Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination –Nov/Dec– 2017**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14CS2044** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INTRODUCTION TO SYSTEM ADMINISTRATION** | **Max. marks :** | **100** |

**ANSWER ALL THE QUESTIONS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub**  **Div** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain the advantage of X window system when developing your own desktop environment. | CO1 | 10 |
|  | b. | Illustrate the different channels supported by Linux with appropriate example and diagram. Also, show that how to perform ***AND***, ***OR***, ***pipe*** and ***tee*** operations using commands. | CO3 | 10 |
|  |  | (OR) |  |  |
| 2. | a. | Illustrate the use of the following commands  i. tar, cpio, gzip, bzip2 ii. hard link and soft link. | CO3 | 10 |
|  | b. | Demonstrate the use of regular expressions in text processing using eight different expressions. | CO3 | 10 |
| 3. | a. | Define the following  i. Process ii. Kernel’s role in process management iii. Multitasking iv. Fork v. process states | CO1 | 10 |
|  | b. | Demonstrate how SSH server and client establishes the connection and its applications like remote connection, generate rsa key, copy id to the remote machine, remote command execution and remote copy. | CO2 | 10 |
|  |  | (OR) |  |  |
| 4. | a. | Perform the following operations   1. Search the text “India” from the file great\_nations using grep 2. Write the ls command with regular expression to list all the files starting with “d(or)D emo: and ending with a range 0-9. 3. Count the number of files exists in a directory /etc using a command and count the number of words in the file /etc/profile. 4. Give the command to split the editor window in horizontal, vertical and switch between windows. 5. display the relationship between processes 6. kill a process with PID 3214. 7. renice the nice value of a process 2117 to 0. Give your justification, Is it possible to renice to 0 or not? 8. command to view the disk utilization of the partition /data 9. start the xeyes application in the background 10. bring the background running application with pid 2345 to the foreground | CO3 | 10 |
|  | b. | Compare the difference among the following commands tail, head, more, less, wc, cat, tac and strings. | CO3 | 10 |
| 5. | a. | Show how the rpm command can be used to perform the following query, search, install, uninstall, update and checking the signature of a package. | CO2 | 10 |
|  | b. | Illustrate the user create, delete modify, group create commands with the commonly used options. | CO2 | 10 |
|  |  | (OR) |  |  |
| 6. | a. | The file ***emp-details*** contains the following information. use awk and sed filters  300 Sanjay Sysadmin Technology $7,000 400 Nisha Manager Marketing $9,500 500 Randy DBA Technology $6,000 600 blrk Sysadmin Technology $9,000  **awk-filter**   * using a awk script find the number of employees working as a system admin * using awk command list the employee names and their designation.   **sed-filter**   * print the lines contains “Sysadmin” * replace all the occurrence of “Sysadmin” to “SystemAdmin” * delete the first line * transform DBA to “dba” * modify the content of the file “Nisha” to “Sindhu” by creating a backup file. | CO3 | 10 |
|  | b. | Analyse the user security issue Linux system and how it can be implemented. | CO1 | 10 |
| 7. | a. | Describe the application of the following i. Shared libraries ii. Paged memory iii. Tracking memory usage iv. Viewing virtual memory information. | CO1 | 10 |
|  | b. | Illustrate the use of the following commands with its options i. wget ii. rsync iii. dd. | CO2 | 10 |
|  |  | (OR) |  |  |
| 8. | a. | Give the appropriate commands to perform the following operations.  i. set the ip address 192.168.100.10/24 ii. set the gateway and dns server address 192.168.100.1 iii. forward all the outgoing packets to 192.168.100.1 | CO2 | 10 |
|  | b. | Write a shell script to check the utilization of home partition at a specific intervals every day and store the results in a single file. | CO2 | 10 |
|  |  | **Compulsory** |  |  |
| 9. | a. | Describe the linux boot process. | CO1 | 10 |
|  | b. | List out the applications of systemd daemon and explain. | CO1 | 10 |

ALL THE BEST