2081:

Long Answer Questions: [10 marks each]

1. A bit stream 1101011011 is transmitted using the standard CRC method. The generator polynomial is 10011. What is the actual bit transmitted?
2. What are the features of the application layer? Why is DNS required? Explain about recursive, non-recursive, and iterative DNS queries.
3. Provide reasons for transitions from IPv4 to IPv6. Describe the IPv6 datagram format.

Short Answer Questions: [5 marks each]

4. Explain about connection-oriented network services.
5. Illustrate the functionality of Media Access Control.
6. Why do you think Network Functions Virtualization architecture is required? Explain.
7. Assume a class C network and divide it into three subnets. What is the value of the new subnet?
8. Difference between web server and proxy server.
9. Explain the working mechanism of token bucket.
10. What do you understand by PPP protocol? Explain its link setup process.
11. Explain any two wireless transmission media.
12. Write short notes on:

a. ICMP

b. IGMP

2080-new:

Long Answer Questions: [10 marks each]

1. What is classful addressing? Explain link state routing with a suitable example.
2. What is flow control? How does stop-and-wait ARQ protocol handle error? What are its disadvantages.
3. Explain TCP header with a neat diagram. Highlight on its uses.

Short Answer Questions: [5 marks each]

4. Explain different types of network topologies.
5. What do you understand by circuit switching? Explain. What are its advantage and disadvantage ?
6. State the functionality of logical link control. Briefly explain HDLC.
7. Differentiate between unicast and multicast routing.
8. What is the difference between port and socket? Explain leaky bucket algorithm with example.
9. What do you understand by DNS? Explain FTP and SFTP.
10. Explain architecture of SDN.
11. Suppose you are given an IP address 192.168.0.0, perform subnetting and divide the given network in 2 subnets. Calculate total number of host that can be configured, range of IP address.

12. Write short notes on :

    a. IPv4

    b. Infrared

Model:

Long Answer Questions: [10 marks each]

1. Suppose you are assigned to design a LAN for an office having 3 departments. Each department will have 50 computers locating in 10 rooms each equipped with 5 computers. Make your own justification while selecting connecting devices and acccessories.
2. Highlight on the importance of routing algorithm. Explain Distance Vector Routing algoriithm and compare it with link state routing.
3. Explain various congestion control approaches.

Short Answer Questions: [5 marks each]

4. Is 192.16.144.64/27 a host, network, or broadcast address? In which layer of OSI model do Hub, Switch and Router operate on?
5. Describe the working procedure of Token bus and Token ring.
6. Why do you think network traffic analysis is carried out? How does IPv6 overcome the disadvantages of IPv4?
7. Find Hamming code for data 01100111.
8. Differentiate between frame relay and ATM.
9. What is the function of proxy server? Explain about electronic mail.

10. Demonstrate the use of socket programming for creating network application using UDP and TCP with necessary diagrams.
11. Explain DNS with reference to its hierarchy and records.
12. Write short notes on (any two):
    a. Firewall
    b. Packet switching
    c. NGN

2080:

Long Answer Questions: [10 marks each]

1. What is classless addressing? Explain distance vector routing with a suitable example.
2. What is flow control? How does stop-and-wait ARQ protocol handle error? Where does this protocol reside in OSI layer?
3. Explain TCP header with a neat diagram. Highlight on its uses.

Short Answer Questions: [5 marks each]

4. What do you understand by packet switching? Explain. What are its advantages and disadvantages?
5. Explain different types of network types.
6. Suppose you are given an IP address 172.16.0.0, perform subnetting and divide the given network into 2 subnets. Calculate total number of hosts that can be configured, range of the IP addresses.
7. Differentiate between link state and distance vector routing.
8. What is socket programming? Explain tocket bucket algorithm with an example.
9. Differentiate between IMAP and POP3. Explain SNMP.
10. Explain the architecture of NGN.
11. Highlight on the use of PPP. What are the functions of Media Access Control.

12. Write short notes on:

    a. IPV6

    b. Microwave

2079:

Long Answer Questions: [10 marks each]

1. What is protocol? Explain each layer of OSI modal in detail.
2. Differentiate error detection with error correction. Explain CRC (Cyclic Redundancy Check) method for error detection with a suitable example.
3. Explain distance vector routing with example.

Short Answer Questions: [5 marks each]

4. Why do we need network topology? Explain star topology along with its merits and demerits.
5. Define Protocol. Why do we need standards?
6. Write the subnet ID and broadcast address of each subnet if you divide a class C network (192.168.3.0 – 192.168.3.255) into 4 different subnets. What is the new subnet mask?
7. What is circuit-switched network? Explain phases during communication in a circuit-switched network?
8. What is a virtual circuit network? Explain frame relay as a virtual circuit-wide area network.
9. Why TCP is called a connection-oriented and reliable protocol? Differentiate TCP with UDP.

10. Explain architecture of WWW. What is URL?

11. Explain in brief about software defined network? What are its features?

12. Write short notes on (any TWO):

    a. Protocol and standards

    b. Switch

    c. Checksum

2078:

Long Answer Questions: [10 marks each]

1. What is transmission media? How do guided media differ from unguided media? Explain different types of guided media in detail.
2. What is flow control? Explain Stop-and-Wait ARQ with suitable example. How is it different from G-Back-N ARQ?
3. Explain link state routing with example.

Short Answer Questions: [5 marks each]

4. Explain client/server network. How is it different from peer to peer network?
5. What is CSMA/CD? Why is there no need for CSMA/CD on a full-duplex Ethernet LAN?
6. What subnet ID and broadcast address of each subnet if you divide a class B network (150.10.0.0 – 150.10.255.255) in 4 different subnets. What is the new subnet mask?
7. Explain the structure of IPv6 address. Compare IPv6 address with IPv4 address.
8. What is virtual circuit network? Explain ATM as a virtual circuit wide area network.
9. What is routing table? Differentiate static routing table with dynamic roting table.
10. What is open-loop congestion control? Compare it with closed-loop congestion control.

11. What are the different approaches for multimedia streaming? Explain.

12. Write short note on (any two):

    a. Backbone network

    b. ISDN

    c. ALOHA

2076:

Long Answer Questions: [10 marks each]

1. Explain each layer of TCP/IP model in detail. Compare it with OSI model.
2. Define transmission media. What are different types of transmission media. Explain different types of unguided media in detail.
3. Define flow control. Explain Go-Back-N ARQ with suitable example. How is it different from Stop-and-Wait ARQ?

Short Answer Questions: [5 marks each]

4. Define network topology. Explain ring topology along with its merits and demerits.
5. Explain LAN with example. How is it different from PAN?
6. Define routing table. Differentiate static routing table with dynamic routing table.
7. What is switching? Compare and contrast a circuit-switched network and packet-switched network.
8. Why do we need wireless LAN? Explain the architecture of IEEE 802.11 in detail.
9. What is NAT? How does it work? What are its benefits?
10. In a block of address, we know the IP Address of one host is 192.34.12.56/28. What are the first address(network address) and the last address (limited broadcast address) in this block?

11. Why do we need a DNS systemOld when we can directly use an IP address? what is domain name space?
12. Write short notes on (any two):
    a. Connection-oriented service
    b. Bridge
    c. Hamming distance