Second Semester M.Tech. Degree Examination, June/July 2013
Client Server Programming

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1   a.   Explain different issues to be addressed during server side program development. **(05 Marks)**
    b.   What is a statefull-server? Explain with an example, pros and con of statefull server.
                                                        (05 Marks)
    c.   What do you mean by concurrency? How UNIX supports concurrency in application development? With a UNIX-C program to demonstrate concurrency. **(10 Marks)**

2   a.   How program interfaces are useful in client-server application development? **(04 Marks)**
    b.   What are the basic unix system calls that are used in socket programming? **(06 Marks)**
    c.   Explain conceptual operating system data structure used in socket system call. **(04 Marks)**
    d.   Explain socket address structure? Why TCP/IP programmers prefer to use sock add-in?
                                                        (06 Marks)

3   a.   What are the different ways a client can identify location of a server? What are the issues involved? **(08 Marks)**
    b.   Give the structure of hostent, servent, protent. Give the code segment to resolve, host, service and protocol. **(12 Marks)**

4   a.   Explain partial close. Under what circumstance can a client program use close instead of shutdown? **(10 Marks)**
    b.   Explain statelessness. How do you optimize statelessness? **(10 Marks)**

5   a.   Give the algorithm for iterative connection-oriented and connection-less servers. Explain each step. **(12 Marks)**
    b.   Describe steps involved concurrent-connection oriented servers. **(08 Marks)**

6   a.   Write a UNIX-C program to create passive socket, to be recent for either TCP or UDP.
                                                        (10 Marks)
    b.   Write a UNIX-C program to implement TCP ECHO server program. **(10 Marks)**

7   a.   Describe apperant concurrency. Explain how apparent concurrency can be achieved using a single process. Write the algorithm for the same. **(08 Marks)**
    b.   With example of TCP-time protocol program, explain concurrent servers. **(12 Marks)**

8   Write a note on:
    a.   Process structure of connection oriented concurrent servers.
    b.   Servers as a client.
    c.   Server dead lock.
    d.   Concurrency in network. **(20 Marks)**

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