

NEHRU MEMORIAL COLLEGE (AUTONOMOUS)

**NATIONALLY ACCREDITED WITH "A" GRADE BY NAAC
PUTHANAMPATTI, TRICHY – 621007**



DEPARTMENT OF DATA SCIENCE

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COURSE OUTCOME (COS)

Name of the Course	Course Outcomes
JAVA PROGRAMMING	<p>CO 1: Identify the basic concepts of Java</p> <p>CO 2: Develop programs using classes, packages and interfaces</p> <p>CO 3: Write programs using the concepts of exception handling, multithreading and file I/O</p> <p>CO 4: Design and develop applet programs</p>
JAVA PROGRAMMING LAB	<p>CO 1: Design and develop simple programs using Java</p> <p>CO 2: Develop and execute programs using classes, packages and interfaces</p> <p>CO 3: Write and run programs using exception handling, multithreading and packages</p> <p>CO 4: Create and execute applet programs</p>
STATISTICS – I	<p>CO 1: Identify the basic concepts of mathematics</p> <p>CO 2: Apply probability and statistical methods to solve problems</p>
R PROGRAMMING LAB	<p>CO 1: Develop basic programs using R</p> <p>CO 2: Write and run programs using R using control structures, looping and functions</p>
DATABASE SYSTEMS	<p>CO 1: Describe the terminologies, features and associated concepts embodied in database systems and their design</p> <p>CO 2: Analyse different information storage scenarios and derive appropriate data models</p> <p>CO 3: Demonstrate and understanding the design of relational databases</p>

<p>MySQL LAB</p>	<p>CO 1: Develop and implement DDL, DML, TCL and DRL</p> <p>CO 2: Create and execute nested and join queries</p> <p>CO 3: Implement views</p>
<p>R PROGRAMMING LAB</p>	<p>CO 1: Develop R programs for creating graphs</p> <p>CO 2: Create R programs for finding correlation coefficient and regression analysis</p> <p>CO 3: Write R programs to perform t-test, chi-square test and non parametric test</p> <p>CO 4: Implement one way and two way ANOVA factorial designs</p>
<p>STATISTICS – II</p>	<p>CO 1: Identify to perform t-test</p> <p>CO 2: Learn correlation coefficient</p> <p>CO 3: Solve correlation coefficient, linear regression, ANOVA and multiple linear regression</p>
<p>PYTHON PROGRAMMING AND DATA STRUCTURES</p>	<p>CO 1: Identify the basics of python programming</p> <p>CO 2: Develop sorting algorithms</p> <p>CO 3: Write programs to implement stack, queue and linked list</p>
<p>PYTHON PROGRAMMING LAB</p>	<p>CO 1: Develop basic python applications</p> <p>CO 2: Create and run python applications using dictionaries, lists and tuples</p> <p>CO 3: Implement soring algorithms using python</p>

<p>OPERATIONS RESEARCH-I</p>	<p>CO 1: Understand OR and Linear Programming problems and to know the methods of solving problems.</p> <p>CO 2: Apply the knowledge to solve transportation and assignment problems.</p> <p>CO 3: Understand the basics and the methods of solving network problems</p>
<p>MATHEMATICAL TOOL LAB</p>	<p>CO 1: Describe Scilab</p> <p>CO 2: Develop the programs using Scilab</p>
<p>FUNDAMENTALS OF DATA SCIENCE</p>	<p>CO 1: Describe the fundamentals of data science</p> <p>CO 2: Identify and apply the concepts of data collection, data analytics and data visualization</p>
<p>DATA MINING AND VISUALIZATION</p>	<p>CO 1: Identify the basics of data mining and its process</p> <p>CO 2: Learn classification, clustering process and data warehousing</p>
<p>DATA MINING AND VISUALIZATION LAB</p>	<p>CO 1: Process data and create a data warehouse</p> <p>CO 2: Implement classification and clustering algorithms</p> <p>CO 3: Develop a case study to process and mine data</p>
<p>OPERATIONS RESEARCH-II</p>	<p>CO 1: Identify the types of Decision Making Environments and solve the problems.</p> <p>CO 2: Analyse the Probability distribution in Queuing systems.</p> <p>CO 3: Apply the Knowledge of Game Theory.</p>

