

Unique Paper Code : 62344330
Name of the Course : B.A. (Prog.)
Name of the Paper : Computer Networks and HTML
Semester : III
Year of Admission : 2019 and onwards

Duration: 3 Hours

Maximum Marks: 75

Attempt any four questions
All questions carry equal marks.

Q1. If we have two computers connected by an Ethernet hub at home. Is this a LAN or a WAN?
Explain the reason.

For $n=6$ devices in a network, what is the number of cable links required for a mesh, ring, bus, and star topology? What happens if one of the stations is unplugged in the ring topology?

What are the types of addresses (identifiers) used in each of the following layers of network model: - network layer and datalink layer?

What is the difference between half-duplex and full-duplex transmission modes?

Q2. Write an HTML program to display the following table on the screen with four different entries.

S.No.	Name	Roll No	Course	Distribution of Marks		
				Term I	Term II	Total Marks
1	Arin	1211	B.A.	30	40	70
2	Neha	1212	B.Sc.	40	50	90
3	John	1213	B.A.	50	40	90
4	Sneha	1214	B.Sc.	50	50	100

Explain the concept of external and internal linking in HTML with suitable example codes.
Write an HTML program to create a link to Google search engine. What does `a[href^="https"]` and `a[href$=".pdf"]` indicate as CSS selectors in anchor tag?

- Q3. Suppose that a user “Rama” from India sends an Email to a user “Shreya” in the United Kingdom. Briefly discuss the Email architecture that will be used to deliver the email message to “Shreya”.

Write an HTML program for displaying the following simple feedback form.

Your name:

Your email:

Your comments:

Submit

Create a webpage to print the squares of the numbers 1 - 5. Each number should be on a separate line, next to it the number 2 superscripted, an equal sign and the result (as shown below).

$$1^2 = 1$$

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$$5^2 = 25$$

- Q4. Match the following operations to one or more layers of the TCP/IP protocol suite: -

- route determination;
- connection to transmission media;
- providing services for the end user;
- creating user datagrams.

A host communicates with another host using the TCP/IP protocol suite. What is the unit of data sent or received at each of the following layers: - data link layer, network layer, and application layer? How does a link-layer switch filter network traffic and why is filtering important?

Jane uses a remote client logging software to log into her university server for using a compiler program. Which application layer protocol she would use?

Q5. How does sky propagation differ from line-of-sight propagation?

Provide the layers of network model at which repeaters, bridges, routers, and gateways operate and give a brief description of their functionalities.

What are the two main categories of name servers that manages the entire Domain Name System (DNS)?

Write an HTML program to create the list given below: -

1. Cakes
 - Pineapple
 - Truffle
2. Chocolates
 - Milk
 - Dark
3. Drinks
 - Apple
 - Orange

Q6. List any two advantages of optical fiber over twisted-pair and coaxial cable. What is the purpose of cladding in an optical fiber? What are two ways in which light propagate along the channels in an optical fiber?

List the network commands that are used to: -

- test a network host capacity to interact with another host;
- display basic details about the device's IP address configuration

Find the class of the following classful IP addresses: -

- 132.34.54.20
- 210.34.2.10
- 244.38.24.8

What is the main reason for migration from IPv4 to IPv6 addresses? How many addresses are contained in the address-space of IPv6?