Progressive Education Society's
Modern College of Arts, Science & Commerce (Autonomous)
Ganeshkhind, Pune – 16
End Semester Examination: April.2024
Faculty: Science and Technology

Program: B.S.c. Computer Science   **Semester: IV**
Code : (BScComp05)   **SET: B**
Program (Specific): Computer Science   **Course Type:** CC
Class: S.Y.B.Sc(Computer Science)   **Marks:** 35
Name of the Course: Computer Network I   **Time:** 2 Hr
Course Code: 23-CS-242
Paper: II

Instructions to the candidate:

1) *There are 4 sections in the question paper. Write each section on a separate page.*
2) *All Sections are compulsory.*
3) *Figures to the right indicate full marks.*
4) *Draw a well labelled diagram wherever necessary.*

SECTION: A

Q1) Solve the following Multiple-Choice Question [5]

1 . _____ are protocols used in the transport layer.

a . TCP and IP   b. UDP and HTTP   c. TCP and UDP   d. HTTP AND FTP

2. _____ is NOT a key element of a protocol.

a . Semantics   b. Signal   c. Syntax   d. Timing

3. _____ is NOT a function of the network layer.

a . Framing   b. Packetizing   c. Routing   d. Fragmentation

4 . Variation in delay is called.

a . Noise   b. latency   c. Jitter   d. Lag

5. _____ is a controlled access method.

a . ALOHA   b. CSMA   c. polling   d. token passing

Q2) Attempt ANY FOUR of the following in one sentence: [4]

a. State the important function of the data link layer.

b. Define bit rate and bit length.

c. List and Explain any two components of a data communication system.

d. Define Supernetting.

e. State the Nyquist and Shannon's formula for calculating data rate of a channel.

f. Apply bit stuffing on the pattern : 0 1 0 0 1 1 1 1 1 1 1 1 0 1 1 1 1 1 1 0.

SECTION: B

Q3) Attempt ANY FOUR of the following: [8]

a. Define Framing . Explain any one framing method with examples.

b. Define open and closed loop congestion control mechanisms.

c. List any four differences between OSI and TCP/IP model

d. Define the term bluetooth?Write any two advantages of Bluetooth.

e. State any four goals of Fast Ethernet.

f. State the advantages of a point-to-point network.

SECTION: C

Q4)Attempt ANY FOUR of the following: [8]

a. Define 10Base5, 10Base2 , 10Base-T , 10Base-F

b. State Classfull addressing range.

c. List any four differences between LAN and WAN.

d. State the channel allocation problem and explain any one strategy used to solve this problem.

e. Define Routing.

f. Define Packet switching and list any two advantages.

SECTION: D

Q5) Attempt ANY TWO of the following: [10]

a. State the goals , advantages and disadvantages of the TCP/IP model.

b. Explain the methods of framing.

c. List the differences between connection oriented service and connectionless services.

d. Give the Taxonomy of multiple-access protocols.