S.4

Code No: 9A05602/R09

Set-2

III B.Tech. II Semester Regular Examinations

April/May - 2013

UNIX INTERNALS

(Computer Science and Engineering)

Time: 3 Hours | Max. Marks: 70

*Answer any **FIVE** Questions*

***All** Questions carry **equal** marks*

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1. (a) Discuss in detail about the multiple processes that are sleeping on a lock.
   (b) With the help of neat sketch explain the architecture of Unix system.

2. (a) Distinguish between asynchronous and delayed write.
   (b) Write the algorithms for the following:
      (i) Writing to a disk
      (ii) Reading from a disk.

3. (a) How can we access the inodes? Explain in detail.
   (b) Write and explain the algorithm to convert a path name to an inode.

4. (a) Discuss in detail about the mounting and unmounting of a file system.
   (b) Write a short notes on dup system call.

5. (a) Design an algorithm that translates virtual addresses to physical addresses, given the virtual address and the address of the region entry.
   (b) Give brief description about the interrupts and exceptions.

6. (a) Discuss in detail about the various anomalies that arise due to the signals.
   (b) Give brief description about exit and wait system calls.

7. (a) What is the importance of nice system call in process scheduling? Explain in detail.
   (b) Write a program to handle process lock.

8. (a) What is a stream? Explain how to push a module onto a stream.
   (b) Explain the data structures for shared memory.