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**[4857]-1074****S.E. (Computer Engineering) (First Sem.) EXAMINATION, 2015****OPERATING SYSTEM AND ADMINISTRATION****(2012 PATTERN)****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 and 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) Explain the characteristics of Unix file system as well as Processing Environment. [6]
- (b) State difference between system call, libraries and header file. [6]

*Or*

2. (a) What is bootstrapping ? Explain boot process steps in detail. [6]
- (b) Explain all the steps involved in adding a new user without using adduser command. [6]

P.T.O.

3. (a) What is an i-node in UNIX file system ? Explain i-node structure of a file including : [6]
- (i) Direct Block Pointers
  - (ii) Indirect Block Pointers
  - (iii) Double Indirect Block Pointers
  - (iv) Triple Indirect Block Pointers.
- (b) What is process ? Explain process transition diagram. State different reason of process swap out while in running state. [6]

*Or*

4. (a) Explain the term context switch with respect to Kernel process is non-preemptive. [6]
- (b) Write short notes on : [6]
- (i) Bash Scripting
  - (ii) Perl Scripting
  - (iii) Python Scripting.
5. (a) Explain final outcome of the commands given below (use suitable example) : [6]
- (i) `umask a-x`
  - (ii) `ps -elf|grep chrome>abc.txt`
  - (iii) `fdisk-1`
- (b) Explain Modern access control Vs. Real word access control. [7]

*Or*

6. (a) Explain the analogies related to process given below : [6]
- (i) Orphan
  - (ii) Zombie
  - (iii) Daemon.
- (b) What is Sticky a Bit ? Explain importance of a sticky bit using appropriate symbolic example. How to check if a folder is set with Sticky Bit or not ? [7]
7. Answer the following :
- (i) State difference between SATA and PATA. [4]
  - (ii) With neatly labelled diagram explain RAID. [5]
  - (iii) Write a short note on Crontab scheduling. [4]

*Or*

8. Answer the following :
- (i) Explain all the attributes of /etc/group file. [4]
  - (ii) Compare and contrast the Ext2, Ext3, Ext4 family. [5]
  - (iii) What are different partitions in UNIX ? Explain. [4]