Name: _____ Roll No: _____

Computer Networks-A - Objective

Total Points: 60 Time Allowed: 30 minutes

Use time & space efficiently!

Define Modulation and Encoding? What is the difference between the two? (2)

_____

_____

Define Data Rate and Baud Rate? What is the difference between the two? (2)

_____

_____

The maximum data rate of a channel depends on three factors, name them? (3)

1. _____2. _____3. _____

List down three main differences between DNS and ARP (3)

1. _____

2. _____

3. _____

List down three main differences between IP address and MAC address (3)

1. _____

2. _____

3. _____

What is the main feature that makes switch an 'intelligent' hub. Explain (2)

_____

_____

It is said that layer 2 switch works in a 'transparent' manner. Explain (2)

_____

Name: _____ Roll No: _____

Name: _____ Roll No: _____

Out of the 5 layers of TCP/IP model, which layers are made in software and which layers are made in hardware? (2)

_____

_____

Name two protocols that do not fall into the traditional 5 layers of TCP/IP model i.e., they cross two layers. Also list which layers they cross? (4)

Protocol 1: _____

Protocol 2: _____

What is the "core" responsibility of Transport Layer? What is the "core" responsibility of Network Layer? (2)

Transport Layer: _____

Network Layer: _____

What is the main difference between "Forwarding" and "Routing"? (2)

_____

_____

What is the best case and the worst case network efficiency for Bit-Map protocol? Explain all the terms involved in any formula (2)

_____

_____

Channel efficiency of Ethernet is given as $\frac{1}{1+2BLe/cF}$. Explain the consequences of increasing network bandwidth (B), assuming everything else remains constant. (1)

_____

_____

Fill in the table by providing "Yes" or "No" (6)

	ALOHA	Non Persistent	CSMA/CD
Slotted Time			
Reservation Based			
Carrier Sense			
Aborts on Collision			

Name: _____ Roll No: _____

What is the main trade off between CSMA protocols and Reservation based protocols? (2)

It is said that 1-persistent CSMA is 'greedy'. Do you agree? Explain your answer (2)

Consider the discussion on IPv4 to IPv6 transition. What is the main benefit of "tunneling" as compared to the "dual stack approach"? Explain tunneling briefly. (2)

Explain the two major reasons because of which Internet is not a single network but a series of connected Autonomous Systems. (2)

Reason 1:_____

Reason 2:_____

Both iBGP and OSPF protocols run inside an Autonomous System. What is the specific purpose of each? In which order should they run? Does the order matter? (3)

Explain TCP Fast Retransmit policy. (1)

Explain the functionality of "Receive Window" field in the TCP Header. (2)

Name: _____ Roll No: _____

Following Two Questions relate to the ACM Webinar on Future of the Internet

What is meant by Digital Vellum? Why is it a huge challenge? (2)

What are Delay and Disruption tolerant Networking protocols? How are they different from TCP? Where are they used? (3)

Following Two questions relate to the Seminar on Server Virtualization and Consolidation

What is meant by Server Consolidation? Give two advantages of server consolidation. (3)

What is a Hypervisor? What percentage of resources does it consume? (2)