



USN

--	--	--	--	--	--	--	--	--	--

10CS44

**Fourth Semester B.E. Degree Examination, June/July 2017**  
**Unix and Shell Programming**

Time: 3 hrs.

Max. Marks: 100

**Note:** Answer any FIVE full questions, selecting atleast TWO questions from each part.

**PART - A**

- 1 a. With a neat diagram, explain the relationship between Kernel and Shell of the UNIX Operating System. (08 Marks)  
b. Give the directory structure of UNIX file system, with brief explanation. (06 Marks)  
c. Explain the following commands with example : (06 Marks)  
i) cmp ii) comm iii) diff.
- 2 a. Explain different modes in vi editor And list commands in each mode. (08 Marks)  
b. Explain briefly the file attributes listed using ls -l command. (06 Marks)  
c. What are standard input, standard output and standard error? Explain with respect to UNIX operating system. (06 Marks)
- 3 a. Explain the following environmental variables : (08 Marks)  
i) HOME ii) PS2 iii) PATH iv) IFS.  
b. Explain the mechanism of process creation and role of system calls. (06 Marks)  
c. Frame Shell wild card pattern :  
i) List all files whose first character is anything other than an alphabet not in the range d to m.  
ii) List all files whose first character is anything other than an alphabet.  
iii) List all 4 character filenames whose first character is 'a' and third character is 'b'. (06 Marks)
- 4 a. Explain the following commands with examples : (08 Marks)  
i) head ii) cut iii) sort iv) tr.  
b. What is File Permissions? What are the different ways of setting file permissions? Explain. (06 Marks)  
c. Differentiate between hard links and symbolic links with example. (06 Marks)

**PART - B**

- 5 a. How does grep help in searching for a pattern? Explain its i, c, v, n and l options. (08 Marks)  
b. What are Extended Regular Expression (ERE) set used by grep? (06 Marks)  
c. Write any six internal commands used by Sed. (06 Marks)
- 6 a. What is Shell Programming? Write a shell program that will do the following tasks in order  
i) Clear the screen ii) Print the current directory iii) Display the current login users. (08 Marks)  
b. What are Positional Parameters used by Shell? Explain briefly. (06 Marks)  
c. Explain Shell features of while and for with syntax. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.



10CS44

- 7 a. Write an awk script to find HRA, DA and netpay of an employee where DA is 50% of basic, HRA is 10% of basic and the net pay is the sum of HRA , DA and basic pay. (08 Marks)
- b. What are built in variables used by awk? (06 Marks)
- c. Explain any six built in function in awk. (06 Marks)
- 8 a. Explain the variables and operators in Perl. (06 Marks)
- b. Explain String handling functions in Perl. (06 Marks)
- c. Write a Perl script to convert a decimal to binary. (08 Marks)

\*\*\*\*\*