

17430

21314

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.

Marks

1. a) Attempt any **SIX** of the following: **12**
- i) Define baud rate and bits per seconds.
- ii) List different error detection methods.
- iii) What is piconet in bluetooth architecture?
- iv) What is peer to peer process?
- v) Define protocol and list different elements of protocol.
- vi) What is SMDS?
- vii) List any two problems in internet working.
- viii) State the functions of name resolver in DNS.

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- b) **Attempt any TWO of the following:** **8**
- i) Explain isochronous communication.
 - ii) Explain fibre optic cable construction.
 - iii) What is token ring? Explain token ring passing mechanism.
- 2. Attempt any FOUR of the following:** **16**
- a) Compare FDM versus TDM.
 - b) Explain virtual packet switching.
 - c) Explain internal architecture of ISP.
 - d) Describe router with neat and lable diagram.
 - e) Explain IEEE 802.11 standard.
 - f) Draw OSI reference model. Describe working of session and presentation layer.
- 3. Attempt any FOUR of the following:** **16**
- a) State any two advantages of bus topology. Explain whether adding more computers in bus topology affects performance of network.
 - b) What are different types of transmission media?
 - c) Explain multiplexing and demultiplexing.
 - d) For the following situations state which type of network architecture is appropriate?
 - i) Numbers of user 100 or more.
 - ii) Data and resources need to be restricted.
 - iii) No network administrator required.
 - iv) All users with equal priority.
 - e) Explain DSL? List various types of DSL.
 - f) Explain the function of ARP and RARP.

- 4. Attempt any FOUR of the following: 16**
- a) Draw format of IP datagram.
 - b) Explain virtual network.
 - c) What are the different methods of assigning a physical address to a computer?
 - d) Explain distributed Queue dual bus in MAN.
 - e) Compare analog signal and digital signal. (any four points)
 - f) Explain CRC with suitable example.
- 5. Attempt any FOUR of the following: 16**
- a) Explain synchronous TDM.
 - b) Explain satellite communication.
 - c) State the names of layers that perform the following functions:
 - i) Data encryption
 - ii) Error correction
 - iii) File transfer
 - iv) Data encoding.
 - d) Explain working principle of bridges.
 - e) Explain persistent TCP connection.
 - f) Explain need of standard organizations. List any two standard organizations.

6. Attempt any FOUR of the following:**16**

- a) Define the following terms:
 - i) Amplitude
 - ii) Bandwidth of a signal
 - iii) Phase
 - iv) Frequency.
 - b) Explain the following:
 - i) WAN addressing
 - ii) Internet topology
 - c) Describe the functioning of application layer in TCP/IP protocol suit.
 - d) Explain dial up access and leased lines
 - e) Give any four points of comparison between TCP and UDP.
 - f) Write in brief on visual network.
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