1. Which one of the following is not true?

[**A.**](javascript:%20void(0)) kernel is the program that constitutes the central core of the operating system

[**B.**](javascript:%20void(0)) kernel is the first part of operating system to load into memory during booting

[**C.**](javascript:%20void(0)) kernel is made of various modules which can not be loaded in running operating system

[**D.**](javascript:%20void(0)) kernel remains in the memory during the entire computer session

Ans – c

1. By operating system, the resource management can be done via:

[**A.**](javascript:%20void(0)) time division multiplexing

[**B.**](javascript:%20void(0)) space division multiplexing

[**C.**](javascript:%20void(0)) both (a) and (b)

[**D.**](javascript:%20void(0)) none of the mentioned

Ans –c

1. Which module gives control of the CPU to the process selected by the short-term scheduler?

[**A.**](javascript:%20void(0)) dispatcher

[**B.**](javascript:%20void(0)) interrupt

[**C.**](javascript:%20void(0)) scheduler

[**D.**](javascript:%20void(0)) none of the mentioned

**Ans -** a

1. The processes that are residing in main memory and are ready and waiting to execute are kept on a list called:

[**A.**](javascript:%20void(0)) job queue

[**B.**](javascript:%20void(0)) ready queue

[**C.**](javascript:%20void(0)) execution queue

[**D.**](javascript:%20void(0)) process queue

**Ans –b**

1. The interval from the time of submission of a process to the time of completion is termed as:

[**A.**](javascript:%20void(0)) waiting time

[**B.**](javascript:%20void(0)) turnaround time

[**C.**](javascript:%20void(0)) response time

[**D.**](javascript:%20void(0)) throughput

Ans –b

1. In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of:

[**A.**](javascript:%20void(0)) all process

[**B.**](javascript:%20void(0)) currently running process

[**C.**](javascript:%20void(0)) parent process

[**D.**](javascript:%20void(0)) init process

**Ans –** b

1. Which one of the following can not be scheduled by the kernel?

[**A.**](javascript:%20void(0)) kernel level thread

[**B.**](javascript:%20void(0)) user level thread

[**C.**](javascript:%20void(0)) process

[**D.**](javascript:%20void(0)) none of the mentioned

**Ans –**b

1. With multiprogramming, \_\_\_\_\_\_ is used productively.

[**A.**](javascript:%20void(0)) time

[**B.**](javascript:%20void(0)) space

[**C.**](javascript:%20void(0)) money

[**D.**](javascript:%20void(0)) All of these

**Ans -** a

1. A process is selected from the \_\_\_\_\_\_ queue by the \_\_\_\_\_\_\_\_ scheduler, to be executed.

[**A.**](javascript:%20void(0)) blocked, short term

[**B.**](javascript:%20void(0)) wait, long term

[**C.**](javascript:%20void(0)) ready, short term

[**D.**](javascript:%20void(0)) ready, long term

**Ans –**c

1. An un-interruptible unit is known as:

[**A.**](javascript:%20void(0)) single

[**B.**](javascript:%20void(0)) atomic

[**C.**](javascript:%20void(0)) static

[**D.**](javascript:%20void(0)) None of these

Ans –b

1. Semaphore is a \_\_\_\_\_\_\_ to solve the critical section problem.

[**A.**](javascript:%20void(0)) hardware for a system

[**B.**](javascript:%20void(0)) special program for a system

[**C.**](javascript:%20void(0)) integer variable

[**D.**](javascript:%20void(0)) None of these

Ans - c

1. Spinlocks are:

[**A.**](javascript:%20void(0)) CPU cycles wasting locks over critical sections of programs

[**B.**](javascript:%20void(0)) locks that avoid time wastage in context switches

[**C.**](javascript:%20void(0)) locks that work better on multiprocessor systems

[**D.**](javascript:%20void(0)) All of these

Ans -d

1. If the semaphore value is negative:

[**A.**](javascript:%20void(0)) its magnitude is the number of processes waiting on that semaphore

[**B.**](javascript:%20void(0)) it is invalid

[**C.**](javascript:%20void(0)) no operation can be further performed on it until the signal operation is performed on it

[**D.**](javascript:%20void(0)) None of these

**Ans –**a

1. What is the ready state of a process?

[**A.**](javascript:%20void(0)) when process is scheduled to run after some execution

[**B.**](javascript:%20void(0)) when process is unable to run until some task has been completed

