

Code No: **R42029**

R10

Set No. 1

IV B.Tech II Semester Supplementary Examinations, July - 2014

UNIX AND SHELL PROGRAMMING

(Electrical and Electronics Engineering)

Time : 3 hours

Max. Marks: 75

**Answer any Five Questions
All Questions carry equal marks**

- 1 a) Draw the architecture of Unix and explain different components of it in detail [8]
b) Explain the following command with Syntax and examples
i) echo ii) passwd iii) more iv) od v) tar [7]
- 2 a) What is vi? Discuss different modes and commands used in vi. [8]
b) Define utility? Write about process utilities and disk utilities with examples. [7]
- 3 a) Define Shell? What are different shells supported by UNIX and write about shell relationships. [8]
b) Write about command execution in Unix. [7]
- 4 Is grep a search utility? Explain about grep family and write the grep/egrep command
i) that selects the lines from a file that start with a string "UNIX" and end with a digit followed by "UNIX"
ii) that select the line from a file that starts with capital letter after zero and end with \$ followed by @. [15]
- 5 a) Explain the concept of awk? Write about fields and records [8]
b) Draw the standard awk script design? How can we use commands in awk script file? [7]
- 6 a) Explain the two purposes of the korn shell? What are the two special files in UNIX that can be used by any shell [8]
b) If the current shell is korn, what would be displayed from each of the following commands explain [7]
i a=44; print a; print\$9
ii a=44; print \$aa; print a\$a
iii a=44; print "\$a"a; print \$a\$a
- 7 a) Write about on-off variables in interactive C shell [8]
b) Write a shell script to display prime number from 1 to 100 [7]
- 8 Write the syntax of create, open, read, write, close system calls with an example program [15]

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- 1 a) How Unix operating system is different from windows operating system? [8]
Explain the features of Unix
- b) Write each of these commands with syntax and an example. [7]
i) PATH ii) man iii) Printf iv) stty v) cat
- 2 a) Does unix have well organized file system? If yes explain it in detail with neat diagram [8]
- b) Write about networking commands and text processing utilities. [7]
- 3 Explain the following [15]
i) Standard streams ii) Pipes iii) Shell meta characters iv) Job control
- 4 Explain in detail the purpose of different types of greps and write the grep/egrep command [15]
i) that selects the lines from a file that start with a string “ UNIX ” and end with a digit
ii) that select the line from a file that starts with capital letter after zero and end with \$
- 5 a) What is a pattern? How many types of patterns are defined for awk [8]
- b) Describe the similarities and difference between the three loop statements in awk while, for, do-while. [7]
- 6 Explain the following [15]
i. Null variables ii. Exporting variables iii. Read –only variables
iv. Predefined variables v. eval command
- 7 a) What are the features of C shell? Explain decisions in C shell programming [7]
- b) Explain the following [8]
i. Changing positional parameters
ii. Argument validation
- 8 a) Write a short note on system calls for file management. [7]
- b) Write a program to display number of lines, words and characters using standard Unix utilities. [8]

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- 1 a) Explore the relationship between kernel, shell, Utilities, hardware. [8]
b) Write the syntax and examples for the following commands
i) mkdir ii) who iii) cp iv) gzip v) uname [7]
- 2 a) Does Unix provide different levels of security? Explain each level and also write about different file permissions [8]
b) What are the different search utilities in Unix and also explain text processing utilities. [7]
- 3 Define filter? Explain the following filters with an example
i) concatenating files
ii) Display beginning & end of file
iii) Sorting
iv) Cut and Paste [15]
- 4 Define Sed? What are different addresses in Sed with an example. [15]
- 5 a) What are the four expressions supported by awk utility [8]
b) Compare and control three different awk output statements (Print, Printf, sprintf) with an example. [7]
- 6 a) Write a short notes on decisions in kornshell [8]
b) Write a script to print the spelling of a digit using case statement [7]
- 7 a) Explain in detail about special parameters in C Shell programming [8]
b) Write a shell script to find whether a given number is palindrome or not? [7]
- 8 a) Explain the following
i) lseek ii) link iii) symlink iv) stat v) chmod [8]
b) Write a program to open a directory and display list of files and sub directories using Directory handling system calls [7]

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- 1 a) Does Unix operating system support multiuser & multi-tasking? Justify with the features of Unix [8]
b) Write the syntax with an example for the following commands [7]
i) script ii) date iii) cd iv) mv v) wc
- 2 a) Draw and explain Unix file system in detail [8]
b) What is the difference between hard link and soft link and also explain what is the purpose of mount command. [7]
- 3 a) What are different types of variables in Unix and explain system variables in Unix [8]
b) Write short notes on [7]
i) Tee Command ii) Quotes iii) Pipes
- 4 Is Sed a utility? What are the nine different Sed commands explain. [15]
- 5 a) When is BEGIN pattern true in awk ? When it is false? Explain with an example [8]
b) What are the similarities and differences between **next** statement and the **getline** function. [7]
- 6 a) Write a short notes on Repetitions in kornshell [8]
b) Write a shell scripts to transpose a 3x3 matrix using **while** and **until** loop. [7]
- 7 a) Distinguish between a shell variable and an environment variable? List out and explain environment variables in detail. [8]
b) Explain the commands in C shell program with examples. [7]
- 8 Explain the structure of dirent and write the syntax for opendir, readdir, closedir, mkdir, rmdir system calls with an example program . [15]