



17430

11718

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 six** of the following : **12**
- a) Define the term bandwidth with an example.
 - b) Draw diagram of hybrid topology.
 - c) What is SMDS ?
 - d) Draw diagram of piconet.
 - e) List different network connecting devices (any 4).
 - f) Define IP address. Why it is require ?
 - g) What is ethernet ?
 - h) What is error ? Enlist different types of errors.
- B) Attempt **any two** of the following : **8**
- a) Define protocol. What are the key elements of protocol ?
 - b) Describe working of token ring. Give its advantages and disadvantages over conventional ring topology.
 - c) Explain persistent TCP connection. Give its importance.
2. Attempt **any four** of the following : **16**
- a) Define standards. List various standard organizations.
 - b) Explain half duplex system and full duplex system with diagram.
 - c) Describe the construction of fiber optic cable with a neat diagram.
 - d) Describe characteristics of data communication system.
 - e) Enlist and explain functions of application layer.
 - f) Describe virtual LAN with neat diagram.

P.T.O.



3. Attempt **any four** of the following :

16

- a) Explain ISO-OSI reference model with diagram.
- b) Describe internet topology.
- c) Explain following IEEE standards :
 - i) 802.4
 - ii) 802.5
- d) Explain RARP with neat diagram.
- e) State advantages and disadvantages of star topology.
- f) Describe leased line connection. Give its need.

4. Attempt **any four** of the following :

16

- a) Describe WAN addressing.
- b) Compare analog signal and digital signal.
- c) Explain distributed queue dual bus.
- d) Describe functions of Data Link Layer.
- e) Describe ICMP datagram.
- f) Give difference between FDM and TDM (any 4 points).

5. Attempt **any four** of the following :

16

- a) Describe the concept of DNS server.
- b) Give difference between SLIP and PPP (any 4 points).
- c) Give the name of layer where following protocols are related to
 - i) SMTP
 - ii) TCP-UDP
 - iii) IP
 - iv) ARPANET
- d) Explain Hand-off operation in mobile phone.
- e) Describe LAN with its advantages.
- f) Describe the following :
 - i) WI-FI
 - ii) Wi-Max

6. Attempt **any four** of the following :

16

- a) Draw architecture of ISP.
 - b) Describe the following with diagram : (i) Repeaters (ii) Gateways.
 - c) Draw the neat diagram of circuit switching. Explain in brief.
 - d) Draw the components of data communication system and state the function of each component.
 - e) Describe cable modem with neat diagram.
 - f) Define FTP. Describe working of FTP.
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