

**M.TECH. CSE WITH SPECIALIZATION IN DATA SCIENCE**

PROGRAMME EDUCATIONAL OBJECTIVES

PROGRAMME OUTCOMES

PROGRAMME SPECIFIC OUTCOMES

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**UNIVERSITY SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY**

**GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA**

**PROGRAM EDUCATIONAL OBJECTIVES : M.TECH. CSE WITH SPECIALIZATION IN DATA SCIENCE**

**DCSE PEO 1:**

To develop students with in-depth knowledge of Data Science, deep learning methods, machine learning and various other sub fields related to data science which will provide a strong foundation to pursue a career in education and IT industry for innovation, research and development.

**DCSE PEO 2:**

To develop leadership qualities, to lead and work in a team in a professional environment, demonstrate professional integrity and feel responsibility towards the country at an appropriate level in order to address the issues in a responsive, ethical and innovative manner.

**DCSE PEO 3:**

To excel in career involving higher order and challenging tasks and try to become a part of success and growth and work in collaboration with all organisation.

**DCSE PEO 4:**

To produce students who are effective in multidisciplinary research and environment by showing their active participation for betterment of society.

**DCSE PROGRAM OUTCOMES : M.TECH. CSE WITH SPECIALIZATION IN DATA SCIENCE**

**DCSE PO 1: Engineering Knowledge**

Apply the engineering knowledge of mathematics, science, engineering fundamentals with engineering specialization to the solution of complex engineering problems.

**DCSE PO 2: Problem Analysis**

Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**DCSE PO 3: Design and Development of Solutions**

Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**DCSE PO 4: Conduct Investigations of Complex Problems**

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**DCSE PO 5: Modern Tool Usage**

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**DCSE PO 6: The Engineer and Society**

Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**DCSE PO 7: Environment and Sustainability**

Understand the impact of the data science and statistical learning and its impact on the societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**DCSE PO 8: Ethics**

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**DCSE PO 9: Individual and Teamwork**

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**DCSE PO 10: Communication**

Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**DCSE PO11: Project Management and Finance**

Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**DCSE PO12: Life-Long Learning**

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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**DCSE PSO1:**

Experiment and prepare programming concepts and provide new ideas and innovations towards research and societal issues in the field of data science.

**DCSE PSO2:**

Analyse and develop various deep learning models, processes and algorithms to extract knowledge from structured and structured data which can further be used for efficient decision making. Wide range of deep learning tools and techniques, various AI models can also be used together to find relevant pattern from bulk of data enabling accurate and seamless decision making.

**DCSE PSO3:**

Apply standard and advanced data science concepts, practices and strategies in order to develop sustainable products using data science and machine learning to deliver a quality product for Business, Education and Training and/or E-governance.