

Test Sections

Section 1: Core Concepts (30 mins)

Answer briefly:

1. Differentiate **Continuous Integration, Continuous Delivery, Continuous Deployment**.
 2. What is the purpose of a **Jenkinsfile**?
 3. Contrast **declarative vs scripted pipelines**.
 4. Difference between **Freestyle job** and **Pipeline job**.
 5. How would you secure **credentials (Git/Docker/Slack tokens)** in Jenkins?
 6. If a Jenkins job fails randomly, what are the first 3 things you'd check?
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Section 2: Hands-On Pipeline (60 mins)

Create a Jenkins pipeline (Jenkinsfile) that:

1. **Pulls code** from the given Git repo.
2. **Installs dependencies** (npm install).
3. **Runs unit tests** (npm test).
4. **Builds an artifact** (zip the app folder → build.zip).
5. **Archives the artifact** in Jenkins.
6. **Notifies** (echo or email/Slack mock).

✅ Deliverables:

- A working Jenkinsfile.
- Screenshot of successful run with all stages.

(Hint: Use declarative pipeline syntax.)

Section 3: Debugging & Scenarios (30 mins)

1. Pipeline fails with error Exit code 137. What could cause this?
2. Jenkins has 2 agents but 5 long jobs. How do you optimize execution?
3. Jenkins master goes down. How do you recover?
4. A developer accidentally exposed a GitHub token in Jenkins logs. What actions do you take?