

Time: 3 Hours

Max. Marks: 60

**Note:** This question paper contains two parts A and B.

i) Part- A for 10 marks, ii) Part - B for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of ten questions (numbered from 2 to 11) carrying 10 marks each. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

**PART- A****(10 Marks)**

- Write the components of any data communication system. [1]
- Name all the end to end layers in OSI model. [1]
- Write any four objectives of data link layer. [1]
- Name any four multiple access protocols handled by data link layer. [1]
- What is a mask in IPv4 addressing scheme? [1]
- What is the need of fragmentation of packets? [1]
- What is a SYN bit in TCP? [1]
- What is the use of a port number in transport layer? [1]
- What are generic domains? [1]
- What are url and urn? [1]

**PART - B****(50 Marks)**

- Explain the different tasks of layers in any network model. [10]
- OR**
- Describe TCP/IP protocol suite. [10]
  - Calculate the Hamming code for 10101011. [10]
- OR**
- Explain flow controlling techniques of data link layer in a noisy channel. [10]
  - Explain IPv4 address classification with examples. [10]
- OR**
- Write about different routing schemes employed by network layer. [10]
  - Elaborate on TCP segment header and compare it with UDP. [10]
- OR**
- Write about reliable data transfer protocols employed in transport layer. [10]
  - Describe the architecture of e-mail system. [10]
- OR**
- Give an overview of HTTP protocol. [10]