OPRATING SYSTEM MCQ

1. A .... is a program in execution.

   a. process
   b. file
   c. system
   d. None of the choices

2. A .... is a program in execution.

   a. process
   b. file
   c. system
   d. None of the choices

3. .... is a large array of words or bytes, each with its own address.

   a. storage
   b. Memory
   c. File
   d. record

4. A .... is a collection of related information defined by its creator.

   a. File
   b. Storage
   c. Record
   d. File

5. The operating system manages

   a. Memory
   b. Processes
   c. Disks and I/O devices
   d. All of the above

6. Which is not the function of the operating system?

   a. Memory management
   b. Disk management
   c. Application management
   d. Virus protection

7. Which of the following is a goal of the operating System?

a. Execute user programs and make solving user problems easier.
b. Make the computer system convenient to use.
c. Use the computer hardware in an efficient manner.
d. All of the given choices

8. Which of the following statement is false with respect to the operating systems?

a. Operating System is a software, which makes a computer to work.
b. It is the software that enables all the programs we use.
c. The OS does not organize or control the hardware.
d. OS acts as an interface between the application programs and the machine hardware.

9. In the Abstract View of System Components, the computer system can be divided into which of the following components?

a. Users, hardware, operating system and system programs
b. Users, hardware, operating system and application programs
c. Operating system, system programs, hardware and users
d. None of the given choices

10. A .... provides the user with access to the various resources the system maintains.

a. distributed system
b. real time system
c. time sharing system
d. None of the above

11. What is a shell?

a. It is a hardware component
b. It is a command interpreter
c. It is a part in compiler
d. It is a tool in CPU scheduling

12. Multiprogramming systems

a. Are easier to develop than single programming systems
b. Execute each job faster
c. Execute more jobs in the same time
d. Are used only on large main frame computers

13. Which of the following operating systems is better for implementing a Client-Server network?

    a. MS DOS
    b. Windows 95
    c. Windows 98
    d. <mark>Windows 2000</mark>

14. Which of the following is not an example of the multi-programming operating system?

    a. Atlas supervisor
    b. <mark>Multics Operating System</mark>
    c. Exec II system
    d. All of the given choices

15. Which of the following is not an example of the distributed systems?

    a. WFS file server
    b. Unix United RPC
    c. <mark>RC 4000 system</mark>
    d. 24 Amoeba system

16. Which of the following is not an advantage of the Timesharing operating system?

    a. Provides the advantage of quick response
    b. Avoids duplication of software
    c. Reduces CPU idle time
    d. <mark>Graceful degradation</mark>

17. An RTOS typically has very little user-interface capability, and no ....

<mark>Ans:- end-user utilities</mark>

18. A .... cannot always keep CPU or I10 devices busy at all times.

<mark>Ans:- single user</mark>

19. A multiprocessing system is a computer hardware configuration that includes more than

<mark>Ans:- one</mark>

20. .... independent processing unit.

<mark>Ans:- networked computing</mark>

21. A .... system is a collection of physical interconnected computers.

<mark>Ans:- spooling</mark>

22. A system task, such as ...., is also a process.

<mark>Ans:- Interaction</mark>

23. The .... process is achieved through a sequence of reads or writes of specific memory address.

<mark>Ans:- Memory Management Process</mark>

24. Which of the following is not a component of the operating system?

A. Hardware

B. Application Programs

C. Application programs

<mark>D. None of the given choices</mark>

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1. A .... is a program in execution.

   a. process
   b. file
   c. system
   d. None of the choices

2. The operating system is responsible for which of the following activities in connections with memory management?

   A) Keep track of the parts of memory currently being used and by whom.

   B) Decide which processes to load when memory space becomes available.

   C) Allocate and deallocate memory space as needed.

   D) Support of primitives for manipulating files and directories.

   a. A, B and D
   b. A, B and C
   c. B, C and D
   d. A, C and D

3. A .... is a collection of related information defined by its creator.

   a. File
   b. Storage
   c. Record
   d. File

4. The operating system manages

   a. Memory
   b. Processes
   c. Disks and I/O devices
   d. All of the above

5. The key components of the I/O system do not consist of:

   a. A buffer-caching system.
   b. A general device-driver interface.
   c. Drivers for specific hardware devices.
   d. File backup on stable (nonvolatile) storage media.

6. The operating system is not responsible for which of the following activities in connection with disk management:

    a. Free space management
    b. Buffer caching system
    c. Storage allocation
    d. Disk scheduling

7. Which of the following statements is not true?

    a. A distributed system is a collection of processors that share memory or a clock.
    b. Each processor has its own local memory.
    c. The processors in the system are connected through a communication network.
    d. Communication takes place using a protocol.

8. .... is a large array of words or bytes, each with its own address.

    a. Storage
    b. Memory
    c. File
    d. Record

9. A .... provides the user with access to the various resources the system maintains.

    a. distributed system
    b. real time system
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    a. Provides the advantage of quick response
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    c. Reduces CPU idle time
    d. Graceful degradation

16. A/an .... is a software program that manages the hardware and software resourcesof a computer.
    Ans:- operating system

17. Operating systems can be explored from two viewpoints: the .... and the system.
    Ans:- user

18. A .... manages the execution of user programs.
    Ans:- control program

19. A .... is the mechanism used by an application program to request service fromthe operating system.
    Ans:- system call

1. Which of the following is not true regarding programs and processes?

a. **Program is active entity stored on disk**
b. Process is active.
c. Program becomes process when executable file loaded into memory
d. All of the above

2. A process includes which of the following?

a. Program counter
b. Stack
c. Data section
d. **All of the above**

3. Which of the following are not the states of a process?

a. **New, running, waiting, ready and terminated**
b. New, running, waiting and ready
c. New, running, waiting, terminating and terminated
d. New, executing, waiting, ready and terminated

4. A process can be terminated due to

a. Normal exit
b. Fatal error
c. Killed by another process
d. **All of the mentioned**

5. The multiple parts of the process does not include which of the following?

a. Text section
b. Processor register
c. Program counter
d. **All of the above**

6. What is the ready state of a process?

a. **When process is scheduled to run after some execution**
b. When process is unable to run until some task has been completed
c. When process is using the CPU
d. None of the mentioned

7. A process stack does not contain.

    a. Function parameters
    b. Local variables
    c. Return addresses
    d. PID of child process

8. A parent process may terminate the execution of one of its children for which of the following reasons?

    a. The child has exceeded its usage of some of the resources that it has been allocated.
    b. The task assigned to the child is no longer required.
    c. The parent is exiting, and the operating system does not allow a child to continue
    d. All of these

9. In new state, the process awaits admission to the .... state.

    a. Running
    b. Ready
    c. Waiting
    d. Blocked

10. The operating system groups all information that it needs about a particular process into a data structure called a *process descriptor* or ....

    a. Process Management
    b. Process State
    c. Process Control Block
    d. None of these

11. Which of the following events lead to process creation?

    A. On starting the computer, system creates several background processes.
    B. A process can create a new process itself while executing.
    C. A user may request to create a new process.
    D. Batch system takes initiation of a batch job.
    a. A, B and C
    b. A, B and D
    c. B, C and D
    d. A, B, C and D

12. Scheduling or dispatching of a process is an activity in which ……………?

    a. the state of the process is changed from ready to running
    b. the state of the process is changed from running to ready
    c. the state of the process is changed from ready to waiting

d. the state of the process is changed from waiting to ready

13. The operating system preempts a process when……………..?

a. **the allocated time interval of the process is over**
b. the process hadn't been terminated in the allotted time interval and next process is ready to execute
c. the process has completed its execution
d. when a low priority process arrives

14. Under what conditions does the operating system itself terminates a process?

a. Process completes its execution fully and it indicates to the OS that it has finished.
b. Operating system itself terminates the process due to service errors.
c. There may be problem in hardware that terminates the process.
d. **All of the given choices**

15. The Data section of a process includes……….?

a. Function parameters
b. Return address
c. **Global variables**
d. Local variables

16. Interrupt driven processes will normally run at a very ……………….. priority.

Ans:- high priority

17. Processes are often called ……………….. in embedded operating systems.

Ans:- tasks

18. The term "process" was first used by the designers of the ……………….. in ………………..

Ans:- MULTICS, 1960's

19. In new state, the process awaits admission to the ……………….. state.

Ans:- ready

20. The operating system groups all information that it needs about a particular process into a data structure called a process descriptor or ………………..

