

MAR-APR 2023

Total No. of Questions : 5]

SEAT No. :

P-3342

[Total No. of Pages : 4

[6027]-14

M.C.A. (Management)

IT 14 : OPERATING SYSTEM CONCEPTS

(2020 Pattern) (Semester - I)



Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates :

- 1) All questions are compulsory.
- 2) Draw neat diagrams wherever necessary.

Q1) Attempt the following multiple choice questions.

[20 × ½ = 10]

- i) Multiprogramming of the computer system.
 - a) Increase computing speed
 - b) Reduces memory utilization
 - c) Increases CPU utilization
 - d) None of the above
- ii) Scheduling of threads are done by _____.
 - a) Operating system
 - b) Input
 - c) Output
 - d) None of the above
- iii) The segment base contains the _____.
 - a) Starting logical address of the process
 - b) Segment length
 - c) Starting physical address of the segment in memory
 - d) None of the above
- iv) Virtual memory in memory hierarchy consists of _____.
 - a) RAM and Hard disk
 - b) Cache and Hard disk
 - c) Cache and RAM
 - d) All of the above
- v) When external fragmentation will not occur?
 - a) First fit is used
 - b) No matter which algorithm is used, it will always occur
 - c) Worst fit is used
 - d) Best fit is used

P.T.O.



- vi) A page fault occurs when a program attempts to access a block of memory that is _____.
- a) Not stored in the physical memory
 - b) Dead lock occurs
 - c) The buffering occurs
 - d) None of the above
- vii) The state in which, the CPU spends less time in some actual productive work and more time in swapping.
- a) Paging
 - b) Thrashing
 - c) Swapping
 - d) All of the above
- viii) Logical memory is broken into blocks of the same size called _____.
- a) Frames
 - b) Pages
 - c) Stores
 - d) None of the above
- ix) The components of Real Time Operating System consist of _____.
- a) The scheduler
 - b) Memory management
 - c) Symmetric multiprocessing
 - d) All of the above
- x) YouTube live streaming system is an example of the following _____.
- a) Hard RTOS
 - b) Soft RTOS
 - c) Firm RTOS
 - d) None of the above
- xi) In Hard real time systems there is guarantee that _____.
- a) All critical task are complete in time
 - b) Some critical tasks are allowed some delay
 - c) Some critical tasks are given tolerance
 - d) None of the above
- xii) Which of the following is not the characteristic of an embedded operating system?
- a) Direct use of interrupts
 - b) Real time operation
 - c) I/O device flexibility
 - d) None of the above

- xiii) The loading mechanism in which a certain part of the program is loaded into the main memory only when it is called by the program, the mechanism is called as _____.
- a) Static loading b) Dynamic loading
c) Random loading d) None of the above
- xiv) In the computer system after completion of program execution; an executed program is known as _____.
- a) Program b) Interrupt
c) Process d) None of the above
- xv) Which of the following is not an application of real-time operating system?
- a) Air traffic control system b) RADAR System
c) Anti Lock Brake Systems d) None of the above
- xvi) Which of the queue maintains the list of the processes that are residing in main memory and are ready and waiting for execution?
- a) Device queue b) Ready queue
c) Job queue d) None of the above
- xvii) The address of the next instruction to be executed for the current process is stored in _____.
- a) Program state b) CPU registers
c) Program counter d) None of the above
- xviii) The characteristics of a distributed file system includes _____.
- a) Having single centralized data repository
b) Service activity is not carried out across the network
c) Users, servers and storage devices are dispersed
d) None of the above
- xix) Which of the Linux Ubuntu Command used to delete file
- a) erase b) delete
c) rm d) dm
- xx) The name of the directory that contains the configuration files in Linux.
- a) /bin/ b) /root/
c) /dev/ d) /etc/



- Q2) a) What is memory management? [4]
b) Explain various memory management techniques in brief. [6]

OR

- a) What is CPU state? [4]
b) Explain the role of CPU state in scheduling the processes. [6]

- Q3) a) What is PCB? [4]
b) Explain various fields and information stored in PCB. [6]

OR

- a) What is time slicing? [4]
b) How slicing duration affects the overall working of the system? [6]

- Q4) a) What is Windows OS? [4]
b) Explain the overview of control panel in Windows OS. [6]

OR

- a) What is mobile OS? [4]
b) Explain advantages of mobile operating system with applications. [6]

- Q5) a) What is RTOS? [4]
b) Explain the real life applications of RTOS. [6]

OR

- a) Explain loops in Linux shell scripting with examples. [4]
b) Write a shell script to print the content of the following file. [6]

Filename : 'my file. txt'

this is my text file.

Ubuntu is Linux Operating System.

VI is the editor in Linux

I know Linux Operating System.

