

Roll Number: _____

Thapar Institute of Engineering & Technology, Patiala

Department of Computer Science and Engineering

AUXILIARY EXAM

B. E. (Third Year): Semester-V

Course Code: UCS413

Branch: CSE/COE

Course Name: Network Programming

16th August, 2022 (Tuesday)

Time: 5:30 P.M. To 7:30PM

Duration: 2 Hours

Max Marks: 50

Name of Instructor: Dr Surjit Singh

Note: Attempt all questions in a proper sequence. Questions having multiple parts should be attempted at one place. Without proper steps and justification (wherever required), no marks will be awarded. Write your programs in C. Assume missing data, if any, suitably.

Q1	Write a program to create an Echo-Server using TCP socket programming in connection- oriented Scenario. Echo Server echo back (return back) the message sent by the client. No need to write client-side program.	Marks 10
Q2	<p>a). What are SVIs?</p> <p>b). Describe IEEE 802.1q VLAN Header.</p> <p>c) Describe Intra-VLAN and Inter-VLAN Routing with the help of suitable example.</p>	<p>2</p> <p>3</p> <p>2.5+2.5</p>
Q3	<p>a) What are TLVs? Briefly explain its components with a suitable example.</p> <p>b) Differentiate between three transmission modes of FTP. Illustrate with the help of an example how these modes operate for data transfer.</p>	<p>5</p> <p>5</p>
Q4	<p>Following is the dump of a TCP header in hexadecimal format.</p> <p>0532 0017 00000001 00000000 500207ff 00000000</p> <p>i). What is the source port number?</p> <p>ii). What is the destination port number?</p> <p>iii). Sequence Number?</p> <p>iv). What is ACK no.?</p> <p>v). What is the length of the header?</p> <p>vi). What is type of segment?</p> <p>vii). What is the window size?</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>2.5</p> <p>2.5</p>
Q5	<p>a). Explain IP in IP with the help of a suitable example.</p> <p>b). WAP to design HTTP webserver.</p>	<p>5</p> <p>5</p>