Ans:- Process Control Block (PCB)

21. ……………….. is a set of techniques for the exchange of data among two or more threads inone or more processes. Ans:- Inter-process Communication (IPC

22. .... are a way for a program to fork itself into two or more simultaneously running tasks.

Ans:- Threads

23. .... is the ability of an operating system to execute more than one program simultaneously.

Ans:- Multitasking

24. The threads library is implemented by time-sharing on a ....

Ans:- single processor

25. A process includes PC, registers, and ....

Ans:- single processor

26. Which of the following is not true regarding process creation?
A. Process creation means the construction of a new process for the execution.
B. Process creation might be performed by system, user or old process itself.
C. A process cannot create a new process itself while executing.
D. The system creates several background processes on starting the computer

27. Which of the following statements is not true?
A. Dispatching is done by operating system when the resources are free or the process has higher priority than the ongoing process.
B. Scheduling means the operating system puts the process from running state to the ready state.
C. Block mode is basically a mode where process waits for input-output.
D. All of the given choices

28. The state of a process after it encounters an I/O instruction is ....
A. Ready
B. Blocked/Waiting
C. Idle
D. Running

29. Identify the incorrect statement with respect to the Blocking Process State
A. When a process invokes an input-output system call, it blocks the process
B. When a process invokes an input-output system call, it puts the operating system in the block mode.
C. Block mode is basically a mode where process waits for input-output.
D. All of the Above

30. In operating system each process has its own

A. Address space and global variables

B. Open files

C. Pending alarms signals and signal handlers

D. All of the mentioned

31. A process can be terminated due to

A. Normal exit

B. Fatal error

C. Killed by another process

D. All of the mentioned

32. What is the ready state of a process?

A. When process is scheduled to run after some execution

B. When process is unable to run until some task has been completed

C. When process is using the CPU

D. None of the mentioned

33. What is the inter process communication?

A. communication between two processes

B. communication within the process

C. communication between two threads of same process

D. none of the mentioned

34. A process stack does not contain.

A. Function parameters

B. Local variables

C. Return addresses

D. PID of child process

35. A parent process may terminate the execution of one of its children for which of the following reasons?

A. The child has exceeded its usage of some of the resources that it has been allocated.

B. The task assigned to the child is no longer required.

C. The parent is exiting, and the operating system does not allow a child to continue

D. All of these

36. In new state, the process awaits admission to the .... state.

A. Running

B. Ready

C. Waiting

37. The operating system groups all information that it needs about a particular process into a data structure called a process descriptor or ....

A. Process Management

B. Process State

C. Process Control Block

D. None of these

1. What is operating system?

   a. collection of programs that manages hardware resources
   b. system service provider to the application programs
   c. link to interface the hardware and application programs
   d. all of the mentioned

2. The Information associated with each process in a Process Control Block does not include which of the following?

   a. Process State
   b. CPU Scheduling Information
   c. Accounting Information
   d. Program-management information

3. Which of the following is not a type of queue maintained in the Process Scheduling Queues?

   a. Job Queue
   b. Ready Queue
   c. Waiting Queue
   d. Device Queue

4. A short-term scheduler selects_____?

   a. Which processes should be brought into the ready queue
   b. Which process should be executed next and allocates CPU
   c. Which processes should be brought into the running queue
   d. All of the above

5. Which of the following is not true regarding the long-term scheduler?

   a. It decides which process should be brought in the ready queue
   b. A long-term scheduler is invoked infrequently
   c. A **long-term scheduler is generally fast**
   d. A long-term scheduler controls the degree of multiprogramming

6. Identify the incorrect statement out of the following?

   a. The CPU-bound processes spend more time doing computations
   b. The I/O bound processes have many long CPU bursts
   c. The CPU-bound processes have very long CPU bursts
   d. The I/O bound processes spend more time doing input/output

7. The medium-term scheduler can be added if_____?

    a. The degree of multiple programming needs to increase
    b. Process is removed from memory and brought back to the disk
    c. The degree of multiple programming needs to decrease
    d. All of the above

8. The iOS provides_____?

    a. Multiple background processes running in the memory with limits
    b. Single foreground process controlled via user interface
    c. Multiple background processes running in the memory but not on the display
    d. All of the given choices

9. Which of the following is not true regarding Android?

    a. Background process uses a service to perform tasks
    b. Service can keep running even if background process is suspended
    c. Service has no user interface
    d. It requires larger memory use due to the user interface.

10. Which of the following is not true regarding context-switching?

    a. Context of a process is represented in the Process Control Block
    b. Context-switch time is an overhead for the system
    c. Context switching time is independent of the hardware support
    d. None of the choices

11. In a tightly coupled system or parallel systems, the processor shares_____?

    a. Memory and clock
    b. All of the choices
    c. Only memory is shared, not the clock
    d. Only clock is shared, memory is not shared

12. Which one of the following is not true regarding the kernel?

    a. It is the program that constitutes the central core of the operating system.
    b. It is the first part of operating system to load into memory during booting.
    c. It is made of various modules which are loaded in running operating system.
    d. kernel remains in the memory during the entire computer session

13.Which of the following state identifies the ready state of a process?

    a. when process is unable to run until some task has been completed
    b. when process is scheduled to run after some execution
    c. when process is using the CPU
    d. none of the mentioned

14. In operating system each process has its own

    a. Address space and global variables
    b. Open files
    c. Pending alarms signals and signal handlers
    d. All of the mentioned

15. To access the services of operating system, the interface is provided by which of the following?

    a. System calls
    b. API
    c. library
    d. assembly instructions

16. Any process that shares data with other processes is a .... process.

Ans:- Cooperating

17. Message sent by a process can be of either fixed or .... size.

Ans:- Variable

18. A .... is associated with more than two processes.

Ans:- Link

19. A .... owned by the operating system is independent.

Ans:- mailbox

20. The Mach kernel supports the creation and destruction of multiple task.

 A. True

B. False

21. Window 2000 uses two types of message passing techniques over a port.

A. True

B. False

1. What is the inter process communication

a. **communication between two processes**
b. communication within the process
c. communication between two threads of same process
d. none of the mentioned

2. Which of the following is an advantage of process cooperation?

A. **Information sharing**

B. **Computation speed-up**

C. **Modularity**

D. **Convenience**

a. A, B and D
b. A, C and D
c. A, B and C
d. A, B, C and D

3. Which of the following is not an advantage of the Cooperating Processes?

a. **Information Privacy**
b. Communication speed-up
c. Modularity
d. Convenience

4. Which of the following is true with respect to unbounded buffer in the producer consumer problem?

a. **The producer produces one by one and keeps producing**
b. The producer must wait if the buffer is full
c. The consumer must wait if the buffer is full
d. None of the given choices

5. Which of the following is true regarding shared memory?

a. The communication is directly under the control of operating system
b. **The communication is under the control of the user processes**
c. The communication is under the control of user processes as well as the operating system
d. The communication is completely independent.

