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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

First Semester, Master of Computer Applications (MCA)

Make-up Examination; Feb - 2017

Introduction to UNIX

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. With a neat diagram, explain the architecture of UNIX. 8
- b. Explain the following commands with example : 12
- i) bc ii) cp
- iii) lock iv) who.
- 2 a. Write the commands which perform the following functions in UNIX and explain them with at least one option : 9
- i) To count the number of lines, words and characters present in a file
- ii) To delete files
- iii) To record the session.
- b. Explain the features of UNIX operating system. 8
- c. Explain the use of file command. 3

UNIT - II

- 3 a. Explain the following command with example : 12
- i) umask ii) chown iii) chgrp iv) find.
- b. Explain the difference between hard links and symbolic links. 8
- 4 a. Explain the command used to change the file permissions and also explain the ways of changing file permissions. 4
- b. List the administrator privileges. 6
- c. Explain the following commands with example : 10
- i) cpio ii) tar iii) du iv) ls

UNIT - III

- 5 a. Write a shell script that accept a list of file names as its argument, count and report occurrence of each word that is present in the first argument file on other argument files. 8
- b. Explain the following commands with example : 6
- i) shift ii) expr iii) trap.
- c. Explain the differences between while and until loop with example. 6

- 6 a. Explain the following special variables with example : 8
 - i) \$0 ii) \$* iii) \$# iv) \$?
- b. Explain any four environment variables used in UNIX. 4
- c. Write a shell script which accept a file name as its argument and display the word which is having maximum number of characters. 8

UNIT - IV

- 7 a. Explain the following commands with example : 12
 - i) head ii) tail iii) cut iv) tr
- b. Explain the sort command with any four options. 8
- 8 a. What is regular expression? Explain the meaning of following meta characters with example : 6
 - i) ^ ii) * iii) \$
- b. Explain grep command and its options with example. 10
- c. Explain egrep and fgrep. 4

UNIT - V

- 9 a. Explain the following commands with example : 10
 - i) nice ii) at iii) batch iv) kill
- b. What is process? Explain the mechanism of process creation. 7
- c. Explain the use of cron command with example. 3
- 10a. Explain the Built-in functions and variables of awk. 10
 - b. Explain the different sections of awk script. 6
 - c. Consider a file *fl.txt* contains the following data about employees

<u>Name</u>	<u>Salary</u>	<u>Age</u>
Raju	50000	35
Ramu	10000	45
Mahesh	30000	50
Guru	35000	52

4

Write an awk command to list the employees from *fl.txt* who are taking the salary of more than 20000.

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