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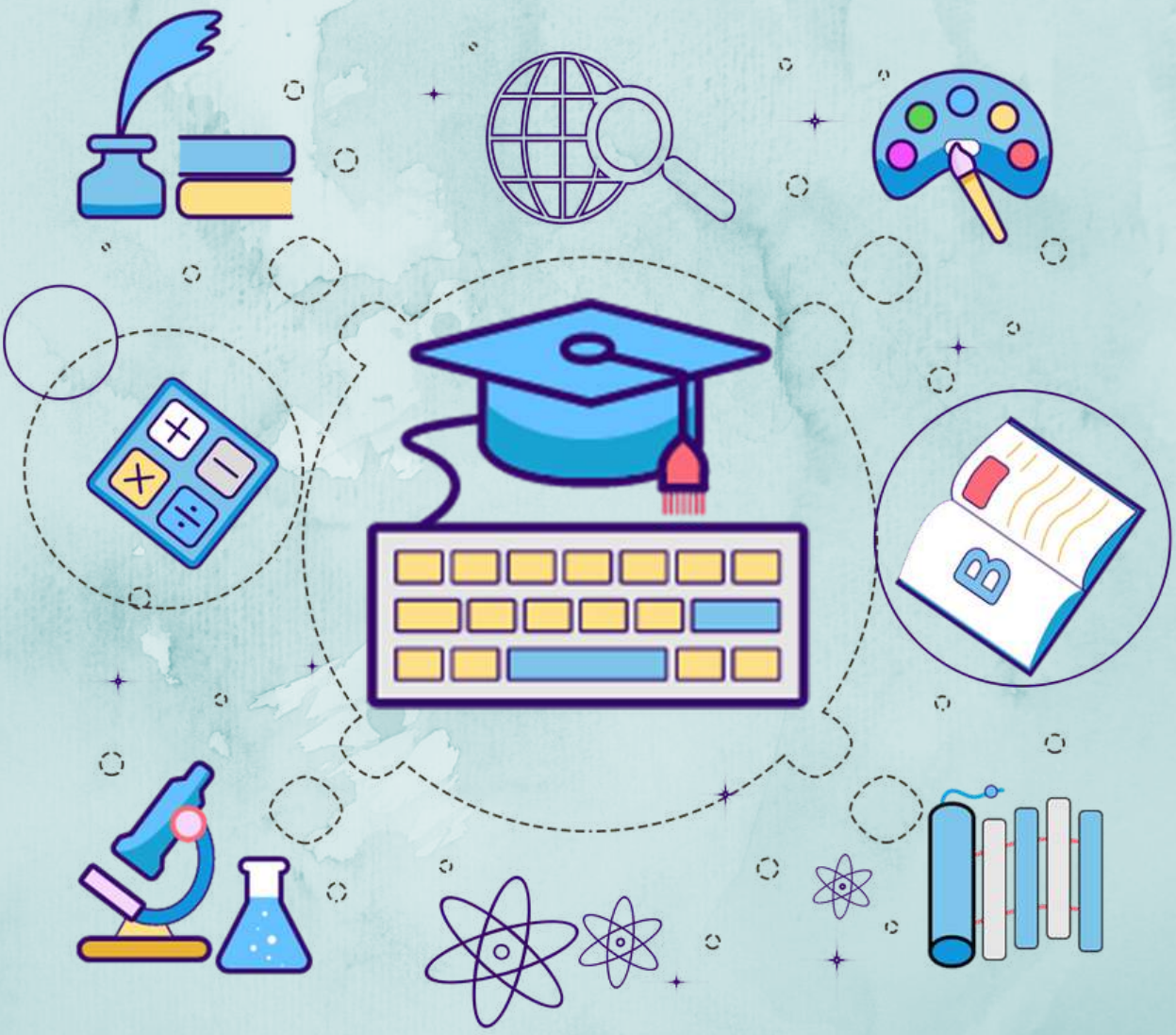

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Comprehensive Course Work Sample Questions
Operating System

