B.TECH. ARTIFICIAL INTELLIGENCE

PROGRAMME EDUCATIONAL OBJECTIVES
PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY SCHOOL OF INFORMATION AND COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

PROGRAM EDUCATIONAL OBJECTIVES : B.TECH. ARTIFICIAL INTELLIGENCE

DCSE PEO 1:

To develop students with in-depth knowledge of Artificial Intelligence, Internet of thing, Robotics, natural language processing and various other sub fields related to artificial intelligence which will provide a strong foundation to pursue a career in education and AI 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 fields and environment by showing their active participation for betterment of the society.

DCSE PROGRAM OUTCOMES : B.TECH. ARTIFICIAL INTELLIGENCE

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, analyse and give solutions to complex engineering problems by reaching to substantiated conclusion 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 practical-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 predictive analysis, computational intelligence and optimization techniques 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 professional artificial intelligence based engineering solutions in 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.

PROGRAM SPECIFIC OUTCOMES : B.TECH. ARTIFICIAL INTELLIGENCE

DCSE PSO1:

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

DCSE PSO2:

Analyse and develop computer systems in the areas related to Artificial Intelligence, robotics, 3D printing internet of things, fog and edge computing, big data analytics, block chain, Artificial Intelligence enabled cyber security and networking for efficient design of computer-based systems of varying complexity. Finally specify, design, develop, test and maintain usable systems that behave reliably and efficiently.

DCSE PSO3:

Apply standard and advanced Artificial Intelligence based concepts, practices and strategies in order to develop sustainable products using AI-based technology to deliver a quality product for Business, Education and Training and/or E-governance.

B.TECH. COMPUTER SCIENCE AND ENGINEERING

PROGRAMME EDUCATIONAL OBJECTIVES
PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY SCHOOL OF INFORMATION AND COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

PROGRAM EDUCATIONAL OBJECTIVES: B.TECH. CSE

DCSE PEO 1:

To develop students with in-depth knowledge of Computer Science, Computer Applications, Information Technology and also make them familiar to the latest trends in in the field of IT and Information systems which will provide a strong foundation to pursue career in education and computer 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 fields and technology by showing their active participation for betterment of the society.

DCSE PROGRAM OUTCOMES : B.TECH. CSE

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, analyse and give solutions to complex engineering problems by reaching to substantiated conclusion 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 practical-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 predictive analysis, computational intelligence and optimization techniques 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 professional artificial intelligence based engineering solutions in 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.

PROGRAM SPECIFIC OUTCOMES : B.TECH. CSE

DCSE PSO1:

Experiment and prepare programming concepts and provide new ideas and innovations to fulfil the needs of today's generation and also towards societal issues in the field of Computer Science and Engineering.

DCSE PSO2:

Analyse, design and construct computers and computer based systems with the help of more ongoing technologies like artificial intelligence, system security, algorithms, big data analytics, block chain, cyber security, robotics and networking for efficient design of varying complexity. Finally specify, design, develop, test and maintain usable systems that behave reliably and efficiently.

DCSE PSO3:

Apply standard and advanced upgraded technologies related to computer science field, like blockchain, digital image processing, internet of things, wireless networks, fog and cloud computing and mobile computing to create and deliver a quality product that can also be further used for Research, Education and Training and/or E-governance.

B.TECH. CSE WITH SPECIALIZATION IN CYBER SECURITY

PROGRAMME EDUCATIONAL OBJECTIVES
PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY SCHOOL OF INFORMATION AND COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

PROGRAM EDUCATIONAL OBJECTIVES : B.TECH. CSE WITH SPECIALIZATION IN CYBER SECURITY

DCSE PEO 1:

To develop students with in-depth knowledge of Cyber Security, Data Privacy, Risk Management, Artificial enabled cyber security and various other sub fields related to cyber security 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 fields and environment by showing their active participation for betterment of the society.

DCSE PROGRAM OUTCOMES : B.TECH. CSE WITH SPECIALIZATION IN CYBER SECURITY

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, analyse and give solutions to complex engineering problems by reaching to substantiated conclusion 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 practical-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 cryptography, various standard and new security protocols to complex engineering activities with an understanding of the limitations thereby making the interaction and storage of data more secure.

