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Paper Code: TCS 301

(B.Tech CSE) End Semester Examination, 2016-2017

III Semester

UNIX and Shell Programming

Time: Three Hours

MM: 100

Note:

- (i) This question paper contains five questions.
- (ii) All questions are compulsory.
- (iii) Instructions on how to attempt a question are mentioned against it.
- (iv) Total marks assigned to each question are **twenty**.

- Q1. Attempt any two questions of choice from a, b and c. (2X10=20 Marks)
- a. Distinguish between Shell and Kernel? Give and Explain UNIX architecture with the help of suitable neat and clean diagram.
 - b. Describe "HOME variable and Parent-Child relationship". Also explain absolute and relative pathnames using appropriate examples.
 - c. What are system calls? Explain Virtual machine with suitable diagram. Also give some advantages of virtual machine.
- Q2. Attempt any two questions of choice from a, b and c. (2X10=20 Marks)
- a. What is Compressing? What is Archiving? Explain the term "Compressing and archiving together". Use appropriate commands and examples in support of your answer.
 - b. How can you assign the permissions to any file or directory? Explain both relative and absolute way of assigning permissions. Also show how can you set the user mask and change the ownership of a file.
 - c. What is Vi-editor? Explain various modes of Vi-editor. Also mention some commands for each mode of Vi-editor.
- Q3. Attempt any two questions of choice from a, b and c. (2X10=20 Marks)
- a. What is Shell's Interpretive Cycle? Give its proper steps. Explain these steps on a particular command example.
 - b. Write a shell script to check whether a file exist or not. If exists then check whether the file has read, write & execute permissions for the current user of the file?
 - c. Give the significance, syntax and examples of following commands:
 - i. case conditional (3 Marks)
 - ii. set and shift (4 Marks)
 - iii. expr (3 Marks)
- Q4. Attempt any two questions of choice from a, b and c. (2X10=20 Marks)

- a. What is Process? What is Process Creation? State different types of processes such as: system Process, Zombie process & orphan process.
- b. How does sort command work? Explain. Also explain the working of grep (-e and -f) command.
- c. What is the significance of sed command? Explain its selection criteria & action using suitable example.

Q5. Attempt any two questions of choice from a, b and c.

(2X10=20 Marks)

- a. What is root? What is the role of System Administrator? Also state various powers of super-user.
- b. What do you understand from the /etc/passwd, /etc/shadow and /etc/fstab files? Explain in brief.
- c. Answer the followings:
 - i. Mounting and Unmounting (5 Marks)
 - ii. Booting and shutdown (5 Marks)