322613(22)

B. E. (Sixth Semester) Examination 2020

(New Scheme)

(CSE Branch)

UNIX & SHELL PROGRAMMING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note : Part (a) of each unit is compulsory. Solve any **two** parts from (b), (c) and (d) of each unit. The figure in the right-hand margin indicate marks.*

Unit - I

1. (a) List out the version of Unix.   2

   (b) What are the various modes in which a VI editor works? Explain each of term with example.

(c) What is the meaning of term 'file system'? Explain the contents of boot block, super block mode block, data block.   7

(d) Explain the following commands using examples :   7

   (i) WC

   (ii) script

   (iii) s#y

   (iv) head

   (v) uniq

Unit - II

2. (a) What is Arrays and string in shell?   2

   (b) Write a shell script that presents a multiple choice questions, gets the user answer and responds back whether the answer is right wrong or none of the choices.   7

   (c) Describe the while loops with proper example.   7

   (d) Write a shell script to generate a factorial of a given number entered through keyboard.   7

Unit - III

3. (a) What is buffer pool?   2

(b) What do you mean by buffer cache? Explain the various advantage and disadvantages of buffer cache.   7

(c) Write an alogrithm for reading disk blocks and explain with suitable example.   7

(d) Briefly describe the scenarios the kernel may follow in getblk to allocate a buffer from a disk block.   7

Unit - IV

4. (a) What is Mounting?   2

   (b) What is the role of INODE in UNIX operating systems? Write an along for conversions of a path name to an INODE.   7

   (c) In UNIX operating systems how to change file's owner and file's mode then its algorithm.   7

   (d) How pipes are different from regular file? Explain read write process in pipes.   7

Unit - V

5. (a) What is Process Control?   2

   (b) Describe transitions layout of system memory.   7

(c)   What are various algorithms used to manipulate process virtual address space? Explain the algorithm for attaching and allocating a region.   7

(d)   Write an algorithm for wake up system call.   7