

5. (a) What is Cascading Style Sheet (CSS) ? What are the benefits of CSS ? Write code to apply CSS to an HTML document in *two* different ways. **5**
- (b) What do you mean by JavaScript ? Write about benefits of using JavaScript over VBScript. **10**
6. (a) What are the Servlets ? What are the advantages of Servlets ? Explain life-cycle of a Servlet with neat diagram. **10**
- (b) Compare and contrast the difference between Servlets over JSP. **5**
7. Attempt any *three* parts : **15**
- (i) Circuit Switching vs. Packet Switching.
- (ii) Sub-netting vs. Super-netting.
- (iii) Client-Side Scripting vs. Server-side Scripting.
- (iv) Cookies vs. Session.

May 2024**B. Tech. (CE(DS)) (Sixth Semester)****Internet and Web Technologies (PCC-DS-604)***Time : 3 Hours]**[Maximum Marks : 75*

Note : It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other.

Part A

1. (a) Define DOM. **1.5**
- (b) Discuss history and evolution of Internet. **1.5**
- (c) What do you mean by Event Handling ? **1.5**
- (d) Explain alert(), confirm() and prompt() method of window object. **1.5**
- (e) What do you mean by the terms Tag and Element in HTML ? **1.5**

- (f) The subnet mask for a particular network is 255.255.31.0. Which of the following pairs of IP addresses could belong to this network ? **1.5**
- (g) Explain the following HTML tags : **1.5**
- (i) p
 - (ii) img
 - (iii) a
- (h) What are the difference between Generic Servlet and HTTP Servlet ? **1.5**
- (i) Explain about Common gateway interface. **1.5**
- (j) What are the CSS Box Model and its components ? **1.5**

Part B

2. (a) How do Search Engines work technically ? Discuss the general architecture of Search Engine with the detailed working of the following components : **5**
- (i) Indexer Module
 - (ii) Ranking Module.
- (b) Host X has IP address 192.168.1.97 and is connected through two routers R1 and R2 to another host Y with IP address 192.168.1.80.

Router R1 has IP addresses 192.168.1.135 and 192.168.1.110. R2 has IP addresses 192.168.1.67 and 192.168.1.155. The netmask used in the network is 255.255.255.224 : **10**

- (i) Given the information above, how many distinct subnets are guaranteed to already exist in the network ?
- (ii) Which IP address should X configure its gateway ?
 - (1) 192.168.1.67
 - (2) 192.168.1.110
 - (3) 192.168.1.135
 - (4) 192.168.1.155.

3. (a) What are the differences between GET and POST methods in form submitting ? Give the case where we can use get and we can use post methods. **5**
- (b) Define Form and how will you create HTML Form ? Design a registration page by using all Form controls. **10**
4. Discuss the basic functioning of Web Crawler. Briefly explain types of Web Crawler. **15**