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**S.E. (Computer Engg.) (I Sem.) EXAMINATION, 2018**  
**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, 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) Enlist any six features of UNIX operating system. [6]  
(b) Explain the file system data structures of UNIX with neat diagrams (UFDT, FT and IT). [6]

*OR*

2. (a) Enlist the characteristics of Unix file system. [6]  
(b) Draw and explain the block diagram of system kernel. [6]
3. (a) Write a short note on bootstrapping. [6]  
(b) List the various file access permissions that can be assigned in NFSv4 system. [6]

*OR*

4. (a) Explain the run levels of booting process in Unix. [6]  
(b) Explain the following commands in Unix :  
grep, pipe, stat, mount, chmod, ln [6]

P.T.O.

5. (a) What is role based access control ? [6]  
(b) Write a short note on signal handling. List and explain any 6 signals. [7]

*OR*

6. (a) Explain how kill function can be used to send signal to a group of process. Also give the syntax of kill function. [4]  
(b) What is a shadow password file ? Where does user password reside in Unix ? [3]  
(c) Differentiate between user mode and kernel mode instructions. Explain how does a user level process change to kernel level. [6]
7. (a) What is meant by disk partitioning and disk formatting ? [4]  
(b) What are storage devices ? Explain any *three* of them. [6]  
(c) What are startup files ? What are the tasks of startup files ? [3]

*OR*

8. (a) Define disc partitioning. Explain the following : [7]  
(i) useradd  
(ii) userdel  
(iii) RAID  
(b) Write short notes on the following : [6]  
(i) File system polymorphism  
(ii) File system mounting