



# 17662

11819

**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) *Use of Non-programmable Electronic Pocket Calculator is **permissible**.*
  - (7) *Mobile Phone, pager and any other Electronic Communication devices are **not permissible** in Examination Hall.*

- |   | <b>Marks</b> |
|---|--------------|
| <b>1. A) Attempt any three :</b>  | <b>12</b>    |
| a) State the meaning of amplitude, frequency bandwidth, baud.             |              |
| b) Compare analog and digital signal (min. 4 points).                     |              |
| c) Explain Domain Name System (DNS).                                      |              |
| d) State different types of transmission impairments/errors and explain.  |              |
| <b>B) Attempt any one :</b>   | <b>6</b>     |
| a) Describe light propagation modes in fibre optic cable.                 |              |
| b) Draw and explain ATM layers.   |              |
| <b>2. Attempt any two :</b>   | <b>16</b>    |
| a) Explain data transmission models with neat diagram.                    |              |
| b) Illustrate with neat sketch TCP/IP protocol suite in detail.           |              |
| c) Sketch architecture of IEEE 802.11 (WLAN).                             |              |
| <b>3. Attempt any four :</b>  | <b>16</b>    |
| a) Describe components of data communication system.                      |              |
| b) Distinguish between serial and parallel communication (min. 4 points). |              |
| c) Explain fiber cable losses.  |              |
| d) Demonstrate with example parity check error detection technique.       |              |
| e) Elaborate on bluetooth architecture with neat diagram.                 |              |

P.T.O.



4. A) Attempt **any three** : **12**
- a) Explain construction of fibre optic cable.
  - b) Describe stop and wait protocol.
  - c) Explain light sources used in fibre optic cable.
  - d) Define modulation and demodulation. Write their applications (any two).
- B) Attempt **any one** : **6**
- a) Explain Ethernet frame structure.
  - b) Describe ICMP protocol with diagram.
5. Attempt **any two** : **16**
- a) Explain and compare ARP and RARP in detail.
  - b) Describe block diagram of optical fibre communication system.
  - c) Explain CRC with example.
6. Attempt **any four** : **16**
- a) Explain the following terms :
    - i) clock recovery network
    - ii) data terminal equipment.
  - b) Explain IP address with classes.
  - c) Describe asynchronous transmission.
  - d) Explain DCF and PCF in MAC layer.
  - e) Summarize on SONET/SDH.
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