

Code: IT5T3

**III B.Tech - I Semester – Regular / Supplementary Examinations
March - 2021**

**DATA COMMUNICATIONS AND COMPUTER
NETWORKS
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) What are the data communication system Components.
- b) Write the key elements of protocol.
- c) What is fixed size framing?
- d) Write the differences between Forward Error Correction Versus Retransmission.
- e) Change the following IPv4 addresses from binary notation to dotted-decimal notation. 10000001 00001011 00001011 11101111
- f) What is Subnetting?
- g) What are the common fields in the routing table?
- h) List the advantages of IPv6.
- i) Write the TCP services.
- j) Define multiplexing.
- k) What is direct delivery?

PART – B

Answer any **THREE** questions. All questions carry equal marks.

16 x 3 = 48 M

2. a) Explain the different categories of networks. 8 M
- b) Discuss the TCP/IP protocol suite. 8 M
3. a) What is CRC. The generator polynomial is x^3+x+1 . A sender want to send data 1001. Generate CRC code. 8 M
- b) Explain the concept of Simplex Protocol. 8 M
4. a) Compare and contrast the Go-Back-N ARQ Protocol with Selective-Repeat ARQ. 8 M
- b) Explain the Format of IPv6 datagram with neat sketch. 8 M
5. a) How to update a routing table in Distance Vector Routing with example. 10 M
- b) Compare and contrast the Link state routing and Path Vector Routing. 6 M
6. a) Explain the congestion control in TCP. 10 M
- b) Discuss UDP operation. 6 M