Total No. of Questions : 5]

SEAT No. : 20242

PA-2554

[Total No. of Pages : 4

[5948]-104
M.C.A. - I (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. Select one best option from the choices given. **[20×½=10]**

a) Multiprogramming of the computer system
   i) Increase computing speed ii) Reduces memory utiolization
   iii) Increase CPU utilization iv) None of the above

b) Which are of the following is a synchronization tool
   i) Thread ii) Pipe
   iii) Semaphore iv) Socket

c) Scheduling of threads are done by _____
   i) Operating system ii) Input
   iii) Output iv) None of the above

d) For real time operating systems, interupt latency should be _____
   i) minimal ii) maximum
   iii) zero iv) dependent on the schedule

e) Virtual memory in memory hierarchy consists of
   i) RAM and Hard disk ii) Cache and Hard disk
   iii) Cache and RAM iv) All of the above

f) When external fragmentation will not occur?
   i) First fit is used
   ii) No matter which algorithm is used it will always occur
   iii) Worst fit is used
   iv) Best fit is used

P.T.O.

g) Which of the following is not an operating system?

i) Windows ii) Linux

iii) Ms office iv) DOS

h) Logical memory is broken into blocks of the same size called _____

i) Frames ii) Pages

iii) Stores iv) None of the above

i) Which of the following cannot be scheduled by the kernel?

i) Process ii) User Level thread

iii) Kernel level thread iv) None of the above

j) Youtube live streaming system is an example of the following:

i) Hard RTOS ii) SOFT RTOS

iii) Firm RTOS iv) None of the above

k) In hard real time systems there is gurantee that _____

i) All critical task are completed in time

ii) Some critical tasks are allowed some delay

iii) Some critical tasks are given tolerance

iv) None of the above

l) Which are of the following is a real time operating system?

i) RT Linux ii) Windows CE

iii) VX works iv) All of the above

m) What command is used to count the total number of lines, words and characters contained in a file?

i) Count W ii) W count

iii) WC iv) Count P

n) What a virtual memory miss is called?

i) l tit miss ii) Page hit

iii) Page fault iv) Page miss

o) The interrupt latency should be _____ for real time operating systems.

i) maximum ii) zero

iii) minimum iv) None of the above

p) In Unix which system call creates the new process?

i) Create ii) Fork

iii) New iv) None of the mentioned

q) The address of the next instruction to be executed for the current process in stored in _____

i) Program state ii) CPU registers

iii) Program counter iv) None of the above

r) What is common problem found in distributed system?

i) Process synchronization

ii) Communication Synchronization

iii) Deadlock problem

iv) Power failure

s) What is the output of the following code OS = Umx

ec

1) 40S

2) "$OS"

3) '$OS'

4) $OS

i) 1. Unix 2.Unix 3. Unix 4 Unix

ii) 1. Unix 2. Unix 3. SOS 4.Unix

iii) 1. Unix 2. Unix 3. Unix 4. $OS

iv) 1. Unix 2. $OS

t) Which command is used to print a file

i) Print ii) Ptr

iii) 1pr iv) None of the above

Q2) a) What is paging? Explain with diagram. **[4]**

b) What is operating system? Explain characteritics of OS. **[6]**

OR

a) Explain logical to physical memory mapping. **[6]**

b) Explain the states of process. **[4]**

Q3) a) What is PC B? **[4]**

b) Explain Critical section concept with producer and consumer problem. **[6]**

OR

a) What is deadlock? Explain how deadlock can be detected? **[6]**

b) Explain time slicing. **[4]**

Q4) a) Describe the characteristics of Real time operating system. **[6]**

b) Explain the file systems used in windows operating system. **[4]**

OR

a) What is mobile operating system? **[6]**

b) Explain any 4 commands of liners. **[4]**

Q5) a) Write a steel script for adding two numbers and storing the result in a variable. **[6]**

b) Explain loops in Linux steel scripting. **[4]**

OR

a) What is RTOS? Give one example with explanation. **[6]**

b) Write a short note on Kernel. **[4]**