3 Hours / 70 Marks   Seat No. ⬚⬚⬚⬚⬚⬚⬚⬚

Instructions :   (1)   All Questions are *compulsory.*

(2)   Illustrate your answers with neat sketches wherever necessary.

(3)   Figures to the right indicate full marks.

(4)   Assume suitable data, if necessary.

Marks

1.   Attempt any FIVE of the following :   **10**

(a)   Define Shell.

(b)   State the use of echo and bc commands.

(c)   State the use of vi editor.

(d)   State the use of tar command.

(e)   Define : Tree, Pipe

(f)   Define Process.

(g)   Write the use of tput and Who command.

2.   Attempt any THREE of the following :   **12**

(a)   Describe the need of backup.

(b)   Describe netstat and tcp dump commands with example.

(c)   Describe passwd, write, wall and mail commands with example.

(d)   Write in detail about grep and fgrep.

3. **Attempt any THREE of the following :** **12**

    (a)   Describe startup and shutdown operation.

    (b)   Write a shell script to find greatest number.

    (c)   Describe any two linux shell types in detail.

    (d)   State and explain any two internal and external locating linux commands.

4. **Attempt any THREE of the following :** **12**

    (a)   Describe file system in detail.

    (b)   Describe any four navigating commands.

    (c)   Write a shell script to introduce if-else statement.

    (d)   Describe the use of crontab program in linux.

5. **Attempt any TWO of the following :** **12**

    (a)   Compare C shell, Korn shell and Bourne shell (Two points each).

    (b)   Explain state transition diagram in detail.

    (c)   State the use of following commands :

        (i)   mk dir

        (ii)   rmdir

        (iii) cd

        (iv) pwd

        (v)   cal

        (vi) uname

        with example.

6. **Attempt any TWO of the following :** **12**

    (a)   Write a shell script to count number of lines present in a text file.

    (b)   Describe the working of RAID 0 and RAID 1 with suitable diagram.

    (c)   Explain firewall & internet security in detail.

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