(060-CSE-01-02) CSE (Cloud Computing and DevOps)

Significance of the Program

An undergraduate B.Tech CSE (Cloud Computing and DevOps) will assist engineering students in gaining fundamental knowledge of cloud and DevOps. Building an automated DevOps pipeline for Continuous Integration/Continuous Delivery with popular tools like Git, Jenkins, Docker, Kubernetes, Splunk, Selenium, and Nagios is one of the focus areas. Strong groundwork would be established for ongoing software product development stack enhancement, testing, deployment, and improvement to meet industry demands.

Career Options

Pursuing a professional course in B. Tech CSE (Cloud Computing and DevOps), students can explore the following career opportunities.

- Cloud Engineer
- Cloud Administrator
- DevOps Engineer
- DevOps Architect
- Software Tester

Program Objectives

- Understanding Cloud Computing concepts such as virtualization, cloud software, deployment, and modeling.
- Development (Dev) and operation (Ops) software development lifecycle related to Security issues.
- Continuous Integration of software and expedite the delivery of safer code by employing early feedback to developers.
- Usage of Cloud services for Continuous Deployment of software
- Understanding the knowledge and implementation of containerization tools (Docker) and Orchestration tools (Kubernetes) for scaled and portable deployments.

Outcomes of the Program

- Ability to design, implement and manage automated processes for software development, testing and deployment.
- Deploy software applications in various cloud platforms like AWS.

- Design and develop automation tools for planning, testing, integration and deployment of software Applications.
- Enhanced collaboration between development and Operational teams, adopting a culture of shared repository.
- Competence in using version control systems to manage and track changes to source code.
- Integration of DevOps practices with cloud computing services for scalability, flexibility and cost effectiveness.

Major Course Outline

- Mathematical Foundations in Computer Science
- Fundamentals of Cloud Computing
- DevOps Tools and Techniques.
- Deployment of Software Applications Using continuous integration and continuous deployment (CICD) pipeline.
- Agile Technologies.
- Security issues in Cloud computing and DevOps.