Code No: C8202, C7802 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech I - Semester Examinations, April/May-2012

NETWORK PROGRAMMING

(COMMON TO COMPUTER NETWORKS, COMPUTER NETWORKS AND INFORMATION SECURITY)

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

Answer any five questions

All questions carry equal marks

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1.a) Explain the following Unix commands with suitable examples:
i) ftp ii) grep ii) tar iv) chmod

b) Write a shell script to list all of the directory files in a directory.

2.a) What are hard and soft links? How are they created?

b) Write a C program that takes a filename as command-line input and reports the following information on the file:
i) File type ii) Number of hard links.

3.a) What are signals in Unix? What conditions can generate signals?

b) Explain the differences between the following:
i) Wait and waitpid functions ii) fork and vfork functions.

4. Write C programs (test1.c and test2.c) that illustrate two unrelated processes communicating using named pipe.

5.a) Explain in detail how the IPC functionality is provided by Shared Memory.

b) Compare the IPC functionality provided by pipes, message queues, and shared memory.

6.a) Explain the different purposes for which fcntl function can be used.

b) Explain how semaphores are used to provide synchronization.

7.a) Draw a diagram that shows the calling sequence of socket system calls for connectionless communication between a Client and Server.

b) Explain the purpose of the following socket API in Unix in detail (with syntax):
i) socket () ii) bind () iii) recvfrom () iv) sendto ()

8. Write notes on any TWO of the following:
a) Associative arrays in Perl.
b) RPC model.
c) Transparency issues handling in Sun RPC.

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