PROJE**CT BASED SEMINAR [314**458]

1. To Gather, organize, summarize and interpret technical literature with the purpose of formulating a
   project proposal.
2. To write a technical report summarizing state-of-the-art on an identified topic.
3. Present the study using graphics and multimedia presentations.
4. Define intended future work based on the technical review.
5. To explore and enhance the use of various presentation tools and techniques.
6. To understand scientific approach for literature survey and paper writing.

SUBJECT/CODE: Audit Course 4 – II:SOCIAL AWARENESS AND GOVERNANCE PROGRAM

1. Understand social issues and responsibilities as member of society.
2. Apply social values and ethics in decision making at social or organizational level.
3. Promote obstacles in national integration and role of youth for national integration.
4. Demonstrate basic features of Indian Constitution.