

# 17430

16117

**3 Hours / 100 Marks**

Seat No.

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

**Marks**

1. a) **Attempt any SIX of the following:** **12**
- (i) Define protocols? Why it is needed?
  - (ii) Define the term for errors: Attenuation.
  - (iii) Define BSS and ESS.
  - (iv) Give the functions of transport layer.
  - (v) List the different types of network connecting devices.
  - (vi) What is IP Address? Why it is required?
  - (vii) What is Bridge? Give its types.
  - (viii) What is Gigabit Ethernet?
- b) **Attempt any TWO of the following:** **8**
- (i) Describe the characteristics of data communication system.
  - (ii) Describe different modes of propagation of fiber optic cable.
  - (iii) Describe Reverse Address Resolution Protocol (RARP).

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) Define standard. Name any four standard organizations.
  - b) Compare FDM and TDM.
  - c) Describe construction of co-axial cable with neat diagram.
  - d) Explain half duplex and full duplex communication.
  - e) Draw OSI reference model. Explain working of any two layer.
  - f) Describe the concept of data encapsulation.
- 3. Attempt any FOUR of the following:** **16**
- a) Explain different types of transmission errors.
  - b) What is hub? Explain different types of hub.
  - c) Explain LRC and VRC for error detection.
  - d) Describe DNS in detail.
  - e) Describe cyclic redundancy check (CRC) with an example.
  - f) Compare SLIP and PPP.
- 4. Attempt any FOUR of the following:** **16**
- a) Explain the architecture of WAN.
  - b) What is multiplexing? Give its type.
  - c) Describe the role of presentation layer.
  - d) Compare LAN and WAN (any four points).
  - e) What is subnetting in IP network? Explain with suitable example.
  - f) Compare analog signal and digital signal.

- 5. Attempt any FOUR of the following:** **16**
- a) Describe the process of DNS resolution.
  - b) Describe leased line connection. Give its need.
  - c) State and explain the features of TCP.
  - d) State advantages and disadvantages of mesh topology.
  - e) Explain virtual communication between layers.
  - f) Compare OSI and TCP/IP.
- 6. Attempt any FOUR of the following:** **16**
- a) Describe cable modem with neat diagram.
  - b) Explain with neat sketch repeaters in OSI model. State its advantages.
  - c) Explain circuit switching with suitable diagram.
  - d) Describe following:
    - (i) Periodic signal
    - (ii) Non-periodic signal
    - (iii) Bandwidth
    - (iv) Data transmission rate
  - e) Explain the internet topology.
  - f) Describe Fiber Distributed Data Interface (FDDI) technology.
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