ROLL NUMBER: 210701108

### **Sample Questions**

### **BASIC UNDERSTANDING: Exp 1**

### 1. What is virtualization?

**Ans.** Virtualization is an abstraction layer that decouples physical hardware from operating system to deliver greater IT resource utilization and flexibility.

### 2. What is the Difference between Full Virtualization and Para Virtualization?

**Ans.** Full virtualization & Para virtualization both comes under the Hardware virtualization. Some of the differences between them are listed below:

**Full Virtualization:** In full virtualization guest VMs (Virtual Machines) are not aware that they are in virtualized environment there-fore the guest os issues command to what it thinks as actual hardware but actually are just simulated devices created by the hosts.

**Para Virtualization:** In para virtualization the guest vm is aware that it is in a virtualized environment. If guest vm requires resources, it issues commands to host operating system instead of directly communicating with simulated hardware.

### 3. What is Hyper-visor?

A **hypervisor** or virtual machine monitor (VMM) is computer software, firmware or hardware that creates and runs virtual machines. A computer on which a **hypervisor** runs one or more virtual machines is called a host machine, and each virtual machine is called a guest machine.

# 4. Whatare the difference between Type 1 and Type 2 Hypervisor ?

**Ans. Type 1:** When the Hypervisor is installed on bare metal / Physical hardware it is known as Type 1 Hypervisor. Examples are VM ware ESXi, Oracle VM, Microsoft Hyper V.

**Type 2:** When the Hypervisor is installed on top of an operating system it is known as Type 2 Hypervisor . Examples are Microsoft Virtual Server, VM Ware Server and workstation.

# Type-1 vs. Type-2

Depending on what sits right on HW

Type-1: VMM on HW

Guest VM

Guest OS

Guest OS

VMM

- Xen, VMware ESX server, Hyper-V
- · Mostly for server, but not limited
- VMM by default
- OS-independent VMM
- Type-2: Host OS on HW

  Host OS

  Guest VM
  Guest OS

  VMM

  HW
- KVM, VMware Workstation, VirtualBox
- · Mostly for client devices, but not limited
- VMM on demand
- OS-dependent VMM

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### **BASIC UNDERSTANDING: Exp 2**

### 1. What is a virtual block?

A virtual block device is an interface with applications that appears to the applications as a memory device, such as a standard block device.

### 2. What is a virtual disk?

Virtual disks are stored as files on the host computer or on a network file server. It does not matter whether the physical disk that holds the files is IDE or SCSI.

IDE (Integrated Drive Electronics) SCSI(Small Computer System Interface) SATA(Serial Advanced Technology Attachment)

### 3. What is a VM clone?

A clone is a copy of an existing virtual machine.

## 4. What is a Snapshot and a Template?

A snapshot is a copy of the virtual machine's disk file at a given point in time. **Snapshots** provide a change log for the virtual disk and are used to restore a VM to a particular point in time when a failure or system error occurs.

A **template** is a master copy of a virtual machine that can be used to create many clones.

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