DevOps Developer Certification Course Course Contents
By Dr. Vishwanath Rao

- **Introduction to DevOps:**
  - Understanding DevOps principles and practices.
  - The importance of collaboration and communication in DevOps.

- **Version Control Systems (VCS):**
  - Introduction to version control concepts.
  - Git basics: branching, merging, tagging, etc.
  - Advanced Git topics: rebasing, cherry-picking, workflows, etc.

- **Continuous Integration (CI) and Continuous Deployment (CD):**
  - CI/CD principles and benefits.
  - Building and configuring CI/CD pipelines.
  - Automated testing: unit tests, integration tests, end-to-end tests.
  - Deployment strategies: blue-green deployment, canary release, etc.

- **Infrastructure as Code (IaC):**
  - Introduction to IaC concepts and benefits.
  - Infrastructure provisioning using tools like Terraform or CloudFormation.
  - Configuration management using tools like Ansible, Chef, or Puppet.

- **Containerization and Orchestration:**
  - Introduction to containerization with Docker.
  - Container orchestration with Kubernetes: pods, services, deployments, etc.
  - Dockerizing applications and managing containers.

- **Monitoring and Logging:**
  - Importance of monitoring and logging in DevOps.
  - Monitoring tools and practices (e.g., Prometheus, Grafana).
  - Log management and analysis tools (e.g., ELK stack, Splunk).

- **DevOps Tools and Technologies:**
  - Introduction to various DevOps tools and technologies.
  - Hands-on experience with tools commonly used in DevOps pipelines (e.g., Jenkins, GitLab CI/CD).

- **Security in DevOps:**
  - DevSecOps principles and practices.
  - Security considerations in CI/CD pipelines.
  - Tools and techniques for ensuring application and infrastructure security.

- **Collaboration and Communication:**
  - Effective use of collaboration tools (e.g., Slack, Microsoft Teams).
  - Integration of communication channels into CI/CD workflows.

- **Case Studies and Real-world Scenarios:**
  - Analysis of real-world DevOps implementations and best practices.
  - Learning from successful case studies and avoiding common pitfalls.

- **Exam Preparation:**
  - Review of key concepts covered in the course.
  - Practice exams and quizzes to prepare for certification.