

M3-R3: INTERNET AND WEB DESIGN

NOTE:

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 **TEAR-OFF ANSWER SHEET** only, attached to 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 “tear-off” answer sheet attached to the question paper, following instructions therein. (1 x 10)**
 - 1.1 Synchronous protocols
 - A) Transmit characters one at a time.
 - B) Allow faster transmission than asynchronous protocols do.
 - C) Are generally used by personal computers.
 - D) All of the above.
 - 1.2 In OSI network architecture, the dialogue control and token management are Responsibilities of
 - A) Session layer
 - B) Network layer
 - C) Transport layer
 - D) Data link layer
 - 1.3 The X.25 standard specifies a
 - A) Technique for start-stop data
 - B) Technique for dial access
 - C) DTC/DCE interface
 - D) Data bit rate
 - 1.4 The basic Ethernet design does not provide
 - A) Access control
 - B) Addressing
 - C) Automatic retransmission of a message
 - D) Multiple virtual networks

- 1.5 Which of the following is not a standard synchronous communication protocol?
- A) SDLC
 - B) SMTP
 - C) SLIP
 - D) PAS
- 1.6 An example of a bounded medium is
- A) Coaxial cable
 - B) Wave guide
 - C) Fiber optic cable
 - D) All of the above
- 1.7 The area of coverage of a satellite radio beam is known as
- A) Footprint
 - B) Circular Polarization
 - C) Beam width
 - D) Identity
- 1.8 The slowest transmission speeds are those of
- A) Twisted pair wire
 - B) Coaxial cable
 - C) Fiber-optic cable
 - D) Microwaves
- 1.9 Error detection at a data link level is achieved by
- A) Bit stuffing
 - B) Cyclic redundancy code
 - C) Hamming codes
 - D) Equalization
- 1.10 The 32-bit internet address 10000000000010100000001000011110 will be written in dotted decimal Notation as.
- A) 148.20.2.30
 - B) 164.100.9.61
 - C) 210.20.2.64
 - D) 128.10.2.30

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the “tear-off” sheet attached to the question paper, following instructions therein. (1 x 10)

- 2.1.A T-switch is used to re arrange the connection between computing equipments.
- 2.2.Digital signal change from one voltage to another in discrete copy jumps.
- 2.3.A modem operating at 300 bps can transmit about 30 characters per second.
- 2.4.A fiber-optic cable can conduct laser light.
- 2.5.T-switched networks route messages automatically among devices.
- 2.6.The term gateway is commonly used to define a facility, which interconnects two Networks so that users on one network can communicate with users on another Network.
- 2.7 The physical layer, in reference to the OSI model, defines the interface between the X.25 network and the packet mode device.
- 2.7.In reference to the OSI model, the data link layer can detect the physical layer.
- 2.8.The network layer is also known as packet layer.
- 2.10 ARPANET, a united state network was the second Wan (Wide Area Network).

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 “tear-off” answer sheet attached to the question paper, following instructions therein. (1 x 10)

X		Y	
3.1	In OSI network architecture the routing is performed by	A.	VDR
3.2	Layer one of the OSI model is	B.	Ring network
3.3	Standard RS-232 signal	C.	Bipolar
3.4	The transmission signal coding method of T1 carrier	D.	Network layer
3.5	An important characteristics of LAN is	E.	Application independent interface
3.6	FDDI is	F.	Physical Layer
3.7	Modulation	G.	UDP
3.8	T-switch	H.	Rearrange of connection between computing equipments.
3.9	Data Link Layer	I.	Transmission of signal without modulation.
3.10	Baseband	J.	The virtual circuit interface to Packet-switched service
		K.	Common bit oriented data link protocol issued to ISO.
		L.	Converting digital signals to analog signals.

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 “tear-off” answer sheet attached to the question paper, following instructions therein. (1 x 10)

A.	32 kbps	B.	TFTP	C.	Switch
D.	Half duplex	E.	FTPT	F.	TELNET
G.	Scattering	H.	Modem	I.	Circuit switching
J.	Data link layer	K.	Multiplexer	L.	X.25 level-2-ISO
M.	AM radio transmission	N.	64 kbps	O.	Packet Switching

- 4.1 A device that can convert digital signal to analog signals is _____.
- 4.2 The communication mode that supports two-way traffic but only one direction at a time is _____.
- 4.3 _____ OSI model is responsible for creating and recognizing from boundaries.
- 4.4 _____ Provide dedicated communication channel between two stations.
- 4.5 _____ TCP/IP protocols is used for file transfer with minimal capability and minimal overhead.
- 4.6 _____ Protocol is used for remote terminal connection service.
- 4.7 The data rate of the ISDN basic access B-channel is _____.
- 4.8 Loss in signal power as light travels down the fiber is called _____.
- 4.9 _____ is a not example of network layer.
- 4.10 The frequency range 300kHz to 3 MHz is uses for _____.

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

- 5.**
- a) Describe OSI reference model with layered approach.
 - b) What is the network topology? Discuss the most common topologies.
 - c) Give the basic features of Intranet that differentiate it largely from Internet.
- (5+6+4)**

- 6.**
- a) What is data transmission? Give in brief the various characteristics.
 - b) Discuss the advantages of Firewalls.
 - c) Optical Fiber can be used for network connection to provide Noise resistance? Discuss with its advantages.
- (7+4+4)**

- 7.**
- a) How does a router differ from a bridge?
 - b) How does e-mails are sent and received using SMTP & POP protocols.
 - c) How multicasting and broadcasting differentiate each other? Explain.
- (5+5+5)**

- 8.**
- a) What is ATM? Discuss all the four types of services of ATM.
 - b) Give HTML coding for the following table:

S.No.	Name	Class	Entry No.	Date of Birth	Address
1.	Sunil Kumar	B. Tech.	06BT0573	01.10.1985	16, Sundar Nagar, N. Delhi.
2.	Anil Kumar	B. Tech.	07BT0763	02.11.1984	17, Janak Puri, N. Delhi.
3.	Mamta	B.E.	06BT0765	04.07.1984	32, Civil Lines, N. Delhi.

(8+7)

- 9.** Define any **three** of the following.
- a) FTP
 - b) ISDN
 - c) Cyber Crime
 - d) TCP/IP

(5x3)