OPERATING SYSTEM(SET 1)

1.The systems which allow only one process execution at a time, are called _____
a) uniprogramming systems
b) uniprocessing systems
c) unitasking systems
d) none of the mentioned

ANS: b

2. 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

ANS : d

3. In Unix, Which system call creates the new process?
a) fork
b) create
c) new
d) none of the mentioned

ANS: a

4.A process can be terminated due to _____
a) normal exit
b) fatal error
c) killed by another process
d) all of the mentioned

Ans:d

5. 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

Ans : a

6.What is interprocess communication?
a) communication within the process
b) communication between two process

c) communication between two threads of same process
d) none of the mentioned

Ans:b

7.A set of processes is deadlock if _____
a) each process is blocked and will remain so forever
b) each process is terminated
c) all processes are trying to kill each other
d) none of the mentioned

Ans: a

8.A process stack does not contain _____
a) Function parameters
b) Local variables
c) Return addresses
d) PID of child process

Ans : d

9.Which system call can be used by a parent process to determine the termination of child process?
a) wait
b) exit
c) fork
d) get

Ans: a

10.The address of the next instruction to be executed by the current process is provided by the _____
a) CPU registers
b) Program counter
c) Process stack
d) Pipe

Ans : b

11.A Process Control Block(PCB) does not contain which of the following?
a) Code
b) Stack
c) Bootstrap program
d) Data

Ans: c

12.The number of processes completed per unit time is known as _____
a) Output
b) Throughput
c) Efficiency
d) Capacity

Ans : b

13.The state of a process is defined by _____
a) the final activity of the process
b) the activity just executed by the process
c) the activity to next be executed by the process
d) the current activity of the process

Ans : d

14.Which of the following is not the state of a process?
a) New
b) Old
c) Waiting
d) Running

Ans: b

5.What is a Process Control Block?
a) Process type variable
b) Data Structure
c) A secondary storage section
d) A Block in memory

Ans : b

16.The entry of all the PCBs of the current processes is in _____
a) Process Register
b) Program Counter
c) Process Table
d) Process Unit

Ans : c

17.What is the degree of multiprogramming?
a) the number of processes executed per unit time
b) the number of processes in the ready queue
c) the number of processes in the I/O queue
d) the number of processes in memory

Ans : d

18.A single thread of control allows the process to perform _____
a) only one task at a time
b) multiple tasks at a time
c) only two tasks at a time
d) all of the mentioned

Ans : a

19.What is the objective of multiprogramming?
a) Have a process running at all time
b) Have multiple programs waiting in a queue ready to run
c) To increase CPU utilization
d) None of the mentioned

Ans :c

20.Which of the following do not belong to queues for processes?
a) Job Queue
b) PCB queue
c) Device Queue
d) Ready Queue

Ans : b

21.When the process issues an I/O request _____
a) It is placed in an I/O queue
b) It is placed in a waiting queue
c) It is placed in the ready queue
d) It is placed in the Job queue

Ans : a

22.What will happen when a process terminates?
a) It is removed from all queues
b) It is removed from all, but the job queue
c) Its process control block is de-allocated
d) Its process control block is never de-allocated

Ans : a

23.What is a long-term scheduler?
a) It selects processes which have to be brought into the ready queue
b) It selects processes which have to be executed next and allocates CPU
c) It selects processes which heave to remove from memory by swapping
d) None of the mentioned

Ans: a

24. If all processes I/O bound, the ready queue will almost always be _____ and the Short term Scheduler will have a _____ to do.
a) full, little
b) full, lot
c) empty, little
d) empty, lot

Ans: c

25.What is a medium-term scheduler?
a) It selects which process has to be brought into the ready queue
b) It selects which process has to be executed next and allocates CPU
c) It selects which process to remove from memory by swapping
d) None of the mentioned

Ans : c

26.What is a short-term scheduler?
a) It selects which process has to be brought into the ready queue
b) It selects which process has to be executed next and allocates CPU
c) It selects which process to remove from memory by swapping
d) None of the mentioned

