

# SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

Approved by AICTE, New Delhi, Affiliated to Anna University,  
Chennai Accredited by NAAC-UGC with 'A++' Grade (Cycle III) &  
Accredited by NBA (B.E - CSE, EEE, ECE, Mech & B.Tech.IT)  
COIMBATORE-641 035, TAMIL NADU



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Code & Name : 23CST206-OPERATING SYSTEMS AND VIRTUALIZATION  
Class : II CSE  
Course Faculty : Ms.R.SWATHIRAMYA

### Question Bank

#### UNIT-V

#### Puzzle 1: The VM Time Travel Mystery

A system administrator creates a virtual machine and performs the following steps:

1. Installs OS and software
2. Takes a Snapshot
3. Installs a faulty update
4. System crashes ✕
5. Restores the VM to the previous state

#### Question:

Which feature helped the administrator recover the system instantly, and why?

#### Hint:

Think about a feature that saves the exact state of a VM at a specific point in time.

#### Answer:

Snapshot

#### Explanation:

A Snapshot captures the complete state of a virtual machine (OS, memory, disk).

When the system crashed, restoring the snapshot reverted the VM back to the previous stable state, like “time travel.”

#### Puzzle 2:

**Virtual Machine Rescue Mission!**

Create VM & Install Software → Take Snapshot → Install Bad Update → System Crashes!

**Question:** How did the admin restore the VM to its previous state?

**Hint:** Think of a feature that saves the VM's state.

**Answer:** SNAPSHOT → Rollback to Safe State

✓ Snapshots save the entire VM (OS, Memory, Disk) allowing quick recovery!

### 🧩 Puzzle 3:

#### 🧩 Puzzle: Clone Confusion

A system administrator creates a virtual machine (VM) and then creates multiple copies of it for testing.

- In one method, each copy is completely independent with its own full disk space.
- In another method, copies share the base disk and only store changes separately.

#### 👉 Question:

What are these two types of cloning methods?

#### 💡 Hint:

One is “full copy,” the other is “linked to original.”

#### ☑ Answer:

👉 Full Clone and Linked Clone

#### ✓ Explanation:

- Full Clone → Complete independent copy (uses more storage)
- Linked Clone → Shares base disk, saves only changes (uses less storage)

### 🧩 Puzzle 4:

UNIT V - ADVANCED VIRTUALIZATION PUZZLE

QUESTION

**UNIT V - ADVANCED VIRTUALIZATION:**  
A multi-site enterprise needs to optimize its complex virtualized infrastructure. **Match the scenario to the best advanced technique.**



Test Environment



Standard Web Server Template



Disaster Recovery Cold Storage



VM State Cold Storage

**Match these scenarios to the types:**

1: Cold Cloning (Paused state copy)	4: Hot Cloning
2: VM Template	4: Hot Cloning
3: VM Snapshot (Live state save)	(Running state copy)

HINT

**HINT:** Look for specific VM lifecycle actions and state management needs. Focus on state capture, standardization, and mobility.



Live Snapshot



Cold Clone



Template

ANSWER

- ✓ - **Scenario A: Hot Cloning** (Running duplication for rapid test creation)
- ✓ - **Scenario B: VM Template** (Standardized baseline for deployments)
- ✓ - **Scenario C: Cold Cloning** (Migration of paused VMs for disaster recovery)
- ✓ - **Scenario D: VM Snapshot** (Freeze live state for updates)

**Matchups:** (A,4), (B,2), (C,1), (D,3).

**Result:** ✔✔✔✔ \* ÷



# Clone Con

A VM is copied in two ways. What



## Full Clone

- Completely **independent** copies
- Full disk space for each copy



Completely independent copies

- Full disk space for each copy



**Hint:** One is “full copy,” the other is “link



**Answer: FULL CLONE & LINKED CLON**



**Full Clone** → Independent copy (uses more stor



**Linked Clone** → Shares base disk, saves only char

# Clone Con

A VM is copied in two ways. What



## Full Clone

- Completely **independent** copies
- Full disk space for each copy



Completely independent copies

- Full disk space for each copy



**Hint:** One is “full copy,” the other is “link



**Answer: FULL CLONE & LINKED CLON**



**Full Clone** → Independent copy (uses more stor



**Linked Clone** → Shares base disk, saves only char