

Total No. of Questions : 11]

[Total No. of Printed Pages : 8

**RA-408**

**M.Sc. III<sup>rd</sup> Semester (New)**

**Examination, 2019**

**Computer Science**

**Paper - MCSC-301**

**Linux & Shell Programming**

**Time : 3 Hours]**

**[Maximum Marks : 85**

**Note :-** Attempt all the questions.

**SECTION - 'A'**

**Objective Type Questions**      **10×1.5=15**

**1. Choose the correct answer :**

**RA-408**

**(1)**

**P.T.O.**

(i) To access the services of operating system, the interface is provided by the \_\_\_\_\_

- (a) System calls
- (b) API
- (c) Library
- (d) Assembly instructions

(ii) A Process Control Block (PCB) does not contain which of the following ?

- (a) Code
- (b) Stack
- (c) Bootstrap program
- (d) Data

(iii) 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

(iv) Which one of the following is the deadlock avoidance algorithm?

**RA-408**

**(2)**

- (a) Banker's algorithm
  - (b) Round-robin algorithm
  - (c) Elevator algorithm
  - (d) Karn's algorithm
- (v) The address of a page table in memory is pointed by\_\_
- (a) Stack pointer
  - (b) Page table base register
  - (c) Page register
  - (d) Program counter
- (vi) Logical memory is broken into blocks of the same size called\_\_
- (a) Frames
  - (b) Pages
  - (c) Backing store
  - (d) None of the mentioned
- (vii) The time taken to move the disk arm to the desired cylinder is called the\_\_
- (a) Positioning time
  - (b) Random access time

http://www.onlinebu.com

RA-408

(3)

P.T.O.

- (c) Seek time
  - (d) Rotational latency
- (viii) Which command creates an empty file if file does not exist?
- (a) Cat
  - (b) Touch
  - (c) Ed
  - (d) Read
- (ix) Which of the following commands will allow the user to search contents of a file for a particular pattern?
- (a) Touch
  - (b) Grep
  - (c) Find
  - (d) Is
- (x) \_\_\_\_command is the appropriate way to interrupt a program.
- (a) Kill
  - (b) SIGKILL
  - (c) INT
  - (d) trap

http://www.onlinebu.com

RA-408

(4)

## SECTION - 'B'

### Short Answer Type Questions

5×5=25

2. Define operating system? Write its functions.

OR

What are the contents of Process control Block? Explain in brief.

3. What is internal and external fragmentation? How it can be managed in a system.

OR

Write about file and directory system in operating system.

4. What do you understand by absolute and relative path in Linux? Also differentiate between them.

OR

Write about following Linux commands with their syntax.

- (a) rm
- (b) touch
- (c) man
- (d) move
- (e) who

RA-408

(5)

P.T.O.

5. Write about Pipe, grep and Sort Command in Linux with examples.

OR

How to create, delete and disable user accounts in Linux? Write with examples.

6. What is shell scripting? Write steps for creating a shell script in Linux.

OR

What are various string operators supported by Bourne Shell? Describe them in brief.

## SECTION - 'C'

### Long Answer Type Questions

9×5=45

7. What are necessary and sufficient conditions for deadlock? How deadlock can be prevented in a system.

OR

What do you mean by preemptive scheduling? Explain Round Robin Scheduling with a suitable example.

8. Write about following disk scheduling algorithms:  
(a) FCFC

RA-408

(6)

- (b) SCAN
- (c) LOOK

**OR**

Write about following concept of memory management:

- (a) Paging
- (b) Segmentation
- (c) Virtual memory

9. Describe the architecture of Linux system with a suitable layer diagram.

**OR**

Write key differences between Window and Linux operating system. <http://www.onlinebu.com>

10. Discuss on all permissions defined for owners assigned to every files and directory in Linux system with examples.

**OR**

Explain the procedure for creating and managing groups on Linux with examples.

11. Describe various types of loops available to shell programmers with syntax and example.

RA-408

(7)

P.T.O.

**OR**

Write a shell script to read the array elements at run time and then print the array.

\*\*\*

<http://www.onlinebu.com>  
Whatsapp @ 9300930012  
Your old paper & get 10/-  
पुराने पेपर्स भेजे और 10 रुपये पायें,  
Paytm or Google Pay से

RA-408

(8)

Copies: 900