**Choice Based Credit System Fifth Semester B.C.A.
Degree Examination, April/May 2022
(2021-22 Batch Onwards)
COMPUTER AND COMMUNICATION NETWORKS (Group – I)**

Time : 3 Hours   Max. Marks : 80

Note :   Answer **any ten** questions from Part – **A** and **one full** question
from **each** Unit in Part – **B**.

PART – A

1. a) Define i) bandwidth ii) Attenuation.

    b) What is Protocol stack ?

    c) Give any two examples for end devices.

    d) Name the two types of network media.

    e) What is IP loopback address and zero address ?

    f) Name the different IPv6 addressing types.

    g) List any four major challenges with mobile IP.

    h) What is network routing ?

    i) What are ports and sockets ?

    j) Write the services provided by session layer.

    k) Write any two advantages of POP3.

    l) What is Cryptography ?   (10×2=20)

PART – B
Unit – I

2. a) With the help of a diagram, explain Bus Topology.

    b) Explain any two connectivity devices.

    c) Explain OSI model.   (4+4+7)

3. a) What is network operating system ? Explain Peer-to-peer network and
       Client-server network.

    b) Explain TCP/IP reference model.

    c) List and explain any two internet working devices.   (5+5+5)

Unit – II

4. a) What is CSMA ? Explain its different types.

   b) Explain how ARP resolves MAC addresses for local traffic.

   c) Briefly explain IPv4 address classes.   (5+5+5)

5. a) What is Ethernet ? Explain how does it work.

   b) What is RARP ? How does RARP works ?

   c) Explain the features of IPv6.   (5+5+5)

Unit – III

6. a) Write a note on :

      i) Infrared LAN   ii) Spread-Spectrum LAN

   b) What are the various metrics used for routing algorithm ? Explain.

   c) Write the characteristics of TCP and UDP.   (5+5+5)

7. a) Briefly explain the steps involved in establishing a call between two mobile users in a cellular network.

   b) Explain the various BGP message types.

   c) Explain the components of session initiation protocol.   (5+5+5)

Unit – IV

8. a) Explain the steps of a Remote Procedure Call.

   b) List and explain the various tasks provided by presentation layer.

   c) Explain the active and passive connection modes of FTP. (5+5+5)

9. a) What are the major sessions layer protocols ? Explain.

   b) What is data encryption ? Explain its objectives.

   c) Briefly explain various network security components.   (5+5+5)

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