Ans: b

27.The primary distinction between the short term scheduler and the long term scheduler is _____
a) The length of their queues
b) The type of processes they schedule
c) The frequency of their execution
d) None of the mentioned

Ans : c

28.The only state transition that is initiated by the user process itself is _____
a) block
b) wakeup
c) dispatch
d) none of the mentioned

Ans: a

29.In a time-sharing operating system, when the time slot given to a process is completed, the process goes from the running state to the _____
a) Blocked state
b) Ready state
c) Suspended state
d) Terminated state

Ans:b

30. In a multiprogramming environment _____
a) the processor executes more than one process at a time
b) the programs are developed by more than one person
c) more than one process resides in the memory
d) a single user can execute many programs at the same time

Ans : c

31.Suppose that a process is in “Blocked” state waiting for some I/O service. When the service is completed, it goes to the _____
a) Running state
b) Ready state

c) Suspended state
d) Terminated state

Ans: b

32.The context of a process in the PCB of a process does not contain _____
a) the value of the CPU registers
b) the process state
c) memory-management information
d) context switch time

Ans: d

33. Which of the following need not necessarily be saved on a context switch between processes?
a) General purpose registers
b) Translation lookaside buffer
c) Program counter
d) All of the mentioned

Ans: b

34.Which of the following does not interrupt a running process?
a) A device
b) Timer
c) Scheduler process
d) Power failure

Ans: c

OPERATING SYSTEM (SET 2)

1.Which process can be affected by other processes executing in the system?
a) cooperating process
b) child process
c) parent process
d) init process

Ans: a

2.When several processes access the same data concurrently and the outcome of the execution depends on the particular order in which the access takes place is called _____
a) dynamic condition
b) race condition
c) essential condition
d) critical condition

Ans:b

3.If a process is executing in its critical section, then no other processes can be executing in their critical section. What is this condition called?
a) mutual exclusion
b) critical exclusion
c) synchronous exclusion
d) asynchronous exclusion

Ans: a

4. Which one of the following is a synchronization tool?
a) thread
b) pipe
c) semaphore
d) socket

Ans: c

5.A semaphore is a shared integer variable _____
a) that can not drop below zero
b) that can not be more than zero
c) that can not drop below one
d) that can not be more than one

Ans: a

6.Mutual exclusion can be provided by the _____
a) mutex locks
b) binary semaphores

c) both mutex locks and binary semaphores
d) none of the mentioned

Ans: c

7.When high priority task is indirectly preempted by medium priority task effectively inverting the relative priority of the two tasks, the scenario is called _____
a) priority inversion
b) priority removal
c) priority exchange
d) priority modification

Ans: a

8.Process synchronization can be done on _____
a) hardware level
b) software level
c) both hardware and software level
d) none of the mentioned

Ans: c

9.A monitor is a module that encapsulates _____
a) shared data structures
b) procedures that operate on shared data structure
c) synchronization between concurrent procedure invocation
d) all of the mentioned

Ans: d

10.To enable a process to wait within the monitor _____
a) a condition variable must be declared as condition
b) condition variables must be used as boolean objects
c) semaphore must be used
d) all of the mentioned

Ans: a

1.Restricting the child process to a subset of the parent's resources prevents any process from _____
a) overloading the system by using a lot of secondary storage
b) under-loading the system by very less CPU utilization
c) overloading the system by creating a lot of sub-processes
d) crashing the system by utilizing multiple resources

Ans: c

12.A parent process calling _____ system call will be suspended until children processes terminate.
a) wait
b) fork
c) exit
d) exec

Ans: a

13.Cascading termination refers to termination of all child processes if the parent process terminates _____
a) Normally
b) Abnormally
c) Normally or abnormally
d) None of the mentioned

Ans: c

14.With _____ only one process can execute at a time; meanwhile all other process are waiting for the processor. With _____ more than one process can be running simultaneously each on a different processor.
a) Multiprocessing, Multiprogramming
b) Multiprogramming, Uniprocessing
c) Multiprogramming, Multiprocessing
d) Uniprogramming, Multiprocessing

