(067-CSE-03-02) CSE (DATA SCIENCE)

Significance of the Program:

Data Science teaches the students how to combine machine learning techniques, algorithms, tools, business acumen and mathematics and apply on raw data to extract insight information from it. In short, technology, algorithm development and data inference are blended together to solve complex problems analytically in Data Science. The programme will equip students with programming skills, statistical skills, Machine Learning, mathematical reasoning, knowledge discovery, and visualization skills to make an impact in the field of data science.

Career Options:

By pursuing a B. Tech in Data Science, the students can plan for their career as:

- Data Architect
- Data Scientist
- Data Analyst
- Business Analyst
- Data Engineer
- Product Manager
- Lead Data Scientist

Program Objectives:

- To provide students with a solid foundation in mathematics and engineering fundamentals required to analyze and solve Data Science challenges.
- To provides a student with core concepts of computer science as well as data analytics.
- To provide foundations in tools and techniques to model various real-world problems, to analyze them, and to discover useful information.
- To provide solutions that support decision-making using suitable data visualization techniques.
- To prepare students to prosper as Data Scientists and Designers and to pursue higher studies and research.

Outcomes of the Program:

Engineering Graduates will be able to:

- Apply the knowledge of mathematics, science, engineering fundamentals, to obtain solutions of complex engineering problems.
- Identify, formulate, and analyze complex engineering problems
- Design solutions for complex engineering problems and design system components
- Use research-based knowledge and research methods to provide valid conclusions.
- Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools.
- Recognize the need for life-long learning in the context of technological change.

Major Course Outlines:

- Mathematics, Statistics and MFCS
- Programming in Python and R
- Database Management Systems
- Design and Analysis of Algorithms
- Machine Learning & Deep Learning
- Data Science Core like Data Analysis and Visualization, Information Security & Privacy, and Foundation of Data Science, Business Analytics, Social Media Analytics, Opinion Mining and Recommendations systems, Image and Video Analytics, Business Intelligence, cloud computing