MCA/D-16
LINUX AND SHELL PROGRAMMING
PAPER: MCA-14-53

Time Allowed: 3 Hours Maximum Marks: 80

Note: Attempt five questions in all. Question No. 1 is compulsory. All questions carry equal marks.

1. (a) How can the hard disks be partitioned? DISCUSS.
   (b) What is a zombie process? How can we manage it?
   (c) Explain rc and init files.
   (d) Explain the concept of command line parameters with a running script.
   (e) Discuss the alarm command.
   (f) How do you redirect outputs and error messages to specified files?
   (g) Discuss environment variables.
   (h) Explain the expr statement.

Unit-I

2. (a) What are the basic features of Linux Operating System? Also discuss the architecture of Linux Operating System.

   (b) Explain Super block, Inode block and Data block.

3. (a) Discuss various file and disk related commands using suitable examples.

   (b) Explain the system booting and shutdown processes.

Unit-II

4. What is the need of gdb? How can debugging be done using gdb? List and describe the purpose and use of various gdb debugger commands.

5. Why are makefiles in Linux so useful? Design a makefile with the help of dependency calculations using suitable examples.

Unit-III

6. How can the system administrator perform the following? Explain using suitable examples :
   (a) Adding, modifying and deleting users and groups.
   (b) Creating file systems and Mounting & unmounting the file systems.

7. (a) How can the permission and ownerships of files & directories be changed? Explain using examples.

(b) What are Signals? Give a brief description of few important signals. How are they handled?

Unit-IV

8. (a) Discuss various process scheduling commands, How can we change the priorities of processes? Explain the commands using suitable examples.

   (b) What are filters? Discuss the following filters in Linux :
   (i) more (ii) sort (iii) uniq (iv) tr

9. (a) How is an associative array different from an idndexed array?
   (b) How is data passed to a shell script using command line arguments?
   (c) Discuss the looping and case statements in shell using example.

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