Ans : d

15. In UNIX, each process is identified by its _____
a) Process Control Block
b) Device Queue
c) Process Identifier
d) None of the mentioned

Ans: c

16. In UNIX, the return value for the fork system call is _____ for the child process and _____ for the parent process.
a) A Negative integer, Zero
b) Zero, A Negative integer
c) Zero, A nonzero integer
d) A nonzero integer, Zero

Ans: c

17.The child process can _____
a) be a duplicate of the parent process

b) never be a duplicate of the parent process
c) cannot have another program loaded into it
d) never have another program loaded into it

Ans: a

18.The child process completes execution, but the parent keeps executing, then the child process is known as _____
a) Orphan
b) Zombie
c) Body
d) Dead

Ans: b

19.What is Interprocess communication?
a) allows processes to communicate and synchronize their actions when using the same address space
b) allows processes to communicate and synchronize their actions
c) allows the processes to only synchronize their actions without communication
d) none of the mentioned

Ans: b

20.Message passing system allows processes to _____
a) communicate with each other without sharing the same address space
b) communicate with one another by resorting to shared data
c) share data
d) name the recipient or sender of the message

Ans: a

21.Which of the following two operations are provided by the IPC facility?
a) write & delete message
b) delete & receive message
c) send & delete message
d) receive & send message

Ans: d

22.Messages sent by a process _____
a) have to be of a fixed size
b) have to be a variable size
c) can be fixed or variable sized
d) none of the mentioned

Ans: c

23.The link between two processes P and Q to send and receive messages is called _____

a) communication link
b) message-passing link
c) synchronization link
d) all of the mentioned

Ans: a

24. Which of the following are TRUE for direct communication?
a) A communication link can be associated with N number of process(N = max. number of processes supported by system)
b) A communication link is associated with exactly two processes
c) Exactly N/2 links exist between each pair of processes(N = max. number of processes supported by system)
d) Exactly two link exists between each pair of processes

Ans:b

25.In indirect communication between processes P and Q _____

a) there is another process R to handle and pass on the messages between P and Q
b) there is another machine between the two processes to help communication
c) there is a mailbox to help communication between P and Q
d) none of the mentioned

Ans: c

26.In the non blocking send _____

a) the sending process keeps sending until the message is received
b) the sending process sends the message and resumes operation
c) the sending process keeps sending until it receives a message
d) none of the mentioned

Ans: b

27. In the Zero capacity queue _____

a) the queue can store at least one message
b) the sender blocks until the receiver receives the message
c) the sender keeps sending and the messages don’t wait in the queue
d) none of the mentioned

Ans:b

28.The Zero Capacity queue _____
a) is referred to as a message system with buffering
b) is referred to as a message system with no buffering
c) is referred to as a link
d) none of the mentioned

Ans : b

29.Bounded capacity and Unbounded capacity queues are referred to as _____
a) Programmed buffering
b) Automatic buffering
c) User defined buffering
d) No buffering

Ans: b

30.Remote Procedure Calls are used _____
a) for communication between two processes remotely different from each other on the same system
b) for communication between two processes on the same system
c) for communication between two processes on separate systems
d) none of the mentioned

Ans: c

31.To differentiate the many network services a system supports _____ are used.
a) Variables
b) Sockets
c) Ports
d) Service names

Ans: c

32.RPC provides a(an) _____ on the client-side, a separate one for each remote procedure.
a) stub
b) identifier
c) name
d) process identifier

Ans: a

33.What is stub?
a) transmits the message to the server where the server side stub receives the message and invokes procedure on the server side
b) packs the parameters into a form transmittable over the network
c) locates the port on the server
d) all of the mentioned

Ans: d

34.To resolve the problem of data representation on different systems RPCs define _____

a) machine dependent representation of data
b) machine representation of data
c) machine-independent representation of data
d) none of the mentioned

