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 :

(i) p

(ii) img

(iii) a **1.5**

(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**