[**C.**](javascript:%20void(0)) when process is using the CPU

[**D.**](javascript:%20void(0)) none of the mentioned

Ans –a

1. A mutex:

[**A.**](javascript:%20void(0)) is a binary mutex

[**B.**](javascript:%20void(0)) must be accessed from only one process

[**C.**](javascript:%20void(0)) can be accessed from multiple processes

[**D.**](javascript:%20void(0)) None of these

**Ans –**b

1. In UNIX, Which system call creates the new process?

[**A.**](javascript:%20void(0)) fork

[**B.**](javascript:%20void(0)) create

[**C.**](javascript:%20void(0)) new

[**D.**](javascript:%20void(0)) none of the mentioned

Ans -a

1. The bounded buffer problem is also known as \_\_\_\_\_\_\_\_\_\_\_\_  
   A. Readers – Writers problem  
   B. Dining – Philosophers problem  
   C. Producer – Consumer problem  
   D. None of the mentioned

Ans – c

1. To ensure difficulties do not arise in the reader’s – writer’s problem \_\_\_\_\_\_\_ are given exclusive access to the shared object.  
   A. reader’s  
   B. writer’s  
   C. readers and writers  
   D. none of the mentioned

Ans – b

1. The monitor construct ensures that \_\_\_\_\_\_\_\_\_\_\_\_  
   A. only one process can be active at a time within the monitor  
   B. n number of processes can be active at a time within the monitor (n being greater than 1)  
   C. The queue has only one process in it at a time  
   D. all of the mentioned

Ans –a

1. Concurrent access to shared data may result in \_\_\_\_\_\_\_\_\_\_\_\_  
   A. data consistency  
   B. data insecurity  
   C. data inconsistency  
   D. none of the mentioned

Ans –c

1. 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

1. 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

1. What is the reusable resource?

[**A.**](javascript:%20void(0)) that can be used by one process at a time and is not depleted by that use

[**B.**](javascript:%20void(0)) that can be used by more than one process at a time

[**C.**](javascript:%20void(0)) that can be shared between various threads

[**D.**](javascript:%20void(0)) none of the mentioned

**Ans -**a

1. Which of the following condition is required for deadlock to be possible?

[**A.**](javascript:%20void(0)) mutual exclusion

[**B.**](javascript:%20void(0)) a process may hold allocated resources while awaiting assignment of other resources

[**C.**](javascript:%20void(0)) no resource can be forcibly removed from a process holding it

[**D.**](javascript:%20void(0)) all of the mentioned

**Ans -**d

1. A system is in the safe state if:

[**A.**](javascript:%20void(0)) the system can allocate resources to each process in some order and still avoid a deadlock

[**B.**](javascript:%20void(0)) there exist a safe sequence

[**C.**](javascript:%20void(0)) both (a) and (b)

[**D.**](javascript:%20void(0)) none of the mentioned

**Ans -**c

1. A problem encountered in multitasking when a process is perpetually denied necessary resources is called:

[**A.**](javascript:%20void(0)) deadlock

[**B.**](javascript:%20void(0)) starvation

[**C.**](javascript:%20void(0)) inversion

[**D.**](javascript:%20void(0)) aging

**Ans –**b

1. To avoid deadlock:

[**A.**](javascript:%20void(0)) there must be a fixed number of resources to allocate

[**B.**](javascript:%20void(0)) resource allocation must be done only once

[**C.**](javascript:%20void(0)) all deadlocked processes must be aborted

[**D.**](javascript:%20void(0)) inversion technique can be used

Ans –a

1. CPU fetches the instruction from memory according to the value of \_\_\_\_\_\_\_\_\_\_\_\_  
   A. program counter  
   B. status register  
   C. instruction register  
   D. program status word

Ans –a

1. Run time mapping from virtual to physical address is done by \_\_\_\_\_\_\_\_\_\_\_\_  
   A. Memory management unit  
   B. CPU  
   C. PCI  
   D. none of the mentioned

Ans –b

1. The \_\_\_\_\_\_\_\_\_\_ is used as an index into the page table.  
   A. Frame bit  
   B. page number  
   C. page offset  
   D. frame offset

Ans –b

1. The segment limit contains the \_\_\_\_\_\_\_\_\_\_\_\_  
   A. starting logical address of the process  
   B. starting physical address of the segment in memory  
   C. segment length  
   D. none of the mentioned

Ans –c

1. The instruction being executed, must be in \_\_\_\_\_\_\_\_\_\_\_\_  
   A. physical memory  
   B. logical memory  
   C. physical & logical memory  
   D. none of the mentioned

Ans –a

1. RAID level 3 supports a lower number of I/Os per second, because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
   A. Every disk has to participate in every I/O request  
   B. Only one disk participates per I/O request  
   C. I/O cycle consumes a lot of CPU time  
   D. All of the mentioned