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 professional artificial intelligence-based cyber security engineering solutions in 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.

PROGRAM SPECIFIC OUTCOMES : B.TECH. CSE WITH SPECIALIZATION IN CYBER SECURITY

DCSE PSO1:

Experiment and prepare programming concepts and provide new ideas and innovations towards research and societal issues in the field of cyber security and social network security.

DCSE PSO2:

Analyse and develop secure ways to store, send and process data which is continuously generated in this world of Internet of things and artificial intelligence. Efficient design of varying complexity can be made possible with the help of intrusion detection and prevention system, cryptography, and by providing physical security of IT infrastructure. Finally specify, design, develop, test and maintain usable systems that behave reliably and efficiently.

DCSE PSO3:

Apply standard and advanced security providing algorithms and by using the approach of secure coding-based concepts, practices and strategies in order to develop sustainable products using AI-based technology to deliver a quality product for Business, Education, e-trade, Training and/or E-governance.

B.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 COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

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

DCSE PEO 1:

To develop students with in-depth knowledge of Data Science, optimization problems, soft computing techniques 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 fields and environment by showing their active participation for betterment of the society.

DCSE PROGRAM OUTCOMES : B.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, analyse and give solutions to complex engineering problems by reaching to substantiated conclusion 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 practical-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 it's 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.

PROGRAM SPECIFIC OUTCOMES : B.TECH. CSE WITH SPECIALIZATION IN DATA SCIENCE

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. Various AI models can also be used to find relevant patterns 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.

B.TECH. CSE WITH SPECIALIZATION IN INTERNET OF THINGS

PROGRAMME EDUCATIONAL OBJECTIVES
PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY SCHOOL OF INFORMATION AND COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

PROGRAM EDUCATIONAL OBJECTIVES : B.TECH. CSE WITH SPECIALIZATION IN INTERNET OF THINGS

DCSE PEO 1:

To develop students with in-depth knowledge of Internet of things, artificial intelligence, cloud based IoT and various other sub fields related to internet of things 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 fields and environment by showing their active participation for betterment of the society.

DCSE PROGRAM OUTCOMES : B.TECH. CSE WITH SPECIALIZATION IN INTERNET OF THINGS

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, analyse and give solutions to complex engineering problems by reaching to substantiated conclusion 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 practical-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 IoT enabled devices and the power of their and interaction leading to automation, in 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.

PROGRAM SPECIFIC OUTCOMES : B.TECH. CSE WITH SPECIALIZATION IN INTERNET OF THINGS

DCSE PSO1:

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

DCSE PSO2:

Analyse and develop computer systems connected together using IoT network protocols, and also work towards making them more secure and efficient using blockchain, machine learning algorithms, fog and edge computing for efficient design of computer-based systems of varying complexity. Finally specify, design, develop, test and maintain usable systems that behave reliably and efficiently.

DCSE PSO3:

Apply standard and advanced Internet of things based concepts, practices and strategies in order to develop sustainable products using AI-based technology to deliver a quality product for Business, Education and Training and/or E-governance.

B.TECH. CSE WITH SPECIALIZATION IN MACHINE LEARNING

PROGRAMME EDUCATIONAL OBJECTIVES
PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY SCHOOL OF INFORMATION AND COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

PROGRAM EDUCATIONAL OBJECTIVES B.TECH. CSE WITH SPECIALIZATION IN MACHINE LEARNING

DCSE PEO 1:

To develop students with in-depth knowledge of Machine Learning, Computer Vision, R programming, data visualization and also make them familiar to the latest trends and needs in the field of Machine learning which will provide a strong foundation to pursue career in education and computer 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 fields and technology by showing their active participation for betterment of the society.

DCSE PROGRAM OUTCOMES : B.TECH. CSE WITH SPECIALIZATION IN MACHINE LEARNING

DCSE PO 1: Engineering Knowledge

Apply the engineering knowledge of mathematics, science, standard and ever-changing engineering fundamentals with engineering specialization to the solution of complex engineering problems.

