SET – 1

1. **Define Segmentation**

A. **Segmentation is a memory management technique that divides memory into variable-sized logical units called segments, each with a segment number and an offset.**

2. **Define Swapping.**

A. **Swapping is a memory management technique where processes are temporarily moved from main memory to disk and back to free up RAM for other processes.**

3. **Define Paging.**

A. **Paging is a memory management scheme that divides memory into fixed-size blocks called pages (for processes) and frames (for physical memory) to eliminate external fragmentation.**

4. **Define Logical Address Space.**

A. **Logical Address Space is the set of all addresses generated by a program's CPU during execution. It is also called the virtual address space.**

5. **Define a File.**

A. **A file is a named collection of related information stored on secondary storage, used for storing data and programs.**

6. **Define File System Mounting.**

A. **File system mounting is the process of making a file system accessible by attaching it to a directory structure of an existing file system.**

7. **List out the Merits of Linux.**

A. **Merits of Linux:**

- **Open Source – Free to use and modify.**
- **Security – Strong user permission and access controls.**
- **Stability – Rarely crashes and supports long uptimes.**
- **Performance – Efficient even on older hardware.**
- **Multitasking – Handles multiple tasks efficiently.**
- **Customization – Highly customizable environment.**
- **Community Support – Large and active user community.**

8. **Define File path.**

A. **A file path is the address that specifies the location of a file or directory in a file system.**

9. **Define Inter Process Communication.**

A. **Inter Process Communication (IPC) is a mechanism that allows processes to exchange data and signals to coordinate their actions and work together.**

10. **Define Message Passing.**

A. **Message passing is an IPC method where processes communicate by sending and receiving messages without sharing memory.**

SET – 2

1. **Define Segment Table.**

A. A segment table is a data structure used in segmentation to store the base address and limit (length) of each segment in a process's memory.

2. **Define Page Table.**

A. A page table is a data structure used in paging to map logical page numbers to physical frame numbers in memory.

3. **Define Memory Management Unit.**

A. The Memory Management Unit (MMU) is a hardware device that translates logical (virtual) addresses into physical addresses during memory access.

4. **Define Physical Address Space.**

A. Physical Address Space is the set of all physical memory addresses that a process can access in the main memory (RAM).

5. **Define Directory.**

A. A directory is a logical structure in a file system that contains references to files and other directories, helping organize and manage them.

6. **Define Sequential Access Method.**

A. Sequential Access Method is a file access method where data is read or written in order, one record after another, from the beginning to the end.

7. **Define File Directory.**

A. A file directory is a special file that contains information about other files, such as names, types, sizes, and locations, helping organize and manage files in a file system.

8. **What is the use of System Calls**

A. System calls provide the interface between a user program and the operating system, allowing programs to request services like file operations, process control, and memory management.

9. **Define Process Synchronization in the context of Inter Process Communication.**

A. Process synchronization in the context of Inter Process Communication (IPC) ensures that cooperating processes execute in a coordinated manner, especially when accessing shared resources, to prevent data inconsistency and race conditions.

10. **Define Independent Process.**

A. An independent process is a process that does not share data or resources with any other process and executes without being affected by or affecting other processes.

SET – 3

1. **Define Physical Memory.**

A. Physical memory refers to the actual RAM (Random Access Memory) installed in a computer, used to store data and instructions currently in use.

2. **Define Fixed Partitioning.**

A. Fixed partitioning is a memory management technique where the main memory is divided into fixed-size partitions, and each partition holds exactly one process.

3. **Define Segment Table Base Register.**

A. Segment Table Base Register (STBR) holds the starting address of the segment table for the current process, used by the CPU to locate segment information during address translation.

4. **Define Page Offset.**

A. Page offset is the part of a logical address that specifies the exact location within a page where the desired data or instruction resides.

5. **Define File Attribute.**

A. File attribute refers to metadata that defines the properties of a file, such as name, type, size, creation date, permissions, and access rights.

6. **Define File Pointer.**

A. A file pointer is a variable that indicates the current position in a file from where the next read or write operation will occur.

7. **Define Single Level Directory.**

A. A single level directory is a simple directory structure where all files are stored in the same directory, and every file must have a unique name.

8. **Define Remote File Systems.**

A. Remote File Systems allow users to access files stored on another computer over a network as if they were on the local system.

9. **Define Pipes.**

A. Pipes are a form of inter process communication (IPC) that allow data to flow in a unidirectional stream from one process to another.

10. **Define Co-operating Process.**

A. A co-operating process is a process that can affect or be affected by other processes and shares data or resources with them for communication or coordination.