Ans – a

1. RAID level 5 is also known as \_\_\_\_\_\_\_\_\_\_\_\_  
   A. bit-interleaved parity organization  
   B. block-interleaved parity organization  
   C. block-interleaved distributed parity  
   D. memory-style ECC organization

Ans – c

1. Multimedia systems require \_\_\_\_\_\_\_\_\_ scheduling to ensure critical tasks will be serviced within timing deadlines.  
   A. Soft real time  
   B. hard real time  
   C. normal  
   D. none of the mentioned

Ans –b

1. RAID stands for \_\_\_\_\_\_\_\_\_\_\_\_  
   A. Redundant Allocation of Inexpensive Disks  
   B. Redundant Array of Important Disks  
   C. Redundant Allocation of Independent Disks  
   D. Redundant Array of Independent Disks

Ans –d

1. The technique of duplicating every disk is known as \_\_\_\_\_\_\_\_\_\_\_\_  
   A. mirroring  
   B. shadowing  
   C. redundancy  
   D. all of the mentioned

Ans –a

1. Point out the correct statement.  
   A. A virtual machine is a computer that is walled off from the physical computer that the virtual machine is running on  
   B. Virtual machines provide the capability of running multiple machine instances, each with their own operating system  
   C. The downside of virtual machine technologies is that having resources indirectly addressed means there is some level of overhead  
   D. All of the mentioned

Ans –d

1. Point out the wrong statement.  
   A. Some hypervisors are installed over an operating system and are referred to as Type 2 or hosted VM  
   B. All CPUs support virtual machines  
   C. On a Type 2 VM, a software interface is created that emulates the devices with which a system would normally interact  
   D. All of the mentioned

Ans –b

1. Which of the following type of virtualization is found in hypervisor such as Microsoft’s Hyper-V?  
   A. para virtualization  
   B. full virtualization  
   C. emulation  
   D. none of the mentioned

Ans –a

1. Which of the following is Cloud Platform by Amazon?  
   A. Azure  
   B. AWS  
   C. Cloudera  
   D. All of the mentioned

Ans –b

1. Core of Linux operating system is
2. Kernel
3. Shell
4. Terminal
5. Command

Ans –a

1. If multiple threads are concurrently searching through a database and one thread returns the result then the remaining threads must be \_\_\_\_\_\_\_\_\_\_\_\_  
   A. Continued  
   B. Cancelled  
   C. Protected  
   D. None of the mentioned

ANS-B

1. Which one of the following is a visual (mathematical) way to determine the deadlock occurrence?

[**A.**](javascript:%20void(0)) resource allocation graph

[**B.**](javascript:%20void(0)) starvation graph

[**C.**](javascript:%20void(0)) inversion graph

[**D.**](javascript:%20void(0)) none of the mentioned

ANS –A

1. Which one of the following is a visual (mathematical) way to determine the deadlock occurrence?

[**A.**](javascript:%20void(0)) resource allocation graph

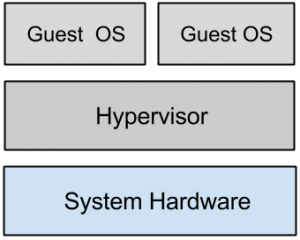
[**B.**](javascript:%20void(0)) starvation graph

[**C.**](javascript:%20void(0)) inversion graph

[**D.**](javascript:%20void(0)) none of the mentioned

ANS –A

1. Which type of hypervisor in following figure?



1. Type 1
2. Type 2
3. Type 3
4. All of the mentioned

ans –a

1. Consider the following table of arrival time and burst time for three processes P0, P1 and P2.

Process Arrival time Burst Time

P0 0 ms 9 ms

P1 1 ms 4 ms

P2 2 ms 9 ms

The pre-emptive shortest job first scheduling algorithm is used. Scheduling is carried out only at arrival or completion of processes. What is the average waiting time for the three processes?  
A. 5.0 ms  
B. 4.33 ms  
C. 6.33 ms  
D. 7.33 ms

Ans –a

1. Consider the 3 processes, P1, P2 and P3 shown in the table.

Process Arrival time Time Units Required

P1 0 5

P2 1 7

P3 3 4

The completion order of the 3 processes under the policies FCFS and RR2 (round robin scheduling with CPU quantum of 2 time units) are

|  |  |
| --- | --- |
| A | FCFS: P1, P2, P3  RR2: P1, P2, P3 |
| B | FCFS: P1, P3, P2  RR2: P1, P3, P2 |
| C | FCFS: P1, P2, P3  RR2: P1, P3, P2 |
| D | FCFS: P1, P3, P2  RR2: P1, P2, P3 |

Ans -c

1. An operating system uses shortest remaining time first scheduling algorithm for pre-emptive scheduling of processes. Consider the following set of processes with their arrival times and CPU burst times (in milliseconds):

Process Arrival Time Burst Time

P1 0 12

P2 2 4

P3 3 6

P4 8 5

The average waiting time (in milliseconds) of the processes is \_\_\_\_\_\_\_\_\_.

