


Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Online End Sem Examination, May 2021

Course: Data Communication and Computer Networks

Semester: II

Program: M.Tech CSE

Time 03 hrs.

Course Code: CSEG-7004

Max. Marks: 100

SECTION A

- 1. Each Question will carry 5 Marks**
- 2. Instruction: Complete the statement / Select the correct answer(s)**

S. No.	Question	CO
Q 1	What is difference between TCP and UDP?	CO2
Q2	Forward and Backward error Correcting codes-Differentiate	CO4
Q3	What is size of windows at both sides in Go Back N?	CO5
Q4	Why Nequist theorem is used?	CO3
Q5	Why Sub-netting is required?	CO5
Q6	Define computer networks? Discuss various types of networks topologies in computer network	CO1

SECTION B

- 1. Each question will carry 10 marks**
- 2. Instruction: Write short / brief notes**

Q 7	Data 10101110011010, need to be sent from sender A to sender B from a network While looking at this data, you need to answer following: if data sent and received are not same, consider error is generated at bit position 5th i.e. now data received is 10101110001010. Then detect and correct error using hamming codes	CO2
Q 8	Differentiate between TCP and OSI model? What are PDUs(Protocol data Units) while transferring data from one node to another at every layer in TCP Model.	CO1
Q 9	A pure ALOHA network transmits 200-bit frames on a shared channel of 200 kbps. What is the throughput if the system (all stations together) produces 1000 frames per second .	CO3
Q 10	Draw a format of IP datagram and elaborate its header format.	CO4

Q 11 Write short notes on HTTP, DNS, Telnet, and DHCP.

C05

Section C

1. Each Question carries 20 Marks.
2. Instruction: Write long answer.

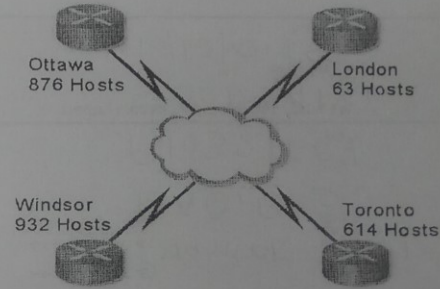
Q12

You are the network administrator for Bunch-A-Hosts Limited in Windsor and are required to subnet the network according to the diagram. You have decided to use the network 172.16.0.0. There are multiple subnets at each site but you are only responsible for providing usable subnetworks with enough IP addresses to cover the current number of hosts and future growth as outlined below.

- Ottawa - 10% Growth
- Windsor - 15% Growth
- Toronto - 10% Growth
- London - 5% Growth

Subnetworks are assigned beginning with the first usable subnet.

Answer the following:



What class is this address?		What is the default subnet mask (Dotted Decimal)	
How many bits did you borrow?		What is the new subnet mask (Dotted Decimal)?	
How many subnets have been created?		What is the new subnet mask (IP Prefix)?	
How many hosts are there per subnet?		How many usable hosts per subnet?	

Provide the required addresses for the subnetworks you will use.

Network	Network Address	Host Range	Broadcast Address
Ottawa			
Windsor			
Toronto			
London			

B) Write short notes on

- a) Process to Process Delivery
- b) Node to Node Delivery
- c) Host to Host Delivery

{6, 6}

C03

OR

An administrator have 192.168.1.0/24 network. The administrator has three different departments with different number of hosts. Sales department has 100 computers, Purchase department has 50 computers, Accounts has 25 computers and Management has 5 computers. Using CIDR, create subnets and give address ranges to all subnets with their network addresses.