

Unique Paper Code : 32345301\_OC

Name of the Paper : Computer Networks and Internet Technologies (GE-III)

Name of the Course : Computer Science GE for Honours

Semester : III

Duration of Examination: 3 hours

Maximum Marks:75

Attempt any four questions from Question 1 to Question 6.

Each Question carries equal marks.

- Q1 With the help of an example, differentiate between a URI and URL. Also explain the components of a URL.

The screenshot shows a web page layout with two frames. Frame 1 is at the top and contains a horizontal menu with links: Home, Academics, Departments, Activities, and Contact Us. Frame 2 is below Frame 1 and contains a table titled 'STUDENT INFORMATION'. The table has four columns: ROLL NO., NAME, COURSE, and YEAR. There are five rows in the table, with the first row highlighted in grey. A large red watermark 'StudentSuvidha.com' is overlaid diagonally across the entire page.

Design the above page using two frames- Frame1 and Frame2. By default, the student information table should be displayed in Frame 2. The first frame contains hyperlinks (Home, Academics, Departments, Activities, Contact Us) which when clicked, the respective webpages should be displayed in Frame 2.

- Q2 Explain the layers in which following tasks are performed in the ISO-OSI reference model.
- Physical addressing
  - Logical addressing
  - Routing
  - Session Management
  - Encryption/Decryption

Further, differentiate between Cell Spacing and Cell Padding with syntax in **Table Tag**. Create a table in HTML as shown below:

I	II	III	IV	V	VI	VII
H		Periodic Table of Elements				He
Li	Be				B	Ne
Na	Mg				Al	Ar
K	Ca	Sc	Ti	V	Ga	Kr

- Q3 Write a short note on the Internet Protocol (IP) that works at the network layer of the TCP/IP model. Discuss how packets are routed to the destination network.

Further, create a form in HTML as shown below:

## LOGIN FORM

Username:

Password:

City of Employment:

Web server:

Please specify your role:

☐ Admin

☐ Engineer

☐ Manager

☐ Guest

Single Sign-on to the following:

☐ Mail

☐ Payroll

☐ Self-service

- Q4. With the help of suitable diagrams, explain the different types of network topologies stating the advantages and disadvantages of each topology.

Also, differentiate between simplex, half duplex and full-duplex mode of data transmission. Compare unicast, multi-cast and broadcast mode of communication.

- Q5 Differentiate between the terms: Internet, Intranet and Extranet.  
What are frames? Discuss the **Frameset** tag and the **iframe** tag used in HTML to create frames and write HTML code to create the following layout using them.

FRAME 1	FRAME 2
	FRAME 3
	FRAME 4

- Q6 Discuss the role of DNS in the Internet.

Also, create an HTML webpage using CSS and having frames which will appear as follows:

First Frame: Name and address		
Second frame Bulleted list of qualifications	Third frame Links to favourite sites	
Fourth frame Scrolling message	Fifth frame Blinking reminders	Sixth frame Image