

17429

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) 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) List any two applications of computer network.
 - ii) List any four types of computer network by considering geography.
 - iii) Give two advantages of mesh topology.
 - iv) Give the names of various N/W connecting devices (Any two).
 - v) List any two advantages of optical fiber cable.
 - vi) Draw the sketch of co-axial cable (cross-sectional view)
 - vii) Define 'Protocol' with reference to computer network.
What is the function of IP?
 - viii) List any two components which works at physical layer of OSI model.

P.T.O.

b) Attempt any TWO of the following:**08**

- i) Describe four advantages of computer network.
- ii) Compare Bus topology and Ring topology (four points).
- iii) Suppose you are going to implement a computer network in a small business mall. Which topology will you use? Why?

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

- a) Name the types of server used in server-based network. Describe the working of such a network.
- b) Explain any four benefits of computer network.
- c) Describe various factors to be considered while selecting transmission media.
- d) Give two applications of
 - i) twisted pair cable
 - ii) co-axial cable
- e) What are the various components of computer network. Describe any one.
- f) Compare guided and unguided media used in computer network.

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

- a) Describe the concept of peer-to-peer network. Where it is used?
- b) Describe with neat sketch “Hybrid topology”. Give its applications.
- c) What is meant by subnet? How to use subnet masking to create two subnets?
- d) Describe horizontal and vertical communication.
- e) Describe the importance/role of presentation layer in OSI model.
- f) Explain the working of “File Transfer Protocol” with a neat diagram.

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

- a) Describe TCP used in computer communication.
- b) Compare IPv4 and IPv6 (four points).
- c) Explain handoff procedure of cellular mobile phone.
- d) Describe meaning and function of :
 - i) MAC address
 - ii) IP address
- e) What are the services provided by the network layer of OSI model
- f) Describe in brief :
 - i) Backing up data
 - ii) File sharing

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

- a) Which layer of OSI model packages raw data bit. Describe bit stuffing with one example.
- b) In which circumstances star topology is preferred mostly. Name the centralized device used in star topology. Give its two advantages over Hub.
- c) Describe OSI model with layer structure.
- d) Explain the working of “TELNET”
- e) Which different classes are used for IP addressing. Describe each in brief.
- f) Describe the role of following network devices used in computer network
 - i) Gateway
 - ii) Router
 - iii) Hub
 - iv) Switch

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

- a) Describe TCP/IP with neat sketch. Compare TCP/IP and OSI reference model.
 - b) Describe any two connectionless and connection oriented protocols.
 - c) Explain following wireless technologies used in computer communication :
 - i) wi-fi
 - ii) bluetooth
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