Ans c

35.The remote method invocation _____

a) allows a process to invoke memory on a remote object
b) allows a thread to invoke a method on a remote object
c) allows a thread to invoke memory on a remote object
d) allows a process to invoke a method on a remote object

Ans:b

36.A process that is based on IPC mechanism which executes on different systems and can communicate with other processes using message based communication, is called _____

a) Local Procedure Call
b) Inter Process Communication
c) Remote Procedure Call
d) Remote Machine Invocation

Ans: c

37.The initial program that is run when the computer is powered up is called _____

a) boot program
b) bootloader
c) initializer
d) bootstrap program

Ans : d

38.How does the software trigger an interrupt?

a) Sending signals to CPU through bus
b) Executing a special operation called system call
c) Executing a special program called system program
d) Executing a special program called interrupt trigger program

Ans: b

39. What is a trap/exception?

a) hardware generated interrupt caused by an error
b) software generated interrupt caused by an error

c) user generated interrupt caused by an error
d) none of the mentioned

Ans: b

40.What is an ISR?
a) Information Service Request
b) Interrupt Service Request
c) Interrupt Service Routine
d) Information Service Routine

Ans: c

41. What is an interrupt vector?
a) It is an address that is indexed to an interrupt handler
b) It is a unique device number that is indexed by an address
c) It is a unique identity given to an interrupt
d) None of the mentioned

Ans: a

42.DMA is used for _____
a) High speed devices(disks and communications network)
b) Low speed devices
c) Utilizing CPU cycles
d) All of the mentioned

Ans: a

43.In a memory mapped input/output _____
a) the CPU uses polling to watch the control bit constantly, looping to see if a device is ready
b) the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available
c) the CPU receives an interrupt when the device is ready for the next byte
d) the CPU runs a user written code and does accordingly

Ans: b

44. In a programmed input/output(PIO) _____
a) the CPU uses polling to watch the control bit constantly, looping to see if a device is ready
b) the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available
c) the CPU receives an interrupt when the device is ready for the next byte
d) the CPU runs a user written code and does accordingly

Ans: a

45.In an interrupt driven input/output _____
a) the CPU uses polling to watch the control bit constantly, looping to see if a device is ready
b) the CPU writes one data byte to the data register and sets a bit in control register to show that a byte is available
c) the CPU receives an interrupt when the device is ready for the next byte
d) the CPU runs a user written code and does accordingly

Ans: c

46.In the layered approach of Operating Systems _____
a) Bottom Layer(0) is the User interface
b) Highest Layer(N) is the User interface
c) Bottom Layer(N) is the hardware
d) Highest Layer(N) is the hardware

Ans: b

47.How does the Hardware trigger an interrupt?
a) Sending signals to CPU through a system bus
b) Executing a special program called interrupt program
c) Executing a special program called system program
d) Executing a special operation called system call

Ans: a

48.Which operation is performed by an interrupt handler?
a) Saving the current state of the system
b) Loading the interrupt handling code and executing it
c) Once done handling, bringing back the system to the original state it was before the interrupt occurred
d) All of the mentioned

Ans: d

OPERATING SYSTEM SET 3

1.Which module gives control of the CPU to the process selected by the short-term scheduler?
a) dispatcher
b) interrupt
c) scheduler
d) none of the mentioned

Ans: a

2.The processes that are residing in main memory and are ready and waiting to execute are kept on a list called _____
a) job queue
b) ready queue
c) execution queue
d) process queue

Ans: b

3.The interval from the time of submission of a process to the time of completion is termed as _____
a) waiting time
b) turnaround time
c) response time
d) throughput

Ans: b

4. Which scheduling algorithm allocates the CPU first to the process that requests the CPU first?
a) first-come, first-served scheduling
b) shortest job scheduling
c) priority scheduling
d) none of the mentioned

Ans: a

5. In priority scheduling algorithm _____
a) CPU is allocated to the process with highest priority
b) CPU is allocated to the process with lowest priority
c) Equal priority processes can not be scheduled
d) None of the mentioned

