1. WHAT IS DEVOPS

DevOps is a combination of Development and Operations practices that aim to automate and integrate the processes of software development and IT operations to improve delivery speed and product quality.

2. PHASES OF DEVELOPMENT STAGES

Plan , Develop, Build, Test, Release , Deploy , Operate ,Monitor

3. STAGES OF OPERATION

Deploy: Moving code to production

Operate: Managing system performance

Monitor: Checking logs, system health, uptime, and feedback

4.DevOps Tools	Jenkins, Docker, Kubernetes
5.SCM Tools	Git, GitHub, GitLab
6.Build tools	Maven, Gradle
7.Continuous Integration tools	Jenkins, GitLab CI
8.Testing tools	JUnit, Selenium, TestNG
9.Configuration tools	Ansible, Chef,Puppet

10. Git Commands:

- git init
- git clone
- git add .

- git commit -m "message"
- git push
- git pull
- git status
- git log

11. Maven Goals:

- mvn compile
- mvn test
- mvn package
- mvn install
- mvn clean
- mvn deploy

12. Define Gradle

Gradle is a **build automation tool** that supports multi-language builds. It is faster than Maven and uses Groovy or Kotlin for scripting.

13.Command to create a Gradle file

gradle init

14. Define POM file

POM stands for Project Object Model. It's an XML file (pom.xml) used in Maven to manage project dependencies, plugins, goals, and configurations.

15.Dependencies:

External libraries or modules your project needs.

16.Plugins:

Tools that enhance build functionality (e.g., compiler, jar, surefire).

17.Testing tools for unit testing:

JUnit, TestNG, Mockito

18.Ansible:

An open-source configuration management and automation tool.

19. Command to execute Ansible playbook

ansible-playbook playbook.yml

20. Ansible Ad-hoc Command

ansible all -m ping

21. How to create Ansible roles (tools/commands)

ansible-galaxy init myrole

22. Cloud Providers

Providers: AWS, Azure, Google Cloud (GCP), IBM Cloud

23. Services:

- Compute: EC2 (AWS), Azure VM
- Storage: S3 (AWS), Azure Blob Storage
- Database: RDS (AWS), Cloud SQL (GCP)
- Networking: VPC, Load Balancers
- DevOps: Azure DevOps, AWS CodePipeline

24. What is a YAML file?

YAML (YAML Ain't Markup Language) is a human-readable data format used in configuration files like Ansible playbooks and Kubernetes manifests.

25. DevOps Services offered by Azure

- Azure DevOps Services:
    - Azure Repos (Git hosting)
    - Azure Pipelines (CI/CD)
    - Azure Boards (Project tracking)
    - Azure Artifacts (Package management)
    - Azure Test Plans (Manual and automated testing)