

Code No: 57046

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, March - 2017****LINUX PROGRAMMING****(Computer Science and Engineering)****Time: 3 Hours****Max. Marks: 75****Answer any Five Questions  
All Questions Carry Equal Marks**

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- 1.a) Explain the following commands with suitable examples:  
i) diff                      ii) chmod                      iii) grep
- b) Write a shell script that displays a list of all the files in the current directory to which the user has read and write permissions. [7+8]
- 2.a) Discuss in detail the responsibilities of shell.
- b) Write a shell script that uses a function to find the factorial of an integer. [7+8]
- 3.a) Explain in detail with examples the uses of `semctl ( )` function.
- b) How are hard and soft links created? What are the differences between them? [7+8]
- 4.a) Give the syntax of `open ( )` system call. Explain with a diagram the sequence of steps involved in opening a file.
- b) Write a C program that takes a file name as command-line argument and displays the number of hard links to the file. [7+8]
- 5.a) What are the major sources of signals in Unix? Explain with examples the different ways in which a process can react to signals.
- b) What are the differences between zombie and orphan processes? [7+8]
- 6.a) Compare message queues and pipes.
- b) Write a C program that illustrates how to execute two commands concurrently with a command pipe (Ex. `ls | wc`). [7+8]
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- 7.a) Write C Programs (Send.c and Recv.c) to perform the following:  
One program creates a shared memory segment and reads a message from standard input device into it. Another program opens the the above shared memory segment and writes the above message from the above shared memory segment to the standard output device.
- b) What are the differences between threads and processes? [7+8]
8. Write C Programs (Server.c and Client.c) for connection oriented communication between Client and Server Processes to perform the following using sockets in the Unix domain:  
Client Process sends a message to the Server Process. The Server Process receives the message, reverses it and sends it back to the Client Process. The Client Process then displays the same to the screen. [15]

9. Explain about fixed length and variable index compression. [10]

10. What is distributed document retrieval? Explain the theoretical model of distributed retrieval. [10]

**OR**

11. a) Explain briefly about advantages and disadvantages of combining systems of DBMS and Information retrieval.

b) Explain about Relevance feedback in relational model. [5+5]

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