Ans: a

6. In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of _____
a) all process

b) currently running process
c) parent process
d) init process

Ans: b

7. Which algorithm is defined in Time quantum?
a) shortest job scheduling algorithm
b) round robin scheduling algorithm
c) priority scheduling algorithm
d) multilevel queue scheduling algorithm

Ans: b

8.Process are classified into different groups in _____
a) shortest job scheduling algorithm
b) round robin scheduling algorithm
c) priority scheduling algorithm
d) multilevel queue scheduling algorithm

Ans: d

9. In multilevel feedback scheduling algorithm _____
a) a process can move to a different classified ready queue
b) classification of ready queue is permanent
c) processes are not classified into groups
d) none of the mentioned

Ans: a

10. Which one of the following can not be scheduled by the kernel?
a) kernel level thread
b) user level thread
c) process
d) none of the mentioned

Ans: b

11.CPU scheduling is the basis of _____
a) multiprocessor systems
b) multiprogramming operating systems
c) larger memory sized systems
d) none of the mentioned

Ans: b

12.With multiprogramming _____ is used productively.
a) time

b) space
c) money
d) all of the mentioned

Ans: a

13.What are the two steps of a process execution?
a) I/O & OS Burst
b) CPU & I/O Burst
c) Memory & I/O Burst
d) OS & Memory Burst

Ans: b

14.An I/O bound program will typically have _____
a) a few very short CPU bursts
b) many very short I/O bursts
c) many very short CPU bursts
d) a few very short I/O bursts

Ans: c

15.A process is selected from the _____ queue by the _____ scheduler, to be executed.
a) blocked, short term
b) wait, long term
c) ready, short term
d) ready, long term

Ans: c

16.In the following cases non – preemptive scheduling occurs?
a) When a process switches from the running state to the ready state
b) When a process goes from the running state to the waiting state
c) When a process switches from the waiting state to the ready state
d) All of the mentioned

Ans: b

17.The switching of the CPU from one process or thread to another is called _____
a) process switch
b) task switch
c) context switch
d) all of the mentioned

Ans: d

18.What is Dispatch latency?
a) the speed of dispatching a process from running to the ready state

b) the time of dispatching a process from running to ready state and keeping the CPU idle
c) the time to stop one process and start running another one
d) none of the mentioned

Ans: c

19.Scheduling is done so as to _____
a) increase CPU utilization
b) decrease CPU utilization
c) keep the CPU more idle
d) none of the mentioned

Ans: a

20.Scheduling is done so as to _____
a) increase the throughput
b) decrease the throughput
c) increase the duration of a specific amount of work
d) none of the mentioned

Ans: a

21.What is Turnaround time?
a) the total waiting time for a process to finish execution
b) the total time spent in the ready queue
c) the total time spent in the running queue
d) the total time from the completion till the submission of a process

Ans: d

22. Scheduling is done so as to _____
a) increase the turnaround time
b) decrease the turnaround time
c) keep the turnaround time same
d) there is no relation between scheduling and turnaround time

Ans: b

23. What is Waiting time?
a) the total time in the blocked and waiting queues
b) the total time spent in the ready queue
c) the total time spent in the running queue
d) the total time from the completion till the submission of a process

Ans: b

24.Scheduling is done so as to _____
a) increase the waiting time

b) keep the waiting time the same
c) decrease the waiting time
d) none of the mentioned

Ans: c

25.What is Response time?
a) the total time taken from the submission time till the completion time
b) the total time taken from the submission time till the first response is produced
c) the total time taken from submission time till the response is output
d) none of the mentioned

Ans: b

26.Round robin scheduling falls under the category of _____
a) Non-preemptive scheduling
b) Preemptive scheduling
c) All of the mentioned
d) None of the mentioned

Ans: b

27.With round robin scheduling algorithm in a time shared system _____
a) using very large time slices converts it into First come First served scheduling algorithm
b) using very small time slices converts it into First come First served scheduling algorithm
c) using extremely small time slices increases performance
d) using very small time slices converts it into Shortest Job First algorithm

