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Paper Code & Roll No. to be filled in your Answer Book

Roll No. ☐☐☐☐☐☐☐☐☐☐

B.Tech. (IV - Sem.)

Even Semester Examination - 2016

UNIX & SHELL PROGRAMMING

[Time : 3 Hours]   [Maximum Marks :100]

Note : Attempt all questions, each question carries equal marks.

Q1.   Attempt any four parts of the following: (5x4=20)

    (a)   Explain the important features of UNIX operating system.

    (b)   Draw the block diagram of UNIX Architecture system. Explain its various layers.

    (c)   Explain the hierarchical structure of UNIX file system.

    (d)   What are files? Mention various files of UNIX OS.

    (e)   How many types of editors we can use in UNIX operating system. Discuss different modes of vi editor.

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(f) What are the file permissions available in UNIX? What are the usual permissions settings for a file and a directory? How can we change them?

Q2. Attempt **any four** parts of the following:
(5x4=20)

(a) What are links in UNIX? How do we create them? Mention various types of links.

(b) Explain the usage of the following variables:

(i) $#   (ii) $*   (iii) $?   (iv) $0

(c) Explain shell arithmetic operators with examples.

(d) Explain filters in UNIX? Describe any 3 in detail.

(e) What do you mean by shell Meta characters? Explain with suitable examples.

(f) Explain the task of following commands:

(i) tty   (ii) gzip   (iii) cmp

(iv) banner   (v) cat

Q3. Attempt **any four** parts of the following: (5x4=20)

(a) Explain the concept of command line arguments in UNIX.

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(b) Write short note on file permissions on UNIX file.

(c) What is the process scheduling? What are the various commands used to schedule a process in UNIX.

(d) What are the basic attributes of a file in UNIX?

(e) How do a DOS and UNIX text files differ? Name the utilities that convert file between these two formats.

(f) What do you mean by a 'Daemon'? How will you kill a Daemon ?

Q4. Attempt **any two** parts of the following: (10x2=20)

(a) What are the main jobs that a system administrator performs?

(b) Write a shell script to search the given word in the given file. Also count the occurrence of the words in the file.

(c) What do you mean by mounting and unmounting of file? Explain with example.

(d) How can we run a process in background? What are the advantages and disadvantages for running a process in background?

Q5. Attempt **any two** parts of the following: (10x2=20)

(a) What is the various security features offered in UNIX? Explain any two in details.

(b) What are the commands responsible for managing user account? Write commands to create a user 'DBA-USER' with UID 100 and GID '555'. User's default shell should be 'C-shell' and it is to be placed in the /home directory.

(c) Write a shell script for creating a calculator for Arithmetic calculation (Addition, Subtraction, Multiplication and Division).

Describe the following tools: troff, nroff, Dbx and Adb.

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