ANNA UNIVERSITY, CHENNAI - 600 025

B.E/B.TECH DEGREE EXAMINATIONS - OCT/NOV 2014

Regulations -2008   
 Fifth Semester

B.E COMPUTER SCIENCE AND ENGINEERING

CS2307 NETWORK LAB

Time: 3 Hours Maximum Marks: 100

1. a)Write a TCP/IP Minichat Client/Server Application to support multiple

simultaneous chat sessions Using multithreading. (60)

b) Simulating sliding window protocol for transmitting data using files concept in C. (40)

2. a)Write a UDP Minichat Client/Server Application to support multiple simultaneous

chat sessions Using multithreading. (60)

b) ) Implementing a Routing Protocol for find the shortest path using C concept. (40)

3. a)Write a program to print the date and time from server to client . (50)

b) Create a program connecting to web server www.yahoo.com. (50)

4. a)Write a simple TCP/IP file server. The server replies the client by sending the list of   
 available files and the responds with a one-line message, either "ok" or "error". If the   
 message is "ok", it is followed by the contents of the file with the specified name.   
 The "error" message indicates that the specified file does not exist on the server. (60)

b) Create a program connecting to web server www.google.com (40)

5. a) Write a simple UDP file server. The server replies the client by sending the list of   
 available files and the responds with a one-line message, either "ok" or "error". If the   
 message is "ok", it is followed by the contents of the file with the specified name.   
 The "error" message indicates that the specified file does not exist on the server. (50)

b) Implementing routing protocol using the concept of OPEN SHORTEST PATH FIRST

(OSPF) routing protocol based on cost. (50)

6. a)Write a client/server programs to allow exchange of multiple messages using

TCP/IP Socket. (50)

b) Implementing a Routing protocol to find the shortest path host using (BGP) (50)

7. a) Implement Echo Server using connection oriented Socket System Calls. (50)

b) Implement RPC to support arithmetic Operations. (ADD, SUB, MUL, DIV)

(50)

8. a) Implement Chat Server using connectionless Socket System (50)

b) Find out the shortest path between the nodes using Open Shortest Path First (OSPF)

routing protocol. (50)

9. a)Implement token ring network and examine the performance using simulator. (50)

b)Write a program to print the client IP address at the server end. (50)

10. a)Write a program for the simulation of Domain Name System. (50)

b) Implement RPC to support arithmetic Operations. (ADD, SUB, MUL, DIV). (50)

11. a)Implement RPC to support String Lower case to Upper Case. (50)

b)Design any two topology and study the performance in terms of traffic patterns

using simulator. (50)

12. a)Examine OSPF routing, considering link failures, explicit cost assignment, and the

upgrading of existing links, in order to understand the intricacies of the routing

algorithm. (50)

b) Write a program to capture and to block the packets over the network using raw

sockets. (50)

13. a)Write a program for transferring a file using TCP. (50)

b) Examine the bit error rate and throughput in sliding window protocol. (50)

14. a)Write a program to implement multiclient-server chat program using TCP. (50)

b) Design a RPC application to reverse a given string. (50)

15. a)Implement Echo Server Using RPC. (50)

b) Write a program to sort the given N number using TCP. (50)

16. a)Implement Echo Server Using UDP. (40)

b) Write a program to sort the given N number using RPC. (60)

17. Write a program to measure the performance (latency) of TCP and UDP sockets. To   
 measure round-trip latency, use UDP and TCP to send and receive messages of size   
 1-byte, 100-bytes,200-bytes, 300-bytes, ..., and 1000-bytes. Report the round-trip

time for each protocol. (100)

18. Write a program to measure the performance (throughput) of TCP and UDP. To   
 measure throughput, send messages of size 1KByte, 2KBytes, 4KBytes, 8KBytes,   
 16KBytes, and 32KBytes in one direction, with a message of the same size echoed

back in the reverse direction. (100)

19. a)Write a program to capture and to block the packets over the network using raw

sockets. (60)

b) Write a program to get the MAC or Physical address of the system using Address

Resolution Protocol. (40)

20. a)Implement Echo Server using connectionless Socket System Calls. (40)

b)Implement Remote files Access using RPC. (60)