

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 CPV 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 occurs?
  - a) First fit is used
  - b) No matter which algorithm is used, it will always occurs
  - 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.

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