Ans: a

28.The portion of the process scheduler in an operating system that dispatches processes is concerned with _____
a) assigning ready processes to CPU
b) assigning ready processes to waiting queue
c) assigning running processes to blocked queue
d) all of the mentioned

Ans: a

29.Complex scheduling algorithms _____
a) are very appropriate for very large computers
b) use minimal resources
c) use many resources
d) all of the mentioned

Ans: a

30.What is FIFO algorithm?
a) first executes the job that came in last in the queue
b) first executes the job that came in first in the queue
c) first executes the job that needs minimal processor
d) first executes the job that has maximum processor needs

Ans: b

31.The strategy of making processes that are logically runnable to be temporarily suspended is called _____
a) Non preemptive scheduling
b) Preemptive scheduling
c) Shortest job first
d) First come First served

Ans: b

32.What is Scheduling?
a) allowing a job to use the processor
b) making proper use of processor
c) all of the mentioned
d) none of the mentioned

Ans: a

33.Orders are processed in the sequence they arrive if _____ rule sequences the jobs.
a) earliest due date
b) slack time remaining
c) first come, first served
d) critical ratio

Ans: c

34.Which of the following algorithms tends to minimize the process flow time?
a) First come First served
b) Shortest Job First
c) Earliest Deadline First
d) Longest Job First

Ans: b

35.Under multiprogramming, turnaround time for short jobs is usually _____ and that for long jobs is slightly _____
a) Lengthened; Shortened
b) Shortened; Lengthened
c) Shortened; Shortened
d) Shortened; Unchanged

Ans : b

36.Which of the following statements are true? (GATE 2010)

I. Shortest remaining time first scheduling may cause starvation

II. Preemptive scheduling may cause starvation

III. Round robin is better than FCFS in terms of response time

Ans: d

OPERATING SYSTEM SET 4

1.Which is the most optimal scheduling algorithm?
a) FCFS – First come First served
b) SJF – Shortest Job First
c) RR – Round Robin
d) None of the mentioned

Ans : b

2.The real difficulty with SJF in short term scheduling is _____
a) it is too good an algorithm
b) knowing the length of the next CPU request
c) it is too complex to understand
d) none of the mentioned

Ans: b

3.The FCFS algorithm is particularly troublesome for _____
a) time sharing systems
b) multiprogramming systems
c) multiprocessor systems
d) operating systems

Ans:b

4.Preemptive Shortest Job First scheduling is sometimes called _____
a) Fast SJF scheduling
b) EDF scheduling – Earliest Deadline First
c) HRRN scheduling – Highest Response Ratio Next
d) SRTN scheduling – Shortest Remaining Time Next

Ans:d

5.An SJF algorithm is simply a priority algorithm where the priority is _____
a) the predicted next CPU burst
b) the inverse of the predicted next CPU burst
c) the current CPU burst
d) anything the user wants

Ans: a

6.Choose one of the 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

Ans: c

7.What is ‘Aging’?
a) keeping track of cache contents
b) keeping track of what pages are currently residing in memory
c) keeping track of how many times a given page is referenced
d) increasing the priority of jobs to ensure termination in a finite time

Ans: d

8. A solution to the problem of indefinite blockage of low – priority processes is _____
a) Starvation
b) Wait queue
c) Ready queue
d) Aging

Ans: d

9.Which of the following statements are true? (GATE 2010)

i) Shortest remaining time first scheduling may cause starvation

ii) Preemptive scheduling may cause starvation

iii) Round robin is better than FCFS in terms of response time

a) i only
b) i and iii only
c) ii and iii only
d) i, ii and iii

Ans: d

10. Which of the following scheduling algorithms gives minimum average waiting time?
a) FCFS
b) SJF
c) Round – robin
d) Priority

Ans: b

11.Concurrent access to shared data may result in _____
a) data consistency
b) data insecurity
c) data inconsistency
d) none of the mentioned