6. Which of the following is true regarding messages passed during inter-process communication?

a. **It is a mechanism for processes to communicate and to synchronize their actions**
b. The processes use shared variables for inter process communication
c. It can send only fixed size variables
d. All of these

7. Which of the following is not related to the physical implementation of communication link?

a. Shared memory
b. **Automatic or explicit buffering**
c. Hardware bus
d. Network

8. Which of the following statement is false with respect to the Properties of communication link?

a. Link is established only if processes share a common mailbox
b. **Link is shared only with a single process**
c. Each pair of processes may share several communication links
d. Links can be unidirectional or bi-directional

9. A single threaded process is the one in which ………………?

a. **One command is processed at a time**
b. Multiple parts of the program are allowed to executed at the same time
c. There are lightweight processes available within the process
d. None of the given choices

10. What is true with respect to single threaded and multi-threaded processes?

a. Both have common code but common data is shared
b. The code, data and files are different for different threads in both of these
c. **Unlike single threaded processes, the registers and stack are different for different threads in multi-threaded processes**
d. Registers are shared in both but stacks are different in multi-threaded processes

11. Which of the following is true regarding the user-level threads?

a. The kernel is aware of the user level threads
b. The user-level threads are handled as single-threaded processes
c. **They are smaller and much faster than kernel level threads**
d. The kernel is involved in the synchronization of user-level threads

12. Identify the incorrect statement out of the following?

a. Kernel level threads are handled directly by the operating system
b. In kernel level threads, the thread management is done by the kernel
c. **The context information for the process as well as the process threads is independent of the kernel.**
d. Kernel level threads are slower than the user-level threads.

13. Which of the following is not true regarding UNIX signals?

a. It is generated on the first occurrence of the event
b. It is pending when generated but not yet delivered
c. It is delivered when a process takes an action on that signal
d. **Signals are software interrupts that occur synchronously**

14. Which of the following is true with respect to handling of signals?

a. **They are used by the OS to notify the processes that some event has occurred**
b. The signals share a single signal handler function that get called when processes receive the signal
c. There is no event notification mechanism for the applications
d. All are true

15. Which of the following is a shortcut for sending an INT signal using the keyboard?

a. Ctrl-Z
b. **Ctrl-C**
c. Ctrl-K
d. Ctrl-I

16. Interrupt driven processes will normally run at a very .... priority.

Ans:- high priority

17. Processes are often called .... in embedded operating systems.

Ans:- task

18. The term "process" was first used by the designers of the .... in ....

Ans:- MULTICS, 1960's

19. In new state, the process awaits admission to the .... state.

Ans:- ready

20. The operating system groups all information that it needs about a particular process into a data structure called a process descriptor or ....

Ans:- Process Control Block (PCB)

21. .... is a set of techniques for the exchange of data among two or more threads in one or more processes.

Ans:- Inter-process Communication (IPC)

22. .... are a way for a program to fork itself into two or more simultaneously running tasks.

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23. .... is the ability of an operating system to execute more than one program simultaneously.

Ans:- Multitasking

24. The threads library is implemented by time-sharing on a ....

Ans:- single processor

25. A process includes PC, registers, and ....

Ans:- variables

1. Identify the incorrect statement out of the following.

    a. CPU scheduling is a process of determining which process will own the CPU for execution

    b. The CPU scheduling selects a process from the waiting queue, whenever the CPU is idle

    c. The CPU scheduling decision is taken when a process terminates

    d. None of these

2. The CPU scheduling decisions may take place when a process………?

    a. Switches from running to waiting state.

    b. Switches from running to ready state.

    c. Switches from waiting to ready.

    d. All of these options

3. ………….. is a kind of program without any kind of user interaction.

    a. User Program

    b. Job

    c. Process

    d. System Program

4. The goal of CPU scheduling is to maximize the………….

    a. Turnaround time

    b. Waiting time

    c. Throughput

    d. Response time

5. Which of the following is not true regarding Dispatcher?

    a. The dispatcher should be fast so that it can run on every context switch.

    b. The dispatcher module gives control of the CPU to the process selected by the long-term scheduler.

    c. The dispatcher process involves switching context as well as switching to the user mode

    d. The dispatcher involves jumping to the proper location in the user program to restart the program.

6. Preemptive CPU scheduling decisions may take place under which of the following conditions?

I)   Switches from running to waiting state.

II) Switches from running to ready state.

III) Switches from waiting to ready.

IV) Terminates.

    a. I and II
    b. I and III
    c. II and III
    d. I and IV

7. The time required by the process to complete the execution is called ………?

    a. Burst Time
    b. Arrival Time
    c. Finish Time
    d. None of these

8. The condition when a number of programs which can be present in the memory at the same time is called …………….?

    a. Multi-tasking
    b. Multi-programming
    c. Time sharing
    d. Real Time

9. Which of the following is not true with respect to preemptive scheduling?

    a. In preemptive scheduling, the tasks are mostly assigned with their priorities.
    b. A higher priority task will run before another lower priority task, only if the lower priority task is still not running.
    c. The low priority task holds for some time and resumes when the higher priority task finishes its execution.
    d. All are true

10. Which of the following is not true with respect to non-preemptive scheduling?

    a. In this type of scheduling method, the CPU has been allocated to a specific process.
    b. The tasks are mostly assigned with their priorities.
    c. The process that keeps the CPU busy will release the CPU either by switching context or terminating.

11. Which of the following is not true regarding interval timer?

    a. It is a method that is closely related to preemption.
    b. When a certain process gets the CPU allocation, a timer may be set to a specified interval.
    c. Most of the multi-programmed operating system uses some form of a timer to prevent a process from tying up the system forever.
    d. **Both timer interruption and preemption force a process to return the CPU only after its CPU burst is complete**.

12. Which of the following statements is not true regarding the Shortest-Job-First (SJF)?

    a. It schedules the process with the shortest time.
    b. **There is no concept of priority associated with the process**
    c. It can run only in the non-preemptive scheduling
    d. The SJF scheme gives the minimum average waiting time for a given set of processes.

13. Identify the incorrect statement out of the following.

    a. In multilevel queue, the ready queue is partitioned into foreground and background queues
    b. Scheduling can be done on the basis of fixed priority scheduling
    c. **Each queue uses the same scheduling algorithm**
    d. Scheduling can be done on the basis of Time Slice

14. What is not true with respect to the Multilevel Feedback Queue?

    a. Different multilevel queues can have different time quantum values
    b. If a job doesn't finish in a given time quantum, it moves to the next queue
    c. The concept of aging is used to move a process between different queues.
    d. **It requires to complete a critical task within a guaranteed amount of time**

15. In a soft real-time system, a process is ………………...

    a. required to move between the queues using the concept of aging
    b. **required to complete a critical task within a guaranteed amount of time**
    c. the scheduling technique which requires that critical processes receive priority over less fortunate ones.
    d. A technique that does not make use of priority scheduling

1. .... is a method of CPU scheduling that is a preemptive version of shortest job next scheduling.

   a. **Shortest remaining time**
   b. Round robin
   c. Multilevel queue
   d. First come first serve

2. A .... scheduling algorithm will simply put the new process at the head of the ready queue.

   a. preemptive
   b. **non-preemptive priority**
   c. preemptive priority
   d. non-preemptive and non-priority