DCSE PO 2: Problem Analysis

Identify, formulate, 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 practical-based knowledge and also innovative 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 professional engineering solutions in 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.

PROGRAM SPECIFIC OUTCOMES : B.TECH. CSE WITH SPECIALIZATION IN MACHINE LEARNING

DCSE PSO1:

Experiment and prepare programming concepts and provide new ideas and innovations to fulfil the needs of today's generation and also towards societal issues in the field of Machine Learning.

DCSE PSO2:

Analyse and develop computer systems in the areas related to machine learning using supervised, unsupervised and reinforcement learning methods, use classification fundamentals, regression and decision making algorithms to create efficient design of computer-based systems of varying complexity. Finally specify, design, develop, test and maintain usable systems that behave reliably and efficiently.

DCSE PSO3:

Apply standard and advanced upgraded technologies related to machine learning field, like linear regression, logistic regression, various classification techniques, to create and deliver a quality product that can also be further used for better decision making, Education and Training and/or E-governance.

M.TECH. CSE WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND ROBOTICS

PROGRAMME EDUCATIONAL OBJECTIVES
PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY SCHOOL OF INFORMATION AND COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

PROGRAM EDUCATIONAL OBJECTIVES : M.TECH. CSE WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND ROBOTICS

DCSE PEO 1:

To develop students with in-depth knowledge of Artificial Intelligence, knowledge engineering, robotics, embedded systems and various other sub fields related to artificial intelligence which will provide a strong foundation to pursue a career in education and AI based 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 ARTIFICIAL INTELLIGENCE AND ROBOTICS

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 it's 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.

PROGRAM SPECIFIC OUTCOMES : M.TECH. CSE WITH SPECIALIZATION IN ARTIFICIAL INTELLIGENCE AND ROBOTICS

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 computer systems using Artificial Intelligence, robotics, 3D printing internet of things, fog and edge computing, big data analytics, block chain, artificial intelligence enabled cyber security and networking for efficient design of computer-based systems of varying complexity. Finally artificial intelligence can and is already being used for problem solving and making better and quick decisions.

DCSE PSO3:

Apply standard and advanced Artificial Intelligence based concepts for pattern recognition, speech recognition, computer vision and other high end practices and strategies in order to develop sustainable products. These quality products can further be used for Business, Education and Training and/or E-governance.

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 COMMMUNICATION 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 it's 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.

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

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.

M.TECH. CSE WITH SPECIALIZATION IN SOFTWARE ENGINEERING

PROGRAMME EDUCATIONAL OBJECTIVES
PROGRAMME OUTCOMES
PROGRAMME SPECIFIC OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY SCHOOL OF INFORMATION AND COMMMUNICATION TECHNOLOGY
GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA, UP, INDIA

PROGRAM EDUCATIONAL OBJECTIVES : M.TECH. CSE WITH SPECIALIZATION IN SOFTWARE ENGINEERING

DCSE PEO 1:

To develop students with depth knowledge of computer Science, Computer Applications, Information Technology and Computer Science and Engineering which provide a strong foundation to pursue career in education and software industry for innovation, research and development.

DCSE PEO 2:

To develop the leadership qualities, to lead and work in a team in professional environment, demonstrate professional integrity and feel responsibility towards 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 SOFTWARE ENGINEERING

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 analyze 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 professional engineering solutions in 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.

PROGRAM SPECIFIC OUTCOMES : M.TECH. CSE WITH SPECIALIZATION IN SOFTWARE ENGINEERING

DCSE PSO1:

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

DCSE PSO2:

Analyse and develop computer systems in the areas related to algorithms, system software, Advanced Software Engineering, Open Source Software System, Software Engineering for Data Science, Software Engineering for Cloud Computing, artificial intelligence Methods for Software Engineering, big data analytics, block chain, cyber security and networking for efficient design of computer-based systems of varying complexity. Finally specify, design, develop, test and maintain usable systems that behave reliably and efficiently.

DCSE PSO3:

Apply standard and advanced Software Engineering principle, practices and strategies in software project development using open-source programming environment to deliver a quality product for Research, Education and Training and/or E-governance.