1. Explain the process of installing and configuring Hyper-V virtualization in Windows Server 2016.

ANS-
Hyper-V enables hardware virtualization to create/run VMs on Windows Server 2016.

Installation & Configuration (steps):

(a)Install Role: Server Manager → Add Roles → Hyper-V (include Management Tools).
(b)Reboot server.
(c)Open Hyper-V Manager (virtmgmt.msc).
(d)Configure Virtual Switches:
  .External (internet access),
  .Internal (host-VM comm),
  .Private (VM-only).
(e)Create VM: New → Specify name, generation (Gen2 for UEFI), RAM, connect vSwitch, VHDX.
(f)Install OS via ISO.
(g)Enable Integration Services post-guest OS install.
(h)Manage via PowerShell: Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V-All.

2. How do you monitor server performance and manage event logs in Windows Server?

ANS-Performance Monitoring: Use Performance Monitor (perfmon.msc) to track CPU, memory, disk,
Network via Counters; create Data Collector Sets for logs/alerts. Resource Monitor (resmon) provides real-time view.
 Task Manager shows quick stats.
Event Logs Management: Open Event Viewer (eventvwr.msc):

(a)View Windows Logs (System, Application, Security).
(b)Filter/custom views for specific events.
(c)Save/Archive logs; set size limits.
(d)Subscribe to events via Subscriptions.

3. Describe the different types of storage options available in Windows Server.

ANS-Windows Server offers:

(a)Basic Disks: MBR/GPT partitioning; simple/spanned/striped/mirrored/RAID-5 volumes via Disk Management.
(b)Dynamic Disks: Software RAID (0/1/5/10), online resizing.
(c)Storage Spaces: Flexible pools from JBOD disks; simple/mirror/parity virtual disks; tiering, deduplication (Server 2016+).
(d)Storage Spaces Direct (S2D): Hyper-converged, disaggregated clusters with local disks, ReFS, RDMA.
(e)SMB 3.x File Shares: Network-attached via File Server role; supports CSVFS for Hyper-V.

(f)iSCSI Target: Block storage over IP.
(g)SAN Integration: Fibre Channel/HBA for enterprise arrays.

Choose based on redundancy, performance, and scale needs.

4. What is the role of File Server in Windows Server, and how do you configure it?

ANS-
File Server role provides centralized file sharing via SMB/CIFS, NFS, with access control, quotas, and shadowing.

Configuration:

(a)Server Manager → Add Roles → File and Storage Services → File Server.
(b)Create Share: File Explorer → Right-click folder → Properties → Sharing → Advanced → Set permissions (NTFS + Share).
(c)Use Server Manager → File Services → New Share Wizard (SMB/NFS).
(d)Enable Access-Based Enumeration, BranchCache, DFS if needed.
(e)Set Quotas via FSRM.

5. Explain the process of implementing and managing Distributed File System (DFS) in Windows Server 2016.

ANS-Distributed File System (DFS) provides location-transparent file access via Namespaces (unified view) and
Replication (multi-site sync).
Implementation in Windows Server 2016:

(a)Install DFS Namespaces & DFS Replication via Server Manager.
(b)Create Namespace: DFS Management → New Namespace → Server\Root (Domain-based for HA).
(c)Add Folder Targets: Link to shared folders on multiple servers.
(d)Enable Replication: New Replication Group → Multipurpose → Select members, topology (full mesh), schedule.
(e)Set Primary Member, bandwidth throttling.
(f)Monitor via DFS Management or PowerShell (Get-DfsrState).

6. Discuss the built-in backup and recovery options available in Windows Server 2016 or 2019.

ANS-Windows Server Backup (WSB) provides built-in backup/restore in 2016/2019.
Features:

.Full/server, system state, volumes, bare metal recovery.
.Scheduled/one-time backups to local disk, network share, or Azure (via Azure Backup Server).
.Windows Server Backup role (install via Server Manager).