3. .... scheduling is essentially concerned with memory management.

   a. **Medium term**
   b. Short term
   c. Long term
   d. End term

4. The most common goal of scheduling is to .... of a task set.

   a. maximize the expected runtime
   b. **minimize the expected runtime**
   c. eliminate the runtime
   d. estimate the expected runtime

5. .... scheduling involves assigning a task to a particular processor within the system.

   a. **Global**
   b. Local
   c. Multilevel queue
   d. Priority

6. .... scheduling is really the easiest way of scheduling.

   a. Priority
   b. Shortest Job First(SJF)
   c. **Round-robin**

d. First Come First Serve

7. In ……………….. scheduling, once CPU is given to the process it cannot be preempted until completes its CPU burst.

a. **non-preemptive**
b. preemptive
c. every type of
d. shortest remaining time first

8. The Shortest Job First (SJF) scheduling algorithm can be ………………….

a. preemptive only
b. non-preemptive only
c. **either preemptive or non-preemptive**
d. none of these

9. The long-term scheduling algorithm most often makes use of the ………….. algorithm.

a. Priority Scheduling
b. **Shortest job first scheduling**
c. First come first served scheduling
d. Round robin scheduling

10. For a given set of processes, which scheduling algorithm provides the minimum average waiting time?

a. First come first served scheduling
b. Priority Scheduling
c. **Shortest job first scheduling**
d. Round robin scheduling

11. ………………… is an example of the shortest-remaining-time-first scheduling

a. Round Robin Scheduling
b. **Preemptive Shortest Job First (SJF) Scheduling**
c. Priority Scheduling
d. First-come, First Served scheduling

12. Which of the following statements is not TRUE with respect to the Shortest Job First Scheduling Algorithm.

a. **Shortest Job First algorithm is an example of the priority scheduling algorithm.**
b. Shortest Job First scheduling can be implemented at short term CPU scheduling
c. Non-preemptive Shortest Job First scheduling algorithm allows the currently running process to complete its CPU Burst time

d. The Preemptive Shortest Job First scheduling preempts the currently executing process.

13. Identify the incorrect statement out of the following.

a. When a process enters the ready queue, the Process Control Block is linked to the tail of the queue.
b. When a CPU is free, it is allocated to the process at the head of the queue.
c. **A salient example of the preemptive scheduling algorithm is the FCFS algorithm**
d. A FIFO queue is used for the FCFS policy

14. …………………… is an example of the priority scheduling algorithm

a. Round Robin Scheduling
b. **Shortest Job First (SJF) Scheduling**
c. First Come Last Served (FCLS) scheduling
d. First-come, First Served (FCFS) scheduling

15. The non-preemptive priority scheduling algorithm positions a process at the ……………….

a. tail of the ready queue
b. tail of the waiting queue
c. **head of the ready queue**
d. head of the waiting queue

16. A thread

A. is a lightweight process where the context switching is low.

B. is a lightweight process where the context switching is high.

C. is used to speed up paging.

D. none of the above.

17. Process is

A. program in High level language kept on disk

B. contents of main memory

C. a program in execution

D. a job in secondary memory

18. Fork is

A. the dispatching of a task

B. the creation of a new job

C. the creation of a new process

D. increasing the priority of a task

19. The components that process data are located in the:

A. input devices

B. output devices

C. system unit

D. storage component

20. System software is the set of programs that enables your computer's hardware devices and .... software to work together.

A. management

B. processing

C. utility

D. application

21. The number of processes completed per unit time are known as ....

Ans:- throughput

22. .... in the sum of periods spent waiting in the ready queue.

Ans:- Wating time

23. A .... process is one which is repeatedly executed once in each period.

Ans:- periodic

24. On-line scheduling algorithms does not compute a schedule in real-time as processesarrive.

A. True   B. False

25. Runnable state in a thread can be thought of as a default state.

A. True   B. False

UNIT 8

1. Identify the incorrect statement out of the following.

a. Process Synchronization coordinates the execution of processes such that no two processes can have access to the same shared data and resources.
b. Process Scheduling is a task that schedules processes of different states like ready, waiting, and running.
c. **Process scheduling allows OS to allocate a time interval of CPU execution for each process**
d. **None of the above**

2. Process synchronization facilitates in getting the maximum ……………

a. Response time
b. **Throughput**
c. Turnaround time
d. Waiting time

3. Maintaining data consistency requires…………………

a. **a mechanism to ensure the orderly execution of cooperating processes.**
b. allowing multiple processes to simultaneously access the shared data and resources.
c. prohibiting sharing of data
d. prohibiting sharing of resources

4. Identify the incorrect statement out of the following

a. The critical section is a code segment where the shared variables can be accessed.
b. An atomic action is required in a critical section
c. When a process is executing in the critical section, then only one additional process can execute in the critical section.
d. Race condition is a problem related to the critical section

5. Which of the following is not a condition to be satisfied for solving the critical section problem?

a. Mutual Exclusion
b. **Important assumptions related to hardware or speed**
c. Progress
d. Bounded waiting

6. To avoid the race condition, the number of processes that may be simultaneously inside their critical section is

    a. 8
    b. **1**
    c. 16
    d. 0

7. A critical region

    a. is a piece of code which only one process executes at a time
    b. is a region prone to deadlock
    c. is a piece of code which only a finite number of processes execute
    d. is found only in Windows NT operation system

8. .... abstracted the key notion of mutual exclusion in his concepts of semaphores.

    a. E.W. Dijkstra (1965)
    b. E.H. Dijkstra (1975)
    c. E.A. Dijkstra (1960)
    d. E.D. Dijkstra (1970)

9. Identify the incorrect statement with respect to the Race condition.

    a. A race condition is a situation that may occur inside a critical section
    b. This happens when the result of multiple thread execution in critical section differs according to the order in which the threads execute
    c. Race conditions in critical sections can be avoided if the critical section is treated as non-atomic instruction
    d. Proper thread synchronization using locks or atomic variables can prevent race condition

10. "No preemption" condition also known as ....

    a. Lockout
    b. Unlocking
    c. Atomic
    d. Logout

11. A counting semaphore is………………

    a. also known as mutex lock.
    b. initialized to 1.
    c. used to control access to a resource that has multiple instances

12. Binary Semaphores can assume only the value 0 or the value ....

a. **1**
b. 2
c. 3
d. 4

13. Which of the following is not a limitation of semaphores?

a. Priority inversion
b. Deadlocks may block indefinitely
c. OS has to keep track of all calls to wait and to signal the semaphore
d. **Resource Wastage**

14. Which of the following is not true regarding schedule?

a. Schedule is a series of operation from one transaction to another transaction.
b. It is used to preserve the order of the operation in each of the individual transaction.
c. **The schedules which have interleaving of operations are called serial schedules.**
d. Schedules can be serial, non-serial and serializable in nature

15. Serializable schedules are the ones where …………………….

a. **Concurrent execution of transactions is equivalent to the transactions executed serially**
b. Transactions can be carried out one after the other
c. A valid result occurs after execution transactions
d. None of the given choices

16. To avoid the race condition, the number of processes that may be simultaneously inside their critical section is

a. 8
b. **1**
c. 16
d. 0

17. A critical region

a. **is a piece of code which only one process executes at a time**
b. is a region prone to deadlock
c. is a piece of code which only a finite number of processes execute
d. is found only in Windows NT operation system

18. The solution to Critical Section Problem is: Mutual Exclusion, Progress and Bounded Waiting.

    a. The statement is false.
    b. The statement is true.
    c. The statement is contradictory.
    d. None of the above

19. .... are used in software systems in much the same way as they are in railwaysystems.
Ans:- Semaphores

20. Part of the programm where the shared memory is accessed is called the
....
Ans:- Critical Section

21. A .... is a software synchronization tool with high-level of abstraction thatprovides a convenient and effective mechanism for process synchronization?

