**MOTHER TERASA COLLEGE OF ARTS AND SCIENCE**

**METTUSALAI, ILLUPPUR.**

**SUBJECT :**  OPERATING SYSTEM

**CLASS :** III – B.SC (CS)

**1.What is an Operating System?**

 An Operating System (OS) is system software that manages computer hardware, software resources and provides common services for computer programs.

**2. What are the four types of operating system?**

* Batch Operating System
* Multitasking/Time Sharing Operating System
* Multiprocessing Operating system
* Real Time Operating System

**3. What are the functions of an Operating System?**

* Memory Management
* Processor Management
* Device Management
* File Management

**4. Which is the first operating system in world?**

 OS/360 officially known as IBM System/360 Operating System based on batch processing system developed eby IBM for their then-new system/360 mainframe computer, announced in 1964, was the first operating system that was developed.

**5. What are the main Operating System?**

* The Windows, OS X and Linux logos.
* The Windows GUI.
* The OS X GUI.

**6. What is Memory Management?**

 Memory Management is the process of controlling and coordinating computer memory, assigning portions called blocks to various running programs to optimize overall system performance. Memory management resides in hardware, in the OS (Operating System), and in programs and applications.

**7. What is most commonly used memory management technique?**

 Paging is a technique in the main memory of computer system is organized in the form of equal sized blocks called pages. In the technique, the address of occupied pages of physical memory are stored in a table, its known as page table.

**8. What is virtual memory with example?**

 An imaginary memory area supported by some operating systems (for examples, windows but not DOS) in conjunction with the hardware. The purpose of virtual memory is to enlarge the address space, the set of addresses a program can utilize.

 Example, virtual memory might contain twice as many addresses as main memory.

**9. What are the different allocation method?**

* Contiguous Allocation
* Linked Allocation
* Clustering
* Indexed Allocation
* Linked Indexed Allocation
* Multilevel Indexed Allocation

**10. What is best fit algorithm?**

 Best Fit is a memory management algorithm, it deals with allocating smallest free partition which meets the requirement or the requesting process. So we will take the block size and process size and return the output of the process and block is to be allocated to a process.

**11. What is Process Management?**

 A ‘’Process’’ is the basic unit of execution in the operating system.

 A ‘’Process’’ is the name to a program it is running in memory.

 A ‘’Program’’ is the complied executable.

 A ‘’Process’’ is the running executable with the execution state.

**12. What is the interrupt? What are various types of interrupt in computer architecture?**

 A program interrupt refers to the transfer of program control from a currently running program to another service program as a result of an external or internal generated request.

 There are mainly three types of interrupt:

1. **External interrupt**: It arises due to external call from I/O devices. For e.g. I/O devices requesting transfer of data, power failure, etc.
2. **Internal interrupt:** It arises due to illegal and erroneous use of an instruction or data. For e.g. stack overflow, division by zero, invalid opcode, etc. These are also called traps.
3. **Software Interrupt:** It is initiated by executing an instruction.

**13. What is five state process model?**

1. **New:** A program is going to be picked up by the OS into the main memory is called a new process.
2. **Ready:** A process is created, it directly enters in the ready state, in which, it waits for the CPU to be assigned.
3. Running.
4. Block or wait
5. Termination.

**14. What is Deadlock?**

 Deadlock is situation, a set of processes are blocked because each process is holding a resource and waiting for another resource acquired by some other process.

**15. Process Synchronization?**

 Process Synchronization means sharing system resources by processes in a such a way that, concurrent access to shared data is handled thereby minimizing the chance of inconsistent data. Maintaining data consistency demands mechanisms to ensure synchronized execution of cooperating processes.

**16. What are the functions of device management?**

 Device Management is another important function of the operating system. Device management is responsible for managing all the hardware devices of the computer system. It may include the management of the all the input and output devices of the computer system.

**17. What is device management?**

 Device Management is another important function o the operating system. Device management is responsible for managing all the hardware devices of the computer system. An operating system manages the devices in a computer system with the help of device controllers and device drivers.

**18. What are the different types of direct access storage devices?**

 The devices that can be directly read or write to a specific place. DASDs can be grouped into there categories:

* Magnetic disks
* Optical storage devices
* Flash memory
* Movable-head magnetic disk storage

**19. What is I/O Subsystem?**

 The I/O subsystem of a computer provides on efficient mode of communication between the central system and the outside environment. It handles all the input-output operations of the computer system.

**20. What is I/O management?**

 I/O is the communication between an information processing system, such as a computer and the outside world, possibly a human or another information processing system.

**21. What is File Management?**

 A file is collection of specific information stored in the memory of computer system. File management is defined as the process of manipulating files in computer system, it management includes the process of creating, modifying and deleting the files.

**22. What are the types of file management?**

* PDF element for Business. PDF element for business is one of its kinds in features, manageability and ease of use.
* Agiloft. Agiloft is great in terms of managing large enterprise documents.
* Alfresco one
* Cabinet.
* Content verse
* Digital Drawer.

**23. What do you mean by spooling?**

 Spooling is process data is temporarily held to be used and executed by a device, program or the system Data is sent to and stored in memory or other volatile storage until the program or computer requests it for execution.

**24. What is file organization?**

 File Organization refers to the way data is stored in a file. File organization is very important because it determines the methods of access, efficiency, flexibility and storage devices to use.

**25. What are the different file access methods?**

* **Sequential Access :** It is the simplest access method.
* **Direct Access :** It is direct access method known as relative access method.
* **Indexed Sequential Access :** It is a file is build on the top of the direct access method.