

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]  
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**B. Tech 7th Semester Examination**

**Unix/Linux Administration (OS)**

**CS-7010**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt five questions in all selecting one from each of the Sections A, B, C & D. Section E is compulsory.

**SECTION - A**

1. (a) What is a password? How can you change password in Linux? Explain the concept of strong password. (10)  
(b) In Linux, how will you run a process in background? How will you bring that into foreground and how will you kill that process? (10)
2. (a) Describe how to shut down a halted system in Linux. Describe two causes of system halting in Linux. (10)  
(b) Write a shell script to count and display the number of words in a file that are starting with '1' (one) and ending with '\*'. Explain how script runs over an example file. (10)

**SECTION - B**

3. (a) If your working directory is /home/my with a subdirectory named official, give four sets of commands that you can use to create a subdirectory named department under official. Also give several sets of commands you can use to remove the department directory and its contents. (10)

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- (b) Explain how to administer user accounts and groups in Linux. Explain the contents of /etc/passwd. (10)
4. (a) How do you copy file from one host to other in Linux? What are networking issues involved in supporting such utilities? (10)  
(b) What is a PID number? Why are these numbers useful when you run processes in the background? Which utility displays the PID numbers of the commands you are running? (10)

**SECTION - C**

5. (a) How can you display the permissions for a file or directory? How these permissions can be changed? (10)  
(b) What is a remote host? In Unix, how do you know if a remote host is alive or not? (10)
6. (a) What is a swap partition? How would you create a swap partition in Linux? (10)  
(b) What are different file systems in Linux? Describe how files are protected in Linux. (10)

**SECTION - D**

7. (a) What is logging in Linux operating system? Write a script to schedule the creation of user account at later time. Explain with suitable examples. (10)  
(b) Describe how to perform backup in Unix. Describe how to use the Unix shell in a standalone environment to restore the root file system. (10)
8. (a) What are different file permissions supported in Linux? Explain why hard links must have the same permissions as the files they link to with no exceptions. (10)

- (b) Suppose you are given a text file with one line for each student in a class, each line containing the student's desired username, a tab character, and a desired password. Can you suggest how to create these accounts without doing them one by one? Explain in detail. (10)

### SECTION - E

9. (a) What are the shells commonly used with Linux?  
(b) What is the usual purpose of the /mnt directory?  
(c) Explain LPD and LPR.  
(d) What is the purpose of the umask command?  
(e) Can you make a soft link to a non-existent file? Explain.  
(f) What command will display your login name?  
(g) Explain the purpose of command ifconfig -a.  
(h) Explain the purpose of fsck command.  
(i) What is the output of command ps -a?  
(j) What Linux system call is normally used for process creation? (2×10=20)