Ans:- Monitor

22. To avoid the race condition, the number of processes that may be simultaneously inside
Ans:- one

23. Algorithms that avoid mutual exclusion are called ....
synchronizationalgorithms.
Ans:- non- blocking

24. .... processes share a common, fixed-size (bounded) buffer
Ans:- Two

25. When a process is executing in the critical section, then only one additional process can execute in the critical section.
A. True
B. False

26. The critical section is a code segment where the shared variables can be accessed.
A. True
B. False

UNIT 9

1. Which of the following helps us in identifying a deadlock condition?

    a. Starvation graph
    b. Resource allocation graph
    c. Inversion graph
    d. None of the given choices

2. In which of the following cases, a deadlock will occur for a system with a single resource

    a. If a single process is competing for a resource
    b. If only two processes are competing for that resource
    c. If two or more processes are competing for that resource
    d. None of the given choices

3. A process can be said to be in the ………. state, if it was waiting for an event that will never occur.

    a. safe
    b. unsafe
    c. starvation
    d. deadlock

4. Resource Allocation Graphs (RAGs) are .... labeled graphs.

    a. directed
    b. undirected
    c. directed and undirected
    d. weighted

5. A system has 3 processes sharing 4 resources. If each process needs a maximum of 2 units, then

    a. Deadlocks can never occur
    b. Deadlocks may occur
    c. Deadlock is for sure going to occur
    d. None of these

6. Algorithms that avoid mutual exclusion are called .... synchronization algorithms.

    a. blocking
    b. non-blocking
    c. restricting
    d. non-restricting

7. Which of the following is not true for the elimination of mutual exclusion?

    a. Mutual exclusion is not required for sharable resources
    b. It must hold for non-sharable resources
    c. It is not possible to dis-satisfy the mutual exclusion because some resources are inherently non-shareable
    d. Removing the mutual exclusion condition does not mean that no process will have exclusive access to a resource

8. Eliminating Hold and Wait requires that

    a. whenever a process requests a resource, it can hold any other resources.
    b. allow process to request resources only when the process has none.
    c. requires process to request and be allocated few of its resources before it begins execution
    d. all of the given choices

9. Which of the following conditions does not help in eliminating the Hold and Wait condition?

    a. The processes need to request all the resources they will need before embarking upon a particular set of operations
    b. A process needs to request all the resources only when it has none
    c. It must release all currently held resources before requesting all the resources they will need
    d. None of the given choices

10. The algorithms that allow preemption include………………

    A. lock-free algorithms

    B. wait-free algorithms

    C. locked-out algorithms

    D. optimistic concurrency control

a. A, B and C
b. **A, B and D**
c. B, C and D
d. A, B, C and D

11. Circular wait condition can be eliminated by which of the following?

A. imposing a total ordering of all the resource types such that each process can request a resource in an increasing order of enumeration.

B. using approaches that avoid circular waits include disabling interrupts during critical sections and using a hierarchy to determine a partial ordering of resources.

C. using Dijkstra's solution

a. **D. If no obvious hierarchy exists, the resources are requested in any order of the enumeration**

b. **A, B and C**
c. A, B and D
d. B, C and D
e. A, B, C and D

12. Identify the incorrect statement with respect to deadlock prevention and deadlock avoidance schemes?

a. **In deadlock prevention, if the resulting state is a safe state, then the request for resources is always granted**.
b. Deadlock avoidance requires knowledge of resource requirements as a priori.
c. In deadlock avoidance, if the resulting state is a safe state, then the request for resources is always granted.
d. Deadlock avoidance is less restrictive than deadlock prevention.

13. Which of the following is not true regarding the deadlock avoidance algorithms?

a. They dynamically examine the resource-allocation state to ensure that there can never be a circular-wait condition
b. It needs to have knowledge of the resource requirements in advance
c. It needs to have knowledge of the resource requirements in advance
d. **None of the given choices**

14. Identify the incorrect statement with respect to the *safe state* of the processes.

a. When a process requests an available resource, the system must decide if immediate allocation leaves the system in a safe state.
b. System is in safe state if there exists a safe sequence of all processes.
c. **Deadlocks can occur in the safe state**

d. A system is in the safe state if the system can allocate maximum possible required resources to each of the processes in a particular order and still avoid a deadlock

15. The Banker's algorithm is used to…………?

a. To detect a deadlock
b. To overcome/rectify a deadlocked state
c. **To prevent deadlocks**
d. None of the given choices

16. What should a detection algorithm do to recover from a deadlock?

a. Inform the operator about the deadlock and let him deal with this problem manually
b. Let the system recover from the deadlock automatically
c. Killing the processes one by one and checking if the circular wait condition has been broken
d. **All of the given choices**

17. Which of the following is true regarding recovery from a deadlock using multiple instanced detection?

a. If a cycle is being formed in the system then there will definitely be a deadlock
b. **Detecting a cycle formation in the system is not just sufficient to detect a deadlock.**
c. The allocation matrix and request matrix need to be converted to a resource allocation graph for applying the safety algorithm
d. None of the given choices

18. While recovering from a deadlock, the order of process termination is decided by……………

a. Priority of the process
b. Checking if the process is interactive or batch in nature
c. How long the process has computed and how long is it going to take to complete
d. **Randomly selective the victim process**

19 …………………….. involves the orderly sharing of system resources by processes.
Ans:- Synchronization

20. ………………….. are used in software systems in much the same way as they are in railway systems.
Ans:- Semaphores

21. Part of the program where the shared memory is accessed is called the …………………….
Ans:- Critical Section

22. A .... is a software synchronization tool with high-level of abstraction that provides a convenient and effective mechanism for process synchronization?
Ans:- Monitor

23. Resource Allocation Graphs (RAGs) are .... labeled graphs.
Ans:- directed

24. Algorithms that avoid mutual exclusion are called .... synchronization algorithms.
Ans:- non-blocking

25. .... abstracted the key notion of mutual exclusion in his concepts of semaphores.
Ans:- E.W. Dijkstra (1965)

26. "No preemption" condition also known as ....
Ans:- lockout

27. .... processes share a common, fixed-size (bounded) buffer.

Ans:- Two

28. A process can be said to be in the deadlock state, if it was waiting for an event that will never occur.
A. True
B. False

29. Algorithms that avoid mutual exclusion are called non-blocking synchronization algorithms.
A. True
B. False

1. Primary memory stores ....

   a. Data alone
   b. Programs alone
   c. Results alone
   d. All of these

2. Memory is made up of ....

   a. Set of wires
   b. Set of circuits
   c. Large number of cells
   d. All of these

3. The principal of locality of reference justifies the use of

   a. re-enterable
   b. non-reusable
   c. virtual memory
   d. cache memory

4. Identify the incorrect statement with respect to the Logical Address Space.

   a. Logical Address is generated by CPU while a program is not running.
   b. The logical address is virtual address as it does not exist physically, therefore, it is also known as Virtual Address.
   c. The logical address is used as a reference to access the physical memory location by CPU.
   d. The Logical Address Space is used for the set of all logical addresses generated by a program's perspective.

5. In the Physical Address Space, ………………..

   a. The Physical Address identifies a physical location of required data in a memory
   b. The user directly deals with the physical address but can access by its corresponding logical address
   c. The user program generates the physical address and thinks that the program is running in this physical address but the program needs logical memory for its execution.
   d. The logical address must be mapped to the physical address by MMU only after they are used.

