Code No: 844AB **R17**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA IV Semester Examinations, December - 2019
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) Explain about the interrupt processing in shell script. [5]
b) Write and explain the syntax of fflush and fseek with an example. [5]
c) Explain about the Zombie process. [5]
d) What is Inter Process Communication? Explain the IPC methods supported by the Linux. [5]
e) Write a program to illustrate read process from shared memory (read data from shared memory and writing to the standard output). [5]

PART - B

5 × 10 Marks = 50

2.a) Write a shell script to find the factorial of a given number.
b) Explain about the characteristics of shell. [5+5]

OR

3.a) Explain about the control structures are used in shell programming.
b) Write a shell script to sort a given list of numbers in ascending order. [5+5]

4.a) Explain the various file types in a UNIX system.
b) Write a program to display the number of lines, words and characters in a file. [5+5]

OR

5.a) Explain about the file descriptors.
b) Explain the different types of operators are used in Perl. [5+5]

6.a) Write and explain the syntax of the following functions
i) kill ii) raise
b) Write the syntax of six versions of exec functions and also explain how these functions differ from each other. [5+5]

OR

7. What is process? Explain how a process can be created and terminated in Linux operating system. [10]

8. What are pipes? Explain their limitations. Explain how pipes are created and used in IPC with an example programs. [10]

OR

9. Write a program to transfer a large amount of data between two processes using message queues. [10]

10.a) Write a program to illustrate file locking using semaphores.
b) Explain about the unix kernel support for semaphores. [5+5]

OR

11.a) Explain the socket system calls for connectionless protocol.
b) Explain in detail the Linux API for shared memory. [5+5]

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