



# 17662

16172

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. Attempt any five :

(5×4=20)

- a) Explain with an example the following terms :
  - 1) Amplitude
  - 2) Frequency
  - 3) Analog signal
  - 4) Digital signal
- b) Differentiate between parallel and serial communication.
- c) Describe the domain name system with suitable example.
- d) Explain the functions of ATM Layers with a neat diagram.
- e) Describe the advantages of Fiber Optic Cable (any four).
- f) Explain the terms : Attenuation and Noise with proper example.
- g) Explain vertical redundancy check with an example.

2. Attempt any two :

(2×8=16)

- a) State the function of : i) Modem ii) Equalizer iii) DTE iv) DCE v) Scrambler vi) Unscrambler vii) Encoder viii) Decoder.
- b) Compare between the following :
  - 1) Synchronous and asynchronous transmission
  - 2) Analog and Digital communication
- c) Define IP Address. Explain its classification with diagram and example.

3. Attempt any two :

(2×8=16)

- a) i) Explain BSS and ESS with diagram.  
ii) Differentiate between piconet and scatternet.
- b) Draw a block diagram of optical fiber communication system and state the function of various blocks.
- c) Define Error. Explain with suitable example cyclic redundancy check.

**P.T.O.**

**4. Attempt any two :****(2×8=16)**

- a) Explain the block diagram of digital communication system with a diagram.
- b) Define standard. Name any four standard organization. Give two advantages and two disadvantages of standards.
- c) Explain the File Transfer Protocol with suitable diagram.

**5. Attempt any two :****(2×8=16)**

- a) Explain FHSS and DSSS with a diagram and example.
- b) State the various losses in fibre optic cable. Describe them.
- c) Explain Recovery From errors. Explain sliding window protocol with diagram and example.

**6. Attempt any two :****(2×8=16)**

- a) Explain TCP/IP Layers with diagram.
  - b) Explain Bluetooth layer architecture with a diagram.
  - c) Explain Parity check and Hamming code with example.
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