

NOTE:

IMPORTANT INSTRUCTIONS:

1. There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.
2. **PART ONE** is to be answered in the **OMR ANSWER SHEET** only, supplied with the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book.
3. Maximum time allotted for **PART ONE** is **ONE HOUR**. Answer book for **PART TWO** will be supplied at the table when the answer sheet for **PART ONE** is returned. However, candidates, who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the answer sheet for **PART ONE**.

TOTAL TIME: 3 HOURS

TOTAL MARKS: 100
(PART ONE – 40; PART TWO – 60)

PART ONE
(Answer all the questions)

1. **Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the “OMR” answer sheet supplied with the question paper, following instructions therein. (1x10)**
 - 1.1 Protocols are
 - A) Agreements on how communication components and DTE's are to communicate
 - B) Logical communication channels for transferring data
 - C) Physical communication channels used for transferring data
 - D) None of the above
 - 1.2 Which data communication method is used to transmit the data over a serial communication link?
 - A) Simplex
 - B) Half-duplex
 - C) Full duplex
 - D) All of the above
 - 1.3 In communication satellite, multiple repeaters are known as
 - A) Detectors
 - B) Modulators
 - C) Stations
 - D) Transponders
 - 1.4 Error detection at the data link layer is achieved by
 - A) Bit stuffing
 - B) Cyclic redundancy codes
 - C) Hamming codes
 - D) Equalization
 - 1.5 What are the transmission impairments?
 - A) Attenuation
 - B) Distortion
 - C) Noise
 - D) All of the above

- 1.6 The topology with highest reliability is?
A) Bus topology
B) Star topology
C) Ring Topology
D) Mesh Topology
- 1.7 Baud means
A) The number of bits transmitted per unit time
B) The number of bytes transmitted per unit time
C) The rate at which the signal changes
D) None of the above
- 1.8 In OSI model cable is used in
A) Physical Layer
B) Network layer
C) Transport layer
D) Data link layer
- 1.9 The TCP/IP model has
A) 7 layers
B) 3 layers
C) 4 layers
D) 5 layers
- 1.10 HTML is
A) Hyper Text Markedup Language
B) Hyper Text Markup Language
C) Hyper Text Marked Language
D) Hyper Text Marking Language

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the “OMR” answer sheet supplied with the question paper, following instructions therein. (1x10)

- 2.1 A WAN covers a large geographic distance, such as a state, a country, or even the entire world.
- 2.2 Coaxial cable and twisted-pair cable are types of wireless media.
- 2.3 Bandwidth refers to the capacity of the communications line.
- 2.4 Class A of IP address has the most host addresses available by default.
- 2.5 There are no collisions in full-duplex mode.
- 2.6 Frames from one LAN can be transmitted to another LAN via the device modem.
- 2.7 The default subnet mask for a class C network is 255.255.255.0
- 2.8 Contention is the condition when two or more stations attempt to use the same channel at the same time.
- 2.9 ISO-OSI model has 8 layers.
2. 10 Microwave is a wireless communication technique.

3. Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the “OMR” answer sheet supplied with the question paper, following instructions therein. (1x10)

| X | | Y | |
|------|---|----|--------------------|
| 3.1 | Slowest transmission speed | A. | Modulation |
| 3.2 | TCP/IP configuration problems reduction | B. | Transmission media |
| 3.3 | 3 rd layer of OSI model | C. | 32 |
| 3.4 | Network of networks called | D. | Demodulation |
| 3.5 | Does not allow multiple users or devices to share one communications line | E. | Half duplex |
| 3.6 | Optical fibre is | F. | 64 |
| 3.7 | Standard for Transfer of Electronic Mail | G. | twisted-pair wire |
| 3.8 | Supports two-way traffic but only one direction at a time | H. | Full Duplex |
| 3.9 | Length of IPv4 | I. | Internet |
| 3.10 | Converting analog to digital signals | J. | SMTP |
| | | K. | Doubleplexer |
| | | L. | Network |
| | | M. | DHCP Server |

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the “OMR” answer sheet supplied with the question paper, following instructions therein. (1x10)

| | | | | | |
|----|-----------------|----|----------------------------|----|-------------------|
| A. | POP3 | B. | 127.0.0.1 | C. | 40 MHz to 400 MHz |
| D. | CRC | E. | 127.0.0.0 | F. | Tree network |
| G. | Default gateway | H. | Bridge | I. | 256 |
| J. | FTP | K. | 192.0.0.x to 225.255.255.x | L. | MAC |
| M. | Ring network | | | | |

- 4.1 _____ is the physical address.
- 4.2 _____ is standard Protocol used to transfer file between two hosts.
- 4.3 FDDI is a _____.
- 4.4 _____ topology can be considered as an extension to BUS topology.
- 4.5 _____ is the standard Protocol for receiving e-mail.
- 4.6 Error detection at a data link level is achieved by _____.
- 4.7 _____ is the loopback address.
- 4.8 _____ is the address of the router.
- 4.9 _____ is a device that links two homogeneous packet-broadcast local networks.
- 4.10 _____ is the range for a class C IP address.

PART TWO
(Answer **any FOUR** questions)

- 5.**
- a) Describe the ISDN.
 - b) Explain in brief: Bus, Star and Ring Network Topologies
 - c) Define MAN. Write down three important features that discriminate MAN from WAN.
- (5+5+5)**
- 6.**
- a) What do you mean by E-Commerce? Explain briefly.
 - b) Describe the 3 classes of network by which the IP addresses are assigned in IPv4.
 - c) What do you mean by http and ftp? Explain each term.
- (5+5+5)**
- 7.**
- a) Explain Router, Bridge and Switch.
 - b) Describe the TCP/IP Model.
 - c) What do you mean by Web Publishing? Describe the different components of Web Publishing.
- (5+5+5)**
- 8.**
- a) Write an HTML script to print your name.
 - b) Write an HTML script to make a table.
 - c) Write an HTML script to insert hyperlink.
- (5+5+5)**
- 9.**
- a) Differentiate between Guided and Unguided Media.
 - b) Write a short note on various measures taken for Internet Security.
 - c) Differentiate between asynchronous and synchronous communication.
- (5+5+5)**