* 1. 4.5
  2. 5.0
  3. 5.5
  4. 6.5

ANS –C

1. For 3 page frames, the following is the reference string:  
   7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1  
   How many page faults does the LRU page replacement algorithm produce?  
   A. 10  
   B. 15  
   C. 11  
   D. 12

Ans –d

1. 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

Ans –d

1. A process refers to 5 pages, A, B, C, D, E in the order : A, B, C, D, A, B, E, A, B, C, D, E. If the page replacement algorithm is FIFO, the number of page transfers with an empty internal store of 3 frames is?  
   A. 8  
   B. 10  
   C. 9  
   D. 7

Ans –c

1. Consider a disk queue with requests for I/O to blocks on cylinders.  
   98 183 37 122 14 124 65 67  
   considering SSTF (shortest seek time first) scheduling, the total number of head movements is, if the disk head is initially at 53 is?  
   A. 224  
   B. 236  
   C. 245  
   D. 240

Ans – b

1. We have a process that has been allocated 3 page frames and initially none of the pages of the process are available in the memory. The following sequence of page references (reference string) is made by the process:   
   1, 2, 1, 3, 7, 4, 5, 6, 3, 1  
   If Optimal Page Replacement policy is used, \_\_\_\_\_\_\_ page faults will occur for the above reference string
2. 7
3. 8
4. 9
5. 6

ANS -A

|  |  |  |
| --- | --- | --- |
| **Name** | **Enrollment Number** | **Marks obtain** |
| Deep | 181240116002 | 21 / 70 |
| Hirant Mangukiya | 181240116014 | 25 / 70 |
| Vekariya harsh | 181240116061 | 20 / 70 |
| Nikhil Sangani | 181240116049 | 22 / 70 |
| Vasu Patel | 181240116046 | 16 / 70 |
| Heet Patel | 181240116030 | 17 / 70 |
| Hemant sharma | 181240116053 | 20 / 70 |
| Manav Parekh | 181240116028 | 18 / 70 |
| Utsav | 181240116057 | 24 / 70 |
| shivam singh | 181240116056 | 16 / 70 |
| Hitanshu Gajjar | 191243116002 | 17 / 70 |
| Karan patel | 181240116034 | 17 / 70 |
| Kapatel Priyank D | 191243116003 | 21 / 70 |
| Vrushali Pachchigar | 181240116017 | 19 / 70 |
| Prajal Patel | 181240116038 | 16 / 70 |
| Patel Prashant G | 181240116039 | 16 / 70 |
| Vishwas Acharya | 181240116001 | 18 / 70 |
| Darshit patel | 191240116026 | 20 / 70 |
| Bhanderi Siddharth | 181240116003 | 16 / 70 |
| Shiv Patel | 181240116041 | 19 / 70 |
| Smit chauhan | 181240116006 | 14 / 70 |
| yogesh Sharma | 181240116055 | 15 / 70 |
| sagar sharma | 181240116054 | 20 / 70 |
| Anurag parekh | 181240116019 | 23 / 70 |
| Dhaval Patel | 181240116027 | 21 / 70 |
| Kakadiya Manan | 181240116010 | 21 / 70 |
| krish modi | 181240116015 | 18 / 70 |
| Janak | 181240116011 | 18 / 70 |
| Dhruv Patel | 181240116028 | 19 / 70 |
| Patel Meet A. | 181240116035 | 17 / 70 |
| Anshu Patel | 181240116022 | 15 / 70 |
| Viren Vaghasiya | 181240116058 | 19 / 70 |
| Jwalit Joshi | 181240116009 | 17 / 70 |
| Akash patel | 181240116021 | 21 / 70 |
| AVI PATEL | 181240116025 | 18 / 70 |
| Mahida Virrajsinh Sahdevsinh | 181240116013 | 13 / 70 |
| Patel parth dinkarbhai | 181240116037 | 20 / 70 |
| Shah Yash R. | 181240116051 | 21 / 70 |
| Nayan | 181240116005 | 21 / 70 |
| Chauhan Komal | 181240116004 | 20 / 70 |