Configuration:

(a)Install Windows Server Backup feature.
(b)Open wbadmin.msc → Local Backup.
(c)Backup Schedule: Select items (e.g., C:, System State), destination, frequency.
(d)One-Time Backup: Custom/full/VSS copy.
(e)Recovery: Boot to Windows Recovery, select backup, restore files/system.

7. How do you configure Windows Server Backup to back up critical data?

ANS-Configure Windows Server Backup:

(a)Install Windows Server Backup feature via Server Manager.
(b)Open wbadmin.msc → Backup Schedule Wizard.
(c)Select Custom → Choose critical volumes (e.g., system, data), System State.
(d)Set destination: dedicated local disk or network share.
(e)Define schedule (daily/weekly, time).
(f)Enable VSS full backup for consistency.
(g)Finish and verify policy.

8. Explain the steps for restoring files and folders using Windows Server Backup.

ANS-Restore files/folders using Windows Server Backup:

(a)Open wbadmin.msc → Recover.
(b)Select backup location (local/network).
(c)Choose backup date.
(d)Select Files and folders → Browse → Mark items.
(e)Specify recovery destination: original location, alternate, or copy.
(f)Choose overwrite behavior (skip/create copy/overwrite).
(g)Start recovery.

9. What are some common troubleshooting techniques for Windows Server startup issues?

ANS-(a)Safe Mode: Boot via F8 or msconfig → Diagnose drivers/services.
(b)Last Known Good Configuration: Revert to prior boot state.
(c)Startup Repair: Use Windows Recovery Environment (WinRE) → Auto-fix boot issues.
(d)Bootrec Commands (in WinRE CMD):
bootrec /fixmbr, /fixboot, /scanos, /rebuildbcd.
(e)System File Checker: sfc /scannow (offline via WinRE).
(f)Event Viewer: Check System logs for failure codes.
(g)Disable Services/Drivers: Via msconfig or autoruns.
(h)Memory Diagnostic: mdsched.exe for RAM faults.
(i)DISM: DISM /Online /Cleanup-Image /RestoreHealth.

10. How do you troubleshoot network connectivity problems in Windows Server?

ANS-
(a)Ping: Test local (127.0.0.1), gateway, remote hosts.
(b)Ipconfig: /all (IP/DNS), /release, /renew, /flushdns.
(c)Tracert/Pathping: Identify hops/drops.
(d)Netsh: int ip reset, winsock reset.
(e)Nslookup: Verify DNS resolution.
(f)Check Services: DNS Client, DHCP, Workstation.
(g)Firewall: Temporarily disable (netsh advfirewall set allprofiles state off).
(h)Event Viewer: System/Network logs.
(i)Network Adapter: Update/disable driver, check cables/ports.
(j)Get-NetAdapterBinding: Verify protocol bindings.

11. Discuss common Active Directory-related issues and their troubleshooting steps.

ANS-(a)Replication Failure: repadmin /replsummary, dcdiag /test:replications; fix KCC, DNS, firewall (RPC 135, 389, 445), time sync.
(b)Login Issues: Check Event ID 4625; verify user account, UPN, DNS, trust.
(c)Group Policy Not Applying: gpresult /r, dcdiag /test:sysvol; ensure SYSVOL replication, client connectivity.
(d)AD Database Corruption: Boot to DSRM, ntdsutil, esentutl /p repair.
(e)USN Rollback: Detect via repadmin /showrepl; restore from backup.
(f)DNS Misconfig: dcdiag /test:dns; fix A/SRV records, forwarders.

12. Explain how to troubleshoot performance problems on Windows Server 2016 or 2019.

ANS-(a)Performance Monitor (perfmon): Track CPU, memory, disk, network counters; create Data Collector Sets.
(b)Resource Monitor (resmon): Identify top processes by usage.
(c)Task Manager: Kill rogue processes; view startup impact.
(d)Event Viewer: Filter Critical/System logs for bottlenecks.
(e)PAL Tool: Analyze perf logs.
(f)Poolmon: Detect memory leaks (driver tags).
(g)Procmon/Procexp: Trace file/registry/CPU spikes.
(h)DISM/SFC: Repair system files.
(i)Update drivers/BIOS, disable unnecessary services.