6. Which of the following is not a partition allocation method used in contiguous memory allocations?

    a. Best Fit
    b. Average Fit
    c. Worst Fit
    d. First Fit

7. Logical address _____?

    a. refers to a location in the memory unit
    b. is an address generated by the CPU during execution
    c. is the address into the address register of the memory
    d. is a location that is loaded into memory.

8. In address binding, the _____address undergoes translation by the _____

    a. Physical, memory management unit
    b. Logical, address translation unit
    c. Physical, address translation unit
    d. Logical, physical address

9. Address binding cannot be done in which of the following ways?

    a. Compile time
    b. Load time
    c. Execute time
    d. Binding time

10. When is an absolute address generated during address binding at compile time?

    a. Every time
    b. If we know that during compile time, where the process is going to reside in memory
    c. If it is known at execution time, where the process is going to reside in the memory
    d. It is never generated at compile time

11. Which of the following does not happen if the generated address space is preoccupied by other process?

    a. The program crashes
    b. It becomes necessary to recompile the program to change the address space.
    c. Recompiling is not required as the address space cannot be overwritten.
    d. All of the given choices

12. In address Binding at Load Time, if the base address of the process changes, then_____

  a. We need to recompile the program again.
  b. **We need to reload the process again**
  c. Instructions are in memory and are being processed by the CPU
  d. Compaction may be used

13. Which of the following is not true regarding linking?

  a. It intakes the object codes generated by the assembler
  b. It combines the object codes to generate the executable module.
  c. **It loads the executable module to the main memory for execution.**
  d. It establishing the linking between all the modules or all the functions of the program.

14. Bringing the program from the secondary memory to the main memory is known as ....

  a. **Loading**
  b. Linking
  c. Compiling
  d. Executing

15. Which of the following is true regarding static loading?

  a. It loads the program into the main memory when required
  b. **Loads the entire program into main memory before start of the program execution**
  c. It is performed at run time by the operating system.
  d. It leads to slow program execution.

16. In dynamic linking load time might be reduced if_____

  a. **The shared library code is already present in memory**.
  b. If we recompile the program
  c. If we relink the program
  d. If we recompile and relink again

17. ._____is an address generated by the CPU during execution

Ans:- Logical address

18.The process of bringing the program from the secondary memory to the main memory is known as _____ Ans:- Loading

19._____ loads the entire program into main memory before start of the program execution Ans:- <mark>Static loading</mark>

20.In _____linking load time might be reduced if the shared library code is already present in memory. <mark>Ans:-Dynamic</mark>

21.In the Physical Address Space, the Physical Address identifies a _____ of required data in a memory. Ans:- <mark>physical location</mark>

22.Static loading loads the program into the main memory when required.

A. True

<mark>**B. False**</mark>

23.Dynamic loading leads to slow program execution.

<mark>**A. True**</mark>

B. False

24. In Physical Address Space, the user directly deals with the physical address but can access by its corresponding logical address.

A. True

<mark>**B. False**</mark>

25. In the concept of locality of reference, the page reference being made by a process _____.

A. will always be to the page used in the previous page reference.

<mark>**B. is likely to be, to one of the pages used in the last few page references.**</mark>

C. will always be to one of the pages existing in memory.

D. will always lead to a Page fault.

26. The load time might be reduced in case of dynamic linking if_____

<mark>**A. The shared library code is already present in memory.**</mark>

B. If we recompile the program

C. If we relink the program

D. If we recompile and relink again

1. The main problem in Fixed partitioning is _____

   a. **the size of a process has to be limited by the maximum size of the partition**
   b. the size of process is independent of the maximum size of the partition
   c. the size of the process is fixed
   d. none of the given choices

2. The concept of overlays is that whenever a process is running _____

   a. it will use the complete program at the same time
   b. **it will not use the complete program at the same time**
   c. it may or may not use the complete program at the same time
   d. none of the given choices

3. Which of the following is not true with respect to overlays?

   a. Whenever a process is running, it will use only a part of the program.
   b. The overlays concept says that whatever part you required, you load it.
   c. Once a part of the program is done, it is pulled back and a new required part is run.
   d. **The size of a process has to be limited by the maximum size of the partition**

4. Identify the incorrect statement out of the following.

   a. Overlays is a technique to run a program that is bigger than the size of physical memory
   b. Overlays keeps only those instructions and data that are needed at any given time.
   c. Overlays divide the program into modules
   d. **In overlays all modules need to be in the memory at the same time.**

5. The technique of swapping out a lower priority process to execute the higher priority process on its arrival and swapping back in the low priority process and continue execution is sometimes called_____?

   a. priority swapping
   b. pull out, push in
   c. **roll out, roll in**
   d. none of the mentioned

6. Identify the incorrect statement out of the following.

a. Purpose of the swapping is to access the data present in the hard disk and bring it to RAM
b. **Swapping does not involve moving a process back from the secondary storage to main memory.**
c. Swapping is used to improve main memory utilization.
d. Swapping helps to run larger and more than one processes.

7. Let there be a user process of size 4096 Kb, which is getting transferred at a data rate of 1024 kbps. The total time required to swap the process would be _____

a. 2048 milli seconds
b. **4000 milli seconds**
c. 8000 milli seconds
d. 4096 milli seconds

8. The total time taken by swapping process includes _____

a. the time required to move the entire process to a secondary disk
b. the time required to copy the process back to memory
c. the time the process takes to regain main memory.
d. **All of the given choices**

9. Identify the incorrect statement regarding memory allocation.

a. It is a process of reserving a partial or complete portion of computer memory for the execution of programs and processes.
b. It is a process by which computer programs and services are assigned with physical or virtual memory space.
c. It is achieved through a process known as memory management
d. **None of the given choices**

10. The contiguous memory allocation is the one in which_____

a. **every process is contained in a single contiguous section of memory**
b. all processes are contained in a single contiguous section of memory
c. the memory space is contiguous
d. none of the mentioned

11. What is the main purpose of the relocation register?

a. To provide more address space to processes
b. To provide a different address space to processes
c. **To protect the address spaces of processes**
d. None of the mentioned

12. What is the Best-Fit approach in the Dynamic Storage-Allocation Problem?

a. Allocate the first hole that is big enough
b. **Allocate the smallest hole that is big enough**
c. Allocate the largest hole that is big enough
d. None of the given choices

13. Which of the following is not a partition allocation method used in contiguous memory allocations?

a. Best Fit
b. **Average Fit**
c. Worst Fit
d. First Fit

14. Which of the following is true regarding External Fragmentation?

a. The allocated memory may be slightly larger than requested memory
b. **The total memory space exists to satisfy a request, but it is not contiguous.**
c. Both of the given choices
d. None of the given choices

15. Which of the following is not true regarding reducing external fragmentation by compaction?

a. Shuffle memory contents to place all free memory together in one large block.
b. Compaction is possible only if relocation is dynamic, and is done at execution time.
c. **It is a technique for overcoming fatal error**
d. None of the given choices

16. Which of the following statements is true with respect to paging?

A. Paging caused memory overheads
B. It solves the issue of external fragmentation
C. Page size has no impact on internal fragmentation

a. A is correct
b. B is correct
c. **A and B are correct**
d. A and C are correct

17. Identify the correct statements out of the following?

a. A small page may lead to small page tables.
b. **Internal fragmentation is increased with small pages**
c. I/O transfers are more efficient with larger pages.

