

17430

15116

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. a) Attempt any THREE of the following: **12****
- (i) Explain any four characteristics of data communication system.
- (ii) State Distortion and Attenuation.
- (iii) Describe the functions of Hierarchical and Peer to Peer communication.
- (iv) Enlist and explain any four advantages of cable modems.
- (v) Explain TCP/IP Reference Model.

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b) **Attempt any TWO of the following:****08**

- (i) Differentiate between analog and digital signal.
- (ii) Enlist and explain any four advantages of fiber optic cable over electrical cable.
- (iii) Enlist and explain four characteristics of LAN.

2. Attempt any FOUR of the following:**16**

- a) Explain the components of Data Communication with a neat diagram.
- b) Define Scatternet and explain with a diagram.
- c) Explain Distributed Queue Dual Bus with a diagram.
- d) State the advantages and disadvantages of Repeater.
- e) Define IP Address. Explain three typical formats of IP Address.
- f) Describe ICMP Datagram.

3. Attempt any FOUR of the following:**16**

- a) Define Protocol. Explain any three protocols related with Data Communication.
- b) Explain leased line with a neat diagram.
- c) Write a short note on FTP.
- d) Enlist and explain functions of application layer.
- e) Explain the incompatibility issues of internet working.
- f) Define ARP. Explain its functions.

- 4. Attempt any FOUR of the following:** **16**
- a) Define Data Communication. Enlist various standard organizations for Data Communication.
 - b) Explain different types of transmission errors.
 - c) Define LAN. Explain its advantages.
 - d) Enlist different types of Bridges. Explain any two.
 - e) Explain DNS.
 - f) Differentiate between TDM and FDM.
- 5. Attempt any FOUR of the following:** **16**
- a) State advantages and disadvantages of network standards.
 - b) Compare circuit switching with packet switching.
 - c) Explain the Architecture of WAN.
 - d) Explain different types of Routers.
 - e) Define Topology. Enlist various topologies.
 - f) Mention the advantages of IEEE standards.
- 6. Attempt any FOUR of the following:** **16**
- a) Define bandwidth and data transmission rate.
 - b) Explain LRC with an example.
 - c) Explain various gateways in OSI Reference Model.
 - d) Describe the functions of data link layer.
 - e) What is data fragmentation?
 - f) Describe the construction of fiber optic cable with a neat diagram.
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