NARSIMHA REDDY ENGINEERING COLLEGE
UGC-AUTONOMOUS INSTITUTION

An **Autonomous** Institute
NAAC Accreditation 'A' Grade
Accredited by **NBA**
Approved by **AICTE**, Affiliated to **JNTUH**

III B.Tech I Sem CSE

DevOps (23CS503)

Question Bank (Units I - V)

UNIT – I

Introduction to DevOps
Part – A (2 Marks Questions)

S.No	Question	BTL	CO
1	What is DevOps?	L2	CO1
2	Define ITIL?	L2	CO1
3	How fast is fast?	L2	CO1
4	What is DevOps Process?	L3	CO1
5	What is continuous development?	L2	CO1
6	Define continuous Integration?	L3	CO1
7	What is continuous Testing?	L2	CO1
8	Explain about the artifact repository	L1	CO1
9	What is Scrum?	L2	CO1
10	What is Kanban?	L2	CO1

Part – B

S.No	Question	BTL	CO
1	What is the difference between Agile and DevOps?	L2	CO1
2	What are the differences between Agile and Waterfall model?	L1	CO1
3	Explain DevOps process flow in detail?	L2	CO1
4	What is continuous delivery and how it works?	L2	CO1
5	Explain components of delivery pipeline?	L3	CO1

UNIT – II

Software development models and DevOps
Part – A (2 Marks Questions)

S.No	Question	BTL	CO
1	What are different software development lifecycle models?	L2	CO2
2	What is data tier in DevOps?	L2	CO2
3	What is monolithic architecture?	L2	CO2
4	What are benefits of monolithic architecture?	L3	CO2
5	What is microservices architecture?	L2	CO2

S.No	Question	BTL	CO
6	How does DevOps impact software quality and reliability?	L2	CO2
7	Describe the relationship between DevOps and software architecture	L3	CO2
8	How does design architecture support DevOps?	L1	CO2
9	What is version control, and why is it important in DevOps?	L2	CO2
10	Explain in detail about coupling	L1	CO2

Part – B

S.No	Question	BTL	CO
1	Explain DevOps lifecycle in detail?	L1	CO2
2	What are DevOps components?	L2	CO2
3	Explain DevOps architecture in detail?	L2	CO2
4	What are microservices and how does microservice architecture work?	L2	CO2
5	Explain architecture rules of thumb in DevOps?	L2	CO2
6	Explain database migration?	L2	CO2
7	What are the advantages of migration tools?	L2	CO2
8	Write a brief note on software architecture. Explain the Monolithic case.	L3	CO2
9	Describe DevOps architecture and resilience in detail.	L2	CO2
10	How does branching and merging work in Git?	L2	CO2

UNIT – III

Introduction to project management

Part – A (2 Marks Questions)

S.No	Question	BTL	CO
1	What is the need for source code control in DevOps?	L1	CO3
2	What are the roles and codes in DevOps?	L1	CO3
3	What are the benefits of source code management?	L1	CO3
4	What is shared authentication in DevOps?	L1	CO3
5	What is pull request model in DevOps?	L1	CO3
6	What is Docker?	L1	CO3
7	Discuss about shared authentication	L1	CO3
8	How to create images with Docker file?	L1	CO3
9	What is Gerrit?	L1	CO3
10	How Docker intermission works?	L2	CO3

Part – B

S.No	Question	BTL	CO
1	What is version control? Explain types and benefits	L1	CO3
2	What is Gerrit and explain its architecture?	L2	CO3

S.No	Question	BTL	CO
3	What is Docker intermission and difference between Docker and machine?	L2	CO3
4	Explain Gerrit and its architecture	L2	CO3
5	Discuss Hosted Git Servers and pull request model	L3	CO3
6	Explain Docker advantages and disadvantages	L2	CO3
7	Explain the CI/CD pipeline and its stages	L2	CO3
8	Explain Git server implementation and Docker intermission	L3	CO3
9	Explain Docker architecture with neat sketch	L2	CO3
10	Explain in detail about GitLab?	L3	CO3

UNIT – IV

Integrating the system
Part – A (2 Marks Questions)

S.No	Question	BTL	CO
1	What is Git plugin?	L1	CO4
2	What is managing build dependencies in DevOps?	L2	CO4
3	What is build pipelines?	L1	CO4
4	What is job chaining?	L2	CO4
5	Explain collating quality measures?	L2	CO4
6	Explain about Jenkins plugins	L3	CO4
7	Name some popular CI/CD tools	L2	CO4
8	What are some CI/CD tools commonly used in DevOps?	L2	CO4
9	What is Jenkins file system layout?	L2	CO4

Part – B

S.No	Question	BTL	CO
1	What is Jenkins and explain its workflow?	L1	CO4
2	Explain Jenkins master-slave architecture and applications	L1	CO4
3	What are build slaves in DevOps?	L2	CO4
4	What is infrastructure as code in DevOps?	L2	CO4
5	What are different build phases in DevOps?	L3	CO4
6	What are triggers? Explain job chaining and pipelines	L3	CO4
7	Discuss continuous integration and Jenkins	L3	CO4
8	Describe the host server and build slaves in detail	L3	CO4
9	Explain Jenkins advantages and disadvantages	L3	CO4
10	Elucidate integrating Selenium tests in Jenkins	L3	CO4

UNIT – V

Testing Tools and Deployment

Part – A (2 Marks Questions)

S.No	Question	BTL	CO
1	What is JavaScript testing?	L1	CO5
2	What are different tools used for backend testing?	L1	CO5
3	Explain TDD vs Traditional Testing	L2	CO5
4	What is acceptance TDD and developer TDD?	L1	CO5
5	What is REPL driven development?	L1	CO5
6	Why are there so many different deployment systems?	L2	CO5
7	What is virtualization of the stack?	L1	CO5
8	Define Jenkins	L1	CO5
9	Sample app using Jenkins and unit testing	L3	CO5
10	What is unit testing?	L2	CO5

Part – B

S.No	Question	BTL	CO
1	What is testing and explain different types of testing?	L1	CO5
2	Pros and cons of testing?	L2	CO5
3	What is Selenium and explain its features?	L3	CO5
4	Backend integration points and validation	L2	CO5
5	Advantages and disadvantages of backend testing	L1	CO5
6	What is TTD and how is it performed?	L2	CO5
7	Explain: i) Visualization Stacks ii) Automated Integration Testing	L1	CO5
8	Explain CAMS Automation and Measurement	L2	CO5
9	Explain: i) SaltStack ii) Backend Testing Points	L1	CO5
10	Discuss Kubernetes using real-time application	L3	CO5