d. None of the given choices

1 In the concept of _____, whenever a process is running, it will not use the complete program at the same time
　　Ans:- overlays

2. The place in memory where an overlay is loaded is called a _____region.
　　Ans:- destination

3. The method assumes dividing a program into self-contained object code blocks called _____ Ans:- Overlays

4. In _____ memory allocation method the memory manager places a process in the largest block of unallocated memory available.
　　Ans:- worst fit

5. Belady's Optimal Algorithm is also known as _____
　　Ans:- perfect prediction

6. The Best-Fit approach in the Dynamic Storage-Allocation Problem allocate the smallest hole that is big enough.
A. True
B. False

7. The main problem in Fixed partitioning is that the size of process is independent of the maximum size of the partition.
A. True
B. False

8. In the concept of overlays, once a part of the program is done with the execution, it is pulled back and a new required part is run.
A. True   B. False

9. Purpose of the swapping is to access the data present in the hard disk and bring it to RAM.
A. True
B. False

10. Program counter (PC) contains
A. Address of an instruction to be fetched
B. Instructions most recently fetched
C. Data to be written into memory
D. Data to be read from memory

11. To move a program from fast-access memory to a slow-access memory is known as _____

A. Swap-in

B. Swap-out

C. Memory reallocation

D. None of the given choices

12. The process of translating virtual addresses into real addresses is called ....

A. Mapping

B. Loading

C. Linking

D. None of the above

13. .... happens when a hard drive has to move its heads over the swap area many times due to the high number of page faults.

A. Thrashing

B. Spooling

C. Mapping

D. None of the given choices

14. Thecontiguous memory allocation is the one in which_____

A. every process is contained in a single contiguous section of memory

B. all processes are contained in a single contiguous section of memory

C. the memory space is contiguous

D. none of the mentioned

1. Under which of the following conditions will a page fault occur?

   a. When a page is giving inconsistent data
   b. When a page is not available in memory and cannot be accessed
   c. Actual physical memory is much larger than the virtual memory
   d. None of the given choices

2. What will happen if a process begins execution with no pages in memory?

   a. The execution of the process becomes impossible
   b. For every page brought into memory, a page fault will occur
   c. The process causes the system to crash
   d. None of the given choices

3. The page replacement algorithm with the lowest fault rate is_____

   a. Optimal page replacement algorithm
   b. LRU replacement algorithm
   c. FIFO
   d. Counting based

4. In an optimal page replacement algorithm, when a page is to be replaced, which of the following pages is chosen?

   a. Oldest page
   b. Newest page
   c. Frequently occurring page in the future
   d. Not frequently occurring page in the future

5. Given a reference string 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1 having a frame size of '3'. Calculate the number of page faults using optimal page replacement algorithm.

   a. 10
   b. 9
   c. 8
   d. 7

6. Which of the following is not true regarding the frame allocation algorithms.

   a. Frame allocation algorithms are used if you have multiple processes
   b. It helps decide how many frames to allocate to each process
   c. We can allocate more than the total number of available frames.

d. None of the given choices

7. At least a minimum number of frames should be allocated to each process because_____

      A. as a less number of frames are allocated, there is an increase in the page fault ratio, decreasing the performance of the execution of the process.

      B. there should be enough frames to hold all the pages that any single instruction can reference.

      C. a less number of frames for allocation, leads to a less number of page faults

  a. **A and B are correct**
  b. A and C are correct
  c. B and C are correct
  d. A, B and C are correct

8. Which of the following algorithms is commonly not used to allocate frames to a process?

  a. Equal allocation algorithm
  b. Proportional allocation algorithm
  c. **Final allocation algorithm**
  d. None of the given choices

9. Which of the following is an advantage of the Equal allocation method?

  a. **In systems with processes of varying sizes, it does not make much sense to give each process equal frames.**
  b. All the processes share the available frames according to their needs, rather than equally
  c. Allocation of a large number of frames to a small process
  d. None of the above

10. Which of the following is not a cause of thrashing?

  a. Thrashing occurs when a computer's virtual memory resources are overused
  b. Thrashing leads to a constant state of paging and page faults
  c. Thrashing inhibits most application-level processing
  d. **It enhances the performance of the computer**

11. Which of the following conditions do not end the problems arising due to thrashing?

a. When the user closes some running applications
b. When the active processes free up additional virtual memory resources
c. Making use of a working Set
d. **None of the given choices**

12. Which of the following is not a cause of thrashing?

a. Thrashing occurs when a computer's virtual memory resources are overused
b. Thrashing leads to a constant state of paging and page faults
c. If a process spends a lot of time paging than executing
d. **If a process has no memory allocated to it**

13. Thrashing _____ the CPU utilization.

a. increases
b. keeps constant
c. **decreases**
d. none of the mentioned

14. Which of the following is not true regarding the Working-Set model?

a. It is a collection of memory-resident pages a process is using actively
b. If the sum of all working sets of all runnable threads exceeds the size of memory, then some of the threads should be stopped from running for a while.
c. **When a working set changes, the balance set does not require any adjustment.**
d. The working set model was proposed by Peter Denning to prevent thrashing

15. Find the incorrect statement out of the following.

a. When a process is active its entire working set must always be in memory
b. Threads from inactive processes are never scheduled for execution.
c. The system must have a mechanism for gradually moving processes into and out of the balance set.
d. **When a process becomes inactive, its working set can not migrate to disk.**
ebook

1. The algorithm in which we split m frames among n processes, to give everyone an equal share, m/n frames is known as _____
Ans:- equal allocation algorithm

3. A program is generally composed of several different localities, which _____ overlap.
Ans:- May

4. A page fault occurs when a page is not available in memory and cannot be accessed.
A. True
B. False

5. At least a minimum number of frames should be allocated to each process because a lesser number of frames for allocation, leads to a less number of page faults
A. True
B. False

6. Thrashing leads to a constant state of paging and page faults
A. True
B. False

7. When a process becomes inactive, its working set cannot migrate to disk.
A. True
B. False

8. Thrashing
A. reduces page I/O
B. decreases the degree of multiprogramming
C. implies excessive page I/O
D. improves the system performance

9. Dirty bit for a page in a page table
A. helps avoid unnecessary writes on a paging device
B. helps maintain LRU information
C. allows only read on a page
D. none of the above

12. With either equal or proportional algorithm, a high priority process is treated _____ a low priority process.
A. greater than
B. same as
C. lesser than
D. none of the mentioned

13. The working set model is used in memory management to implement the concept of____?
A. Thrashing
B. segmentation
C. principle of locality
 D. paging

14. in which of the following conditions can we say that a process is thrashing?