MATHEMATICAL TOOL LAB	<p>CO 1: Develop and execute scripts and file processing using Scilab</p> <p>CO 2: Execute miscellaneous commands</p>
DATA SCIENCE FOR ENTREPRENEURSHIP DEVELOPMENT	<p>CO 1: Identify the basics of SAS</p> <p>CO 2: Process data with SAS tool</p>
OFFICE AUTOMATION	<p>CO 1: Identify the basics of Windows 2007</p> <p>CO 2: Develop documents using MS-WORD</p> <p>CO 3: Create and execute applications using MS-EXCEL</p>
HTML LAB	<p>CO 1: Identify the basic principles of web design</p> <p>CO 2: Create web pages using HTML</p> <p>CO 3: Develop HTML page with CSS</p>
NoSQL DATABASES	<p>CO 1: Identify NoSQL and its need</p> <p>CO 2: Describe NoSQL products</p> <p>CO 3: Write NoSQL queries</p>
DATA SCIENCE FOR BUSINESS	<p>CO 1: Identify the techniques for data processing</p> <p>CO 2: Describe predictive modeling</p> <p>CO 3: Develop model using decision analytical thinking</p>
MACHINE LEARNING	<p>CO 1: Identify the basics of machine learning</p> <p>CO 2: Describe supervised learning and multivariate methods</p> <p>CO 3: Identify clustering and kernel machines</p>

NoSQL LAB	<p>CO 1: Install MongoDB</p> <p>CO 2: Perform I/O operations with files on MongoDB</p>
GENETIC ALGORITHM	<p>CO 1: Identify the basics of genetic algorithms</p> <p>CO 2: Describe the applications of genetic algorithms</p> <p>CO 3: Apply GBML</p>
DATA SECURITY	<p>CO 1: Describe the fundamentals of network security</p> <p>CO 2: Identify the various types of ciphers, encryption standards and authentication applications</p> <p>CO 3: Identify and apply system security</p>
SHELL PROGRAMMING LAB	<p>CO 1: Write shell scripts</p> <p>CO 2: Describe and develop techniques involved in animation and image editing.</p>
ANIMATION LAB	<p>CO 1: Design and develop applications using GIMP</p>
TEXT MINING	<p>CO 1: Identify the techniques for mining the text</p> <p>CO 2: Apply the techniques to do information extraction and search web</p>
IMAGE MINING	<p>CO 1: Describe the fundamentals for image mining</p> <p>CO 2: Apply the concepts of image mining to mine knowledge from images</p>
SOFT SKILLS DEVELOPMENT	<p>CO 1: Identify an effective communication, resume writing and interview skills</p> <p>CO 2: Apply the concepts of numerical ability and classify the test of reasoning</p>

<p align="center">BIG DATA ANALYTICS</p>	<p>CO 1: Identify the basics of bigdata CO 2: Identify Hadoop System, Hive and Pig CO 3: Develop queries on pig and hive CO 4: Describe statistical techniques</p>
<p align="center">BIG DATA ANALYTICS LAB</p>	<p>CO 1: Install Hadoop cluster CO 2: Identify Hadoop ecosystems</p>
<p align="center">MINI PROJECT</p>	<p>CO 1: Develop and implement any task that involves big data</p>
<p align="center">SIMULATION AND MODELING</p>	<p>CO 1: Describe the role of important elements of discrete event simulation and modeling paradigm. CO 2: Conceptualize real world situations related to systems development decisions, originating from source requirements and goals. CO 3: Develop skills to apply simulation software to construct and execute goal-driven system models. CO 4: Interpret the model and apply the results to resolve critical issues in a real world environment.</p>
<p align="center">DATA WAREHOUSE TOOLS AND TECHNIQUES</p>	<p>CO 1: Describe the fundamentals of ETL tool CO 2: Work with the tool and perform transformation</p>
<p align="center">CLOUD COMPUTING</p>	<p>CO 1: Identify the cloud computing basics and its architecture CO 2: Describe data storage, security and applications of cloud computing</p>
<p align="center">INTERNET OF THINGS</p>	<p>CO 1: Describe the basics of IoT CO 2: Identify the protocols, solutions and role of IoT</p>