Ans: c

12.A situation where several processes access and manipulate the same data concurrently and the outcome of the execution depends on the particular order in which access takes place is called _____
a) data consistency
b) race condition
c) aging
d) starvation

Ans: b

13.The segment of code in which the process may change common variables, update tables, write into files is known as _____
a) program
b) critical section
c) non – critical section
d) synchronizing

Ans:b

14.Which of the following conditions must be satisfied to solve the critical section problem?
a) Mutual Exclusion
b) Progress
c) Bounded Waiting
d) All of the mentioned

Ans:d

15.Mutual exclusion implies that _____
a) if a process is executing in its critical section, then no other process must be executing in their critical sections
b) if a process is executing in its critical section, then other processes must be executing in their critical sections
c) if a process is executing in its critical section, then all the resources of the system must be blocked until it finishes execution
d) none of the mentioned

Ans:a

16.Bounded waiting implies that there exists a bound on the number of times a process is allowed to enter its critical section _____
a) after a process has made a request to enter its critical section and before the request is granted
b) when another process is in its critical section
c) before a process has made a request to enter its critical section
d) none of the mentioned

Ans: a

17.A minimum of _____ variable(s) is/are required to be shared between processes to solve the critical section problem.
a) one
b) two
c) three
d) four

Ans: b

18.In the bakery algorithm to solve the critical section problem _____
a) each process is put into a queue and picked up in an ordered manner
b) each process receives a number (may or may not be unique) and the one with the lowest number is served next
c) each process gets a unique number and the one with the highest number is served next
d) each process gets a unique number and the one with the lowest number is served next

Ans: b

19.An un-interruptible unit is known as _____
a) single
b) atomic
c) static
d) none of the mentioned

Ans:b

20.TestAndSet instruction is executed _____
a) after a particular process
b) periodically
c) atomically
d) none of the mentioned

Ans: c

21.Semaphore is a/an _____ to solve the critical section problem.
a) hardware for a system
b) special program for a system
c) integer variable
d) none of the mentioned

Ans: c

22.What are the two atomic operations permissible on semaphores?
a) wait
b) stop

c) hold
d) none of the mentioned

Ans: a

23.What are Spinlocks?
a) CPU cycles wasting locks over critical sections of programs
b) Locks that avoid time wastage in context switches
c) Locks that work better on multiprocessor systems
d) All of the mentioned

Ans: d

24.What is the main disadvantage of spinlocks?
a) they are not sufficient for many process
b) they require busy waiting
c) they are unreliable sometimes
d) they are too complex for programmers

Ans:b

25.The wait operation of the semaphore basically works on the basic _____ system call.
a) stop()
b) block()
c) hold()
d) wait()

Ans: b

26.The signal operation of the semaphore basically works on the basic _____ system call.
a) continue()
b) wakeup()
c) getup()
d) start()

Ans:b

27. If the semaphore value is negative _____
a) its magnitude is the number of processes waiting on that semaphore
b) it is invalid
c) no operation can be further performed on it until the signal operation is performed on it
d) none of the mentioned

Ans: a

28.The code that changes the value of the semaphore is _____
a) remainder section code
b) non – critical section code

c) critical section code
d) none of the mentioned

Ans:c

29.What will happen if a non-recursive mutex is locked more than once?
a) Starvation
b) Deadlock
c) Aging
d) Signaling

Ans:b

30.What is a semaphore?
a) is a binary mutex
b) must be accessed from only one process
c) can be accessed from multiple processes
d) none of the mentioned

Ans: c

31.What are the two kinds of semaphores?
a) mutex & counting
b) binary & counting
c) counting & decimal
d) decimal & binary

Ans: b

32.What is a mutex?
a) is a binary mutex
b) must be accessed from only one process
c) can be accessed from multiple processes
d) none of the mentioned

Ans: b

33.A binary semaphore is a semaphore with integer values _____
a) 1
b) -1
c) 0.8
d) 0.5

Ans: a

34.Semaphores are mostly used to implement _____
a) System calls
b) IPC mechanisms

c) System protection
d) None of the mentioned

Ans:b