# DEPARTMENT OF CSE (DATA SCIENCE)

## COURSE OUTCOMES FOR R22 REGULATION

## II Year I

### 22DS301PC: DISCRETE MATHEMATICS

1. Construct precise mathematical proofs.
2. Use logic and set theoryto formulate precise statements.
3. Analyze and solve counting problems on finite and discrete structures.
4. Solve counting problems and recurrence relations.
5. Apply graph theory in solving computing problems

### 22EC302ES: DIGITAL ELECTRONICS

1. Compare the numerical information in different forms and Boolean Algebra theorems.
2. Apply the various simplification methods to simplify the given Boolean function.
3. Analyze and design various combinational logic circuits.
4. Learn the concepts of sequential circuits.
5. Illustrate various memories and logic families.

### 22DS303PC: PROGRAMMING WITH PYTHON

1. Examine Python syntax and semantics, flow control.
2. Demonstrate proficiency in handling Strings and Arrays.
3. ApplyPython Programs using core data structures like Lists, Dictionaries and use Regular Expressions.
4. Conduct experiments on file handling, exception handling, and modules.
5. Interpret the concepts of Object-Oriented Programming as used in Python.

### 22DS304PC: COMPUTER ORGANIZATION AND ARCHITECTURE

1. Identity of computer organization architecture.
2. Analyze the basics of instruction sets and their functionality.
3. Evaluate arithmetical operations by using data.
4. Demonstrate the functional units of the computer.
5. Design a pipeline for consistent execution of instructions.

## 22DS305PC: OBJECT ORIENTED PROGRAMMING THROUGH JAVA

1. Solve real world problems using OOP techniques.
2. Apply the packages and interfaces, streams in I/O.
3. Examine development of exceptions, multithreaded applications with synchronization.
4. Analyze the usage of collection framework.
5. Design GUI based applications using applets and swings.

## 22DS306PC: PYTHON LAB

1. Practice the basic concepts of python programming.
2. Apply functions to design modular programming and perform string operations.
3. Analyze various data structures like lists, set, dictionaries and tuples in python.
4. Implement object-oriented programming concepts using python.
5. Build applications using file handling and error handling techniques.

## 22DS307PC: OBJECT ORIENTED PROGRAMMING THROUGH JAVA LAB

1. Write programs for solving real world problems using the java collection framework.
2. Write programs using abstract classes.
3. Write multithreaded programs.
4. Write GUI programs using swing controls in Java.
5. Impart hands-on experience with java programming.

## 22DS308PC: DATA VISUALIZATION – R PROGRAMMING/ POWER BI

1. Understand How to import data into Tableau.
2. Understand Tableau concepts of Dimensions and Measures.
3. Develop Programs and understand how to map Visual Layouts and Graphical Properties.
4. Create a Dashboard that links multiple visualizations.
5. Use graphical user interfaces to create Frames for providing solutions to real world problems.

## 22EN309MC: GENDER SENSITIZATION LAB

1. Students will have developed a better understanding of important issues related to gender in contemporary India.
2. Students will attain a finer grasp of how gender discrimination works in our society and how to counter it.
3. Students will acquire insight into the gendered division of labor and its relation to politics and economics.
4. Men and women students and professionals will be better equipped to work and live together as equals.
5. Students will develop a sense of appreciation of women in all walks of life.

## 22MA401BS: COMPUTER ORIENTED STATISTICAL METHODS

1. Apply the concepts of probability and Random variables
2. Analyze the concept of Probability distributions to some case studies
3. Formulate and solve problems by apply statistical methods for analyzing experimental data.
4. Demonstrate the concept of estimation and distinguish regression analysis and to compute and interpret the coefficient of correlation.
5. Examine the given statistical hypothesis

## 22DS402PC: DATABASE MANAGEMENT SYSTEMS

1. Analyze the logical design concepts of the database.
2. Design the physical model of a database and its operations.
3. Apply the knowledge of SQL to construct the queries for efficient data access and manipulation.
4. Implement transaction processing and concurrency control.
5. Examine different indexing mechanisms and database storage access.

## 22DS403PC: OPERATING SYSTEMS

1. Demonstrate the basic concepts of Operating Systems.
2. Implement various process scheduling algorithms and deadlock techniques.
3. Examine various and process management concepts.
4. Apply memory management strategies and page replacement algorithms.
5. Analyze file management and disk management aspects of operating systems.

## 22MB404HS: BUSINESS ECONOMICS AND FINANCIAL ANALYSIS

1. Understand the various Forms of Business and the impact of economic variables on the Business.
2. Comprehend the demand and supply analysis.
3. Explore the usage of marketing and pricing of a product.
4. Maintaining the financial accounts of a firm or company.
5. Monitoring the accounts through ratios**.**

## 22DS405PC: SOFTWARE ENGINEERING

1. Make use of the software development life cycle principles and process models.
2. Construct the software requirements specifications with relevant use-cases.
3. Analyze the project management strategies and various components to build the architecture using suitable design strategies.
4. Estimate the best coding standards and testing strategies to develop high quality software products.
5. Design metrics for process and products with the help of risk and quality management.

## 22DS406PC: DATABASE MANAGEMENT SYSTEMS LAB

1. Demonstrate the database design using ER Diagrams.
2. Develop SQL Queries to manipulate the data in the database.
3. Apply Procedural Language constructs to execute a block of SQL statements.
4. Design various triggers for different data using SQL.
5. Implement cursors using SQL.

## 22DS407PC: OPERATING SYSTEMS LAB

1. Examine different operating system concepts.
2. Develop C programs using Unix system call.
3. Illustrate the following IPC mechanisms
4. Simulate Page Replacement Algorithms.
5. Demonstrate Deadlock management.

## 22DS408PC: NODE JS/ REACT JS/ DJANGO

1. Build a custom website with HTML, CSS, and Bootstrap and little JavaScript.
2. Demonstrate Advanced features of JavaScript and learn about JDBC
3. Develop Server – side implementation using Java technologies like
4. Develop the server – side implementation using Node JS.
5. Design a Single Page Application using React.

## 22EN410MC: CONSTITUTION OF INDIA

1. Outline the evolution of Constitution.
2. Relate constitutional fundamentals with the present Era.
3. Analyze Liberalism Federalism and Socialism.
4. Infer the knowledge of Administration and Governance.
5. Appraise and address the role of governments.