

**R15****Code No: 824AB****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA IV Semester Examinations, June/July - 2018****LINUX PROGRAMMING****Time: 3hrs****Max.Marks:75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART - A****5 × 5 Marks = 25**

- 1.a) How can you debug the shell scripts? Explain.
- b) What are soft links? And What are hard links?
- c) Differentiate threads and processes.
- d) Explain popen () system call.
- e) What are the advantages of Berkeley sockets?

[5]  
[5]  
[5]  
[5]  
[5]

**PART - B****5 × 10 Marks = 50**

- 2.a) Explain Backup utilities.
- b) Write a shell script that allows a user to view, add, delete or modify a setting in a configuration file?

[5+5]

**OR**

- 3.a) Develop an AWK program to summarize from the list of all processes, a count of processes run by every user (including root).
- b) Write about text processing utilities.

[5+5]

4. Differentiate between the following terms:

- |                              |                            |
|------------------------------|----------------------------|
| a) getc ( ) Vs fgetc ( )     | b) stat ( ) Vs fsat ( )    |
| c) printf ( ) Vs fprintf ( ) | d) scanf ( ) Vs fscanf ( ) |

[5+5]

**OR**

5. Write a program to print the type of a file for each command line argument.

[10]

- 6.a) What are the signals that are not ignored or blocked? Explain the reason behind it with an example?

- b) Illustrate SIGKILL and SIGINT with an example program.

[5+5]

**OR**

- 7.a) Differentiate between fork ( ) and vfork ( )

- b) Write the syntax of six versions of exec functions and also explain how these functions differ from each other.

[5+5]

8. Explain the following concepts about pipes:  
a) Pipes between two process                      b) Pipes among three processes. [5+5]  
**OR**
- 9.a) What is message queue explain with example?  
b) Write a program to implement two-way communication using pipes. [5+5]
10. Explain a stream socket with a illustrative example for client/server program. [10]  
**OR**
11. Explain briefly about the following socket APIs with clear syntax:  
a) socket( )    b) bind( )    c) listen( )    d) accept( )    e) connect( ). [10]

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