Total No. of Questions—8]   [Total No. of Printed Pages—4

Seat
No.

[4657]-574

S.E. (Computer Engg.) (First Semester) EXAMINATION, 2014

OPERATING SYSTEM AND ADMINISTRATION

(2012 COURSE)

Time : Two Hours   **Maximum Marks : 50**

N.B. :— (*i*) Attempt Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4**,
            Q. No. **5** *or* Q. No. **6**, Q. No. **7** *or* Q. No. **8**.

   (*ii*) Neat diagrams must be drawn wherever necessary.

   (*iii*) Figures to the right indicate full marks.

   (*iv*) Assume suitable data, if necessary.

1. (*a*) Define the following OS terms :   [6]

       (*i*) Multiprogramming

       (*ii*) Multitasking

       (*iii*) Multiprocessing

       (*iv*) Multithreading

       (*v*) Monolithic kernel

       (*vi*) Microkernel.

    (*b*) Explain the file system data structures of Unix with neat diagram
         (UFDT, FT and IT).   [6]

2. (*a*) Draw and explain the block diagram of system kernel. [6]

(*b*) Draw and explain the 4 state process diagram (inclusive of kernel and user modes). [6]

3. (*a*) Explain the different types of files in unix. Also give the command to display the same. List the different categories of users in unix. [6]

(*b*) Explain the following commands in unix :

grep, ripe, stat, mount, chmod and ln. [6]

Or

4. (*a*) Differentiate between Grub and Lilo. [3]

(*b*) Explain the run levels of Booting process in unix. [6]

(*c*) Explain any *three* characteristics of perl programming. [3]

5. (*a*) Explain in detail signal and kill function with parameters. [4]

(*b*) Explain the following unix commands :

nice, renice, top, prstat, strace. [5]

(*c*)   Differentiate between the following :   [4]

(*i*)   Modern Access Control and Real World Access Control

(*ii*) User mode and Kernel mode.

Or

6.   (*a*)   Explain the concept of :   [6]

(*i*)   nobody account

(*ii*) real, effective and save id's

(*iii*) setuid and setgid commands.

(*b*)   Explain runaway processes, sudo command and su command. [3]

(*c*)   Explain the concept of :   [4]

(*i*)   shadow password

(*ii*) pseudo users with respect to /bin/false and /bin/nologin.

7.   (*a*)   Give the entries of /etc/passwd file and /etc/group file.   [6]

(*b*)   Explain the following :   [6]

(*i*)   fsck

(*ii*) mkfs

(*iii*) file system mounting.

(*c*)   Define disc partitioning.   [1]

Or

8. (*a*) Explain the following : [6]

(*i*) useradd

(*ii*) userdel

(*iii*) RAID.

(*b*) List any *three* storage devices. [3]

(*c*) Differentiate between the following : [4]

(*i*) SATA and PATA

(*ii*) Unix and Linux.