



17430

11819

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) 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**
- a) Define protocols. Why it is needed ?
 - b) Define error.
 - c) Compare guided and unguided media (02 points).
 - d) List any four layers of OSI model.
 - e) List out four ways of accessing internet.
 - f) Define IP address. State its need.
 - g) Compare SLIP and PPP (02 points).
 - h) Define Encapsulation.
- B) Attempt **any two** of the following : **8**
- a) Describe any four characteristics of data communication system.
 - b) State the names of following IEEE standards.
i) 802.2 ii) 802.4 iii) 802.5 iv) 802.11
 - c) Give difference between UDP and TCP (04 points).
2. Attempt **any four** of the following : **16**
- a) Define following
 - i) Baud rate
 - ii) Data transmission rate
 - iii) Bandwidth
 - iv) Bits per rate.
 - b) Compare Analog signal and Digital signal.
 - c) Draw construction of co-axial cable and give any three characteristics of co-axial cable.
 - d) Define standards. List various standards organizations.
 - e) Draw OSI reference model. Explain working of data link layer.
 - f) Describe virtual LAN with neat diagram.

P.T.O.



3. Attempt **any four** of the following : 16
- a) Compare UTP and STP (04 points).
 - b) State advantages and disadvantages of repeater.
 - c) Define
 - i) Wi-fi
 - ii) Wi-Max.
 - d) List out IP address classes. Explain any one.
 - e) Explain IEEE 802.3 standard.
 - f) Give name of layer from OSI model where following networking devices are operating.
 - i) Router
 - ii) Bridge
 - iii) Hub
 - iv) Gateway.
4. Attempt **any four** of the following : 16
- a) Enlist and explain functions of application layer of OSI model.
 - b) Define multiplexing. Give its types.
 - c) Describe working of token ring with neat sketch and give its two advantages.
 - d) Define LAN. Explain its advantages.
 - e) Describe ICMP datagram.
 - f) Explain Time Division Multiplexing in detail.
5. Attempt **any four** of the following : 16
- a) Give names of layer where following protocols are related to
 - i) SMTP
 - ii) TCP-UDP
 - iii) IP
 - iv) ARP
 - b) Explain leased line with neat diagram.
 - c) Explain RARP with neat sketch.
 - d) Compare circuit switching and packet switching (04 points).
 - e) Differentiate between MAN and WAN (04 points).
 - f) Describe FTP and TFTP.
6. Attempt **any four** of the following : 16
- a) Describe following
 - i) Bridge
 - ii) Gateway.
 - b) Describe internal architecture of ISP with diagram.
 - c) Define scatternet and explain with diagram.
 - d) Differentiate between serial and parallel communication (04 points).
 - e) Describe cable modem with neat diagram.
 - f) List and explain functions of session layer.
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