

## A2-R4 : INTERNET TECHNOLOGY & WEB DESIGN

अवधि: 03 घंटे

DURATION: 03 Hours

अधिकतम अंक: 100

MAXIMUM MARKS: 100

ओएमआर शीट सं.:					
OMR Sheet No.:					

रोल नं.:					
Roll No.:					

उत्तर-पुस्तिका सं.:					
Answer Sheet No.:					

परीक्षार्थी का नाम:

Name of Candidate: \_\_\_\_\_; Signature of Candidate: \_\_\_\_\_

परीक्षार्थी के हस्ताक्षर:

**परीक्षार्थियों के लिए निर्देश:**

**Instructions for Candidates:**

कृपया प्रश्न-पुस्तिका, ओएमआर शीट एवं उत्तर-पुस्तिका में दिये गए निर्देशों को ध्यानपूर्वक पढ़ें।	Carefully read the instructions given on Question Paper, OMR Sheet and Answer Sheet.
प्रश्न-पुस्तिका की भाषा अंग्रेजी है। परीक्षार्थी केवल अंग्रेजी भाषा में ही उत्तर दे सकता है।	Question Paper is in English language. Candidate can answer in English language only.
इस मॉड्यूल/पेपर के दो भाग हैं। भाग एक में चार प्रश्न और भाग दो में पाँच प्रश्न हैं।	There are <b>TWO PARTS</b> in this Module/Paper. <b>PART ONE</b> contains <b>FOUR</b> questions and <b>PART TWO</b> contains <b>FIVE</b> questions.
भाग एक "वैकल्पिक" प्रकार का है जिसके कुल अंक 40 हैं तथा भाग दो, "व्यक्तिपरक" प्रकार है और इसके कुल अंक 60 हैं।	<b>PART ONE</b> is Objective type and carries 40 Marks. <b>PART TWO</b> is subjective type and carries 60 Marks.
भाग एक के उत्तर, इस प्रश्न-पत्र के साथ दी गई ओएमआर उत्तर-पुस्तिका पर, उसमें दिये गए अनुदेशों के अनुसार ही दिये जाने हैं। भाग दो की उत्तर-पुस्तिका में भाग एक के उत्तर नहीं दिये जाने चाहिए।	<b>PART ONE</b> is to be answered in the <b>OMR ANSWER SHEET</b> only, supplied with the question paper, as per the instructions contained therein. <b>PART ONE</b> is <b>NOT</b> to be answered in the answer book for <b>PART TWO</b> .
भाग एक के लिए अधिकतम समय सीमा एक घण्टा निर्धारित की गई है। भाग दो की उत्तर-पुस्तिका, भाग एक की उत्तर-पुस्तिका जमा कराने के पश्चात दी जाएगी। तथापि, निर्धारित एक घंटे से पहले भाग एक पूरा करने वाले परीक्षार्थी भाग एक की उत्तर-पुस्तिका निरीक्षक को सौंपने के तुरंत बाद, भाग दो की उत्तर-पुस्तिका ले सकते हैं।	Maximum time allotted for <b>PART ONE</b> is <b>ONE HOUR</b> . Answer book for <b>PART TWO</b> will be supplied at the table when the answer sheet for <b>PART ONE</b> is returned. However, candidates who complete <b>PART ONE</b> earlier than one hour, can collect the answer book for <b>PART TWO</b> immediately after handing over the answer sheet for <b>PART ONE</b> .
परीक्षार्थी, उपस्थिति-पत्रिका पर हस्ताक्षर किए बिना और अपनी उत्तर-पुस्तिका, निरीक्षक को सौंपे बिना, परीक्षा हॉल /कमरा नहीं छोड़ सकते हैं। ऐसा नहीं करने पर, परीक्षार्थी को इस मॉड्यूल / पेपर में अयोग्य घोषित कर दिया जाएगा।	Candidate cannot leave the examination hall/room without signing on the attendance sheet and handing over his Answer sheet to the invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.
प्रश्न-पुस्तिका को खोलने के निर्देश मिलने के पश्चात एवं उत्तर लिखना आरम्भ करने से पहले उम्मीदवार यह जाँच कर सुनिश्चित कर लें कि प्रश्न-पुस्तिका प्रत्येक दृष्टि से संपूर्ण है।	After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question booklet is complete in all respect.

