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BICS-026

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

00917 **December, 2017**

BICS-026 : UNIX INTERNALS AND SHELL PROGRAMMING

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any* ***seven*** *questions. All questions carry equal marks.*

1. What is UNIX ? Explain the system structure of UNIX in detail with the help of a suitable diagram. *10*

2. Explain the concept of internal file representation in UNIX. Also explain the process of converting a path name to inode. *10*

3. Explain the following system calls with the help of suitable examples : *10*

   OPEN, READ, WRITE, CLOSE

4. What do you mean by 'piping' in UNIX ? Construct a pile line to execute the following job : *10*

   Output of '1's' should be displayed on the screen and from this output the lines containing the word 'ignou' should be counted and the count should be stored in a file called 'datafile'.

5. What is Process Address Space ? Explain the procedure to manipulate the process address space efficiently. *10*

6. What are the different states of a process ? Explain the concept of process control block in detail. *10*

7. Explain the following UNIX commands with use and syntax : *10*

   man, date, cat, touch, chmod

8. Write a shell script to find out the sum of the digits of a number. *10*

9. Write a shell script to delete all lines containing the word 'ignou' from the file. File name should be supplied as an argument to the shell script. *10*

10. Write short notes on the following : *10*

    (a) Buffer Cache

    (b) BOOT and INIT Process

    (c) Control Statements in Shell

    (d) Master Slave Processor Configuration