NR

Code No: A0608

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech I Semester Examinations, March/April-2011

ADVANCED OPERATING SYSTEMS

(DIGITAL SYSTEMS & COMPUTER ELECTRONICS)

Time: 3hours **Max. Marks: 60**

Answer any five questions

All questions carry equal marks

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1. Describe briefly the UNIX architecture explaining the role played by the Kernel and shell in sharing the work load. [12]

2. Create a file friend. How do you as signal permissions to the owner and remove all permissions from others using
   i) Selatic assignment
   ii) absolute assignment
   Do you need to make any assumptions about friend's default permissions? [12]

3. a) Explain the difference between system calls and library functions. What happens in the CPU when a system call is involved?
   b) What is a file descriptor and what is it used for? Name the system calls that calls that se a file descriptor. [12]

4. a) Explain Pipes in detail. Give relevant diagrams to explain
   i) Pipes in a single process. ii) Pipes between three processes in a shell pipe line. [12]
   b) Explain the rules for reading and writing a pipe.

5. Compare the use of UNIX domain stream sockets and message queens. If you had to write a server to handle multiple client requests on a single host, which would you use and why. [12]

6. Explain the criteria for the design of any operating system in general.

7. In Linux, shared libraries perform many operations central to the operating systems. What is the advantage of keeping this functionality out of the Kernel? Are there any draw backs? Explain your answer. [12]

8. Explain in detail, the three main bodies of code that Linux system is composed of a) Kernel b) System libraries c) System utilities [12]

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