A. If it spends a lot of time executing, rather than paging

B. If it spends a lot of time paging than executing

C. If it has no memory allocated to it

D. None of the mentioned

15. By locality we mean_____?

A. a set of pages that are actively used together

B. a space in memory

C. an area near a set of processes

D. none of the mentioned

1. The _____ principle states that programs, users and even the systems be given just enough privileges to perform their task.

    a. principle of operating system
    b. principle of least privilege
    c. principle of process scheduling
    d. none of the mentioned

2. Which of the following is an approach to restricting system access to authorized users.

    a. Role-based access control
    b. Process-based access control
    c. Job-based access control
    d. None of the mentioned

3. Which of the following are contained in the protection domain of a process

    a. object name
    b. rights-set
    c. both object name and rights-set
    d. none of the mentioned

4. What does MULTICS stand for?

    a. Multiplexed information and computing service
    b. Multiplexed information and code service
    c. Multiplexed inter-access code service
    d. Multiplexed inter-code sensor

5. Unless we write data within a _____, it cannot be written to a secondary storage.

    a. file
    b. swap space
    c. directory
    d. text format

6. File attributes consist of which of the following

    a. name
    b. type
    c. identifier
    d. all of the mentioned

7. Contiguous allocation of a file is defined by _____

    a. disk address of the first block & length
    b. length & size of the block
    c. size of the block
    d. total size of the file

8. Which of the following is true regarding linked allocation?

    a. In linked allocation each file must occupy a set of contiguous blocks on the disk
    b. In linked allocation each file is a linked list of disk blocks
    c. In linked allocation all the pointers to scattered blocks are placed together in one location
    d. None of the given choices

9. Which of the following is true regarding indexed allocation?

    a. In indexed allocation, each file must occupy a set of contiguous blocks on the disk
    b. In indexed allocation, each file is a linked list of disk blocks
    c. In indexed allocation, all pointers to scattered blocks are placed together in one location
    d. None of the mentioned

10. In which method, a filed-length logical record exists that allows the program to read and write record rapidly in no particular order?

    a. Sequential access
    b. Direct access
    c. Indexed sequential access
    d. None of the given choices

11. Which of the following techniques always reads or writes a large block of data, which contains several file records, from or to the I/O medium?

    a. Buffering of records
    b. Blocking of records
    c. Buffering and blocking of records
    d. None of the above.

12. Which of the following is true with respect to the right-set?

    a. Right set is a subset consist of read and write
    b. Right set is a subset of all valid operations that can be performed on the object
    c. Right set is a subset consist of read, write and execute
    d. None of the given choices

13. Which of the following is a correct representation of the access matrix?

a. **Rows-Domains, Columns-Objects**
b. Rows-Objects, Columns-Domains
c. Rows-Access List, Columns-Domains
d. Rows-Domains, Columns-Access list

14. A Domain may be defined as a _____

a. set of all objects
b. collection of protection policies
c. **set of access-rights**
d. None of the mentioned

15. Who can add new rights and remove some rights?

a. copy
b. transfer
c. limited copy
d. **owner**

1. Shareable files are those that can be accessed .... and by ....
Ans:- **locally, remote hosts**

**2. Three major methods of allocating disk space are ...., ...
and.........................**
Ans:- **contiguous, linked, and indexed**

3. The difficulty with contiguous allocation is .... for a new file.
Ans:- **finding space**

4. There is no external fragmentation with .... allocation.
Ans:- **linked**

5. FAT stands for .... Ans:- File allocation table
6. NTFS stands for .... Ans:- NT File system
7. Direct access is based on a .... of a file. Ans:- disk model
8. .... files support both formatted and unformatted record types.
Ans:- **direct- acceess**

**9. A .... system is a file system designed for storing files on flash
memorydevices.**

Ans:- **flash file**

10. A .... is a collection of letters, numbers and special characters.
Ans:- **file**

UNIT 14

1. The set of tracks that are at one arm position make up a _____

    a. magnetic disks
    b. electrical disks
    c. assemblies
    d. cylinders

2. The time taken for the desired sector to rotate to the disk head is called _____

    a. positioning time
    b. random access time
    c. seek time
    d. rotational latency

3. Whenever a process needs I/O to or from a disk it issues a _____

    a. system call to the CPU
    b. system call to the operating system
    c. a special procedure
    d. all of the mentioned

4. The set of tracks that are at one arm position make up a _____

    a. magnetic disks
    b. electrical disks
    c. assemblies
    d. cylinders

5. Consider a disk queue with requests for I/O to blocks on cylinders.
98 183 37 122 14 124 65 67

Considering FCFS (first cum first served) scheduling, the total number of head movements is, if the disk head is initially at 53 is?

    a. 600
    b. 620
    c. 630
    d. 640

6. SSTF algorithm, like SJF _____ of some requests.

   a. may cause starvation
   b. will cause starvation
   c. does not cause starvation
   d. causes aging

7. In the _____ algorithm, the disk arm starts at one end of the disk and moves toward the other end, servicing requests till the other end of the disk. At the other end, the direction is reversed and servicing continues.

   a. LOOK
   b. SCAN
   c. C-SCAN
   d. C-LOOK

8. In the _____ algorithm, the disk arm goes as far as the final request in each direction, then reverses direction immediately without going to the end of the disk.

   a. LOOK
   b. SCAN
   c. C-SCAN
   d. C-LOOK

9. The two steps the operating system takes to use a disk to hold its files are _____ and _____

   a. partitioning & logical formatting
   b. swap space creation & caching
   c. caching & logical formatting
   d. logical formatting & swap space creation

10. _____is the time taken in locating the disk arm to a specified track where the read/write request will be satisfied.

   a. Latency time
   b. Seek time
   c. Disk response time
   d. Disk access time

11. Which of the following is not a main goal of Disk Scheduling Algorithms?

   a. Fairness
   b. High throughout
   c. Minimal traveling head time
   d. Maximizing response time

12. Which of the following algorithm performs better for systems that place a heavy load on the disk.

    a. FCFS
    b. SSTF
    c. LOOK
    d. SCAN

13. Consider the following set of processes, the length of the CPU burst time given in milliseconds.

Process	Burst Time
P1	6
P2	8
P3	7
P4	3

Assuming the above process being scheduled with the SJF scheduling algorithm.

    a. The waiting time for process P1 is 3ms
    b. The waiting time for process P1 is 0ms
    c. The waiting time for process P1 is 16ms
    d. The waiting time for process P1 is 9ms

14. Which of the following is not a disadvantages of the priority scheduling algorithm?

    a. It schedules in a very complex manner
    b. Its scheduling takes up a lot of time
    c. It can lead to some low priority process waiting indefinitely for the CPU
    d. None of the mentioned

15. Which is the best scheduling algorithms in terms of the minimum average waiting time?

    a. FCFS
    b. SJF
    c. Round – robin
    d. Priority

<div align="center">EBOOK</div>

1. An online backing storage system capable of storing larger quantities of data is
A. CPU
B. Memory
C. Mass storage
D. Secondary storage

2. Which is an item of storage medium in the form of circular plate?
A. Disk
B. CPU
C. Printer
D. ALU

3. Which of the following disk scheduling techniques has a drawback of starvation? Notes
A. SCAN
B. SST
C. FCFS
D. LIFO

4. The total time to prepare a disk drive mechanism for a block of data to be read from is its
A. latency
B. latency plus transmission time
C. latency plus seek time
D. latency plus seek time plus transmission time

5. Which among the following are the best tools for fixing errors on disks?
A. Fdisk
B. Scandisk
C. Chkdsk
D. Fixdsk

6. Which command can be used to create the disk's tracks and sectors?
A. Fdisk
B. Format
C. Chkdsk
D. Attrib

7. Which command is used to create root directory and FAT on disk?
A. Chkdsk
B. Command.com
C. Format
D. Fat

8. .... is a technique of temporarily removing inactive programs from the memory of computer system.
A. Swapping
B. Spooling
C. Semaphore
 D. Scheduler

11. Low-level formatting fill the .... with a special data structure for each sector.
<mark>Ans:- Disk</mark>

12. System memory used for swap-space is called .... space.
<mark>Ans:- pseudo- swap</mark>

13. If multiple devices have the same priority, swap-space is allocated from the devices in a .... fashion.
<mark>Ans:- round- robin</mark>

14. The set of tracks that are at one arm position make up a _____
<mark>Ans:- Cylinders</mark>

15. The time taken for the desired sector to rotate to the disk head is called _____
<mark>Ans:- rotational latency</mark>