जब तक आपसे कहा न जाए, तब तक प्रश्न-पुस्तिका न खोलें।

**DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.**

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**SPACE FOR ROUGH WORK**

**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 ARPANET stands for  
(A) Advanced Research Projects Agency Network  
(B) Advance Research Project Agency Network  
(C) Asymmetric Routing Project Advance Network  
(D) None of the options
- 1.2 Which of the following layer is an end-to-end layer ?  
(A) Data Link Layer  
(B) Transport Layer  
(C) Network Layer  
(D) Physical Layer
- 1.3 Routers operate at which layer ?  
(A) Network (B) Physical  
(C) Data Link (D) Transport
- 1.4 Flow Control is performed at which of the following layer ?  
(A) Network  
(B) Physical  
(C) Data Link  
(D) None of the options

- 1.5 <a> tag in HTML is used for creating ?  
(A) List  
(B) Links  
(C) Address  
(D) None of the options
- 1.6 Which topology is used by FDDI ?  
(A) Bus Topology  
(B) Ring Topology  
(C) Dual Ring Topology  
(D) Mesh Topology
- 1.7 Which of the following is/are special address ?  
(A) 0.0.0.0  
(B) 127.0.0.1  
(C) 127.[anything]  
(D) All of the options
- 1.8 Connection oriented services at network layer in OSI model is called  
(A) Datagram subnet  
(B) Virtual circuit  
(C) Packet switching  
(D) None of the options
- 1.9 ISDN PRI has how many channels ?  
(A) 22B+1D (B) 23B +1D  
(C) 24B+1D (D) 25B+1D
- 1.10 The size of an ATM Cell is  
(A) 51 octets  
(B) 53 octets  
(C) 55 octets  
(D) None of the options

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

2.1 The correct way to make an email link in HTML is <a href="mailto:xxx@yyy">.

2.2 Infrared waves and Optical Fibre cable uses light waves for transmission of data.

2.3 ATM uses asynchronous time-division multiplexing, and encodes data into small, fixed-sized packets called cells.

2.4 HTTP is a stateless protocol.

2.5 Bridges do not forward LAN Broadcast at all.

2.6 Subnet Mask is made by setting network bits to all "0"s and setting host bits to all "1"s.

2.7 Using HTML, you can create user defined tags.

2.8 ISDN prescribes two levels of service – BRI and PRI.

2.9 HTML is case sensitive.

2.10 href stands for hypertext reference.

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	Represented in hexadecimal format	A.	Physical layer
3.2	Character Stuffing	B.	Multicast
3.3	Every node is connected to every other node	C.	32 bits
3.4	One to many communication	D.	Broadcast
3.5	Standard network protocol used to transfer computer files between a client and server	E.	MAC Address
3.6	Total Internal Reflection	F.	48 bits
3.7	Bit Stuffing	G.	Twisted-pair wire
3.8	Numbered List in HTML	H.	SLIP
3.9	Length of MAC Address	I.	Optical Fibre
3.10	Modulation	J.	FTP
		K.	PPP
		L.	Mesh
		M.	Ol

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

A.	Port	B.	Interpreted	C.	Error Detecting
D.	FDDI	E.	EMI	F.	Tree network
G.	Layering	H.	Broadcast	I.	Class D
J.	OLX	K.	Infrared wave	L.	Compiled
M.	Flipkart				

- 4.1 \_\_\_\_\_ concept used in Networking Models.
- 4.2 \_\_\_\_\_ address are used at Transport layer.
- 4.3 Fault Tolerance feature is provided in \_\_\_\_\_.
- 4.4 Twisting in Twisted pair is done for the purposes of canceling out \_\_\_\_\_ from external sources.
- 4.5 \_\_\_\_\_ is used in night vision equipment when there is insufficient visible light to see.
- 4.6 CRC is \_\_\_\_\_ technique.
- 4.7 Ethernet supports \_\_\_\_\_ transmission.
- 4.8 \_\_\_\_\_ is an example of C2C E-Commerce model.
- 4.9 JavaScript is a high-level, dynamic and \_\_\_\_\_ programming language.
- 4.10 Multicasting support is provided in \_\_\_\_\_ Address.

## PART TWO

(Answer any FOUR Questions)

5. (a) Explain Packet switching technology ? How is it different from Circuit switching ?
- (b) What is an IP Address? Highlight the differences between IPv4 and IPv6.
- (c) What is the role of a switch in a network ? Also explain its working. **(5+5+5)**
6. (a) What is a Meta search engine ? How is it different from a search engine ?
- (b) List the protocols, devices and unit of data at each of TCP/IP layers.
- (c) Highlight upon the importance of DNS. Also explain Domain name system structure. **(5+5+5)**
7. (a) Explain the network layer function of TCP/IP Model.
- (b) Create an HTML page to demonstrate target attribute in Frames
- (c) What is cryptography ? Explain the difference between Private Key Cryptography and Public Key Cryptography. **(5+5+5)**

8. (a) Create an HTML page to demonstrate a Clickable image.
- (b) Explain the basic types of Firewalls.
- (c) Differentiate between POP3 and IMAP4. **(5+5+5)**
9. (a) What is Client Server architecture ? Give three examples of Client Server applications.
- (b) Write short notes on :
- (i) Structure of an email
- (ii) FTP
- (iii) Java Script
- (iv) Electronic Commerce
- (v) PPP **(5+10)**

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**SPACE FOR ROUGH WORK**