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Question Paper Code : 61212

M.E. DEGREE EXAMINATION, MAY/JUNE 2014.

Elective

Computer Science and Engineering

CS 9225/CS 925 — WEB TECHNOLOGY

(Common to M.E. – Computer Networks/M.E. – Computer Networking and Engineering/M.E. – Network Engineering)

(Regulation 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. How do you determine the IP addresses for the three internet hosts assigned to you?
2. Assume that the base URL for a web page is
`http://www.example.com/hw1/detail/page7.html`
Also assume that this page contains the relative URL
`..images/icon5.gif`.
Give the absolute URL corresponding to this relative URL.
3. Can a JavaScript be executed without using a web browser? How will you include the JavaScript in HTML document?
4. Using javascript objects, write a simple code to create a new browser window and display some text in that window.
5. Java servlet URL rewriting mechanism adds Session ID as a path parameter rather than as a query string parameter. Why?
6. Draw a simple diagram to demonstrate the web server and servlet interactions.
7. What is database connectivity? How will you implement it in Java?

8. What is the purpose of DOM and SAX? Write down any one disadvantage of DOM.
9. Explain any two array built-in functions in PHP with a suitable example.
10. "PHP sessions are better than cookies for tracking users. How?"

PART B — (5 × 16 = 80 marks)

11. (a) Create a HTML document (web page) that gathers information as part of an online product ordering system. This page will request shipping and billing name, address, credit card information and contact details such as e-mail address and phone number. It should provide a menu from which the type of credit card can be selected. There should also be fields for entering the card number and expiration date. Furthermore, there should be checkbox, initially checked that is labeled "Please keep me informed about future product offerings". Finally, provide submit and clear buttons. All form controls should have appropriate name attributes. Use the GET method for form submission and specify the empty string for the action. Ensure that your page conforms to the XHTML 1.0 strict standard. Validate your pages at the W3C validation [W3C-VAL]. (16)

Or

- (b) (i) Create an HTML document and CSS style sheet that together produce the stair step effect. The right side of the steps should line up in the middle of the document, regardless of the width of the browser window. Also, each step should have the same height as all other steps, regardless of the number of lines of text contained in the step. (8)
 - (ii) Assume that you want to layout a number of playing card images so that they overlap one another as we keep the cards in our Cards Game. Would it be easier to use absolute or relative positioning to accomplish this? Explain. (8)
12. (a) (i) Write a javascript which accepts a date as input from the user, adds 70 years to it and display the result. The date should come into your script as a string. Also display the current date and time. (8)
 - (ii) Create a HTML page which includes a simple form of your choice. Write a script to extract the data from the form when submit button is clicked. Display the extracted data in a new document. (8)

Or

- (b) (i) Create a webpage which uses prompt() dialogs to ask a user for their name, age and shoe size. Display the information they enter on the page formatted as a small table. (8)
- (ii) Write a simple javascript that adds some number together, concatenate a couple of strings and then show the result in an alert() dialog. (8)
13. (a) (i) How does a server establishing and maintain sessions between clients? Explain. (8)
- (ii) Develop a doGet() method of a servlet that counts the number of individual visitors. (8)

Or

- (b) (i) A new visitor sends a request to the URL, of a servlet that uses URL rewriting. Do you think that the servlet response will contain the session ID in the HTTP header, in URLs written to the body of the response, in neither, or in both? Justify your answer. (8)
- (ii) Assume that someone eavesdropping on a network has obtained another user's session ID from a HTTP request sent by that user. How could this information be used to spoof the servlet that generated the session ID into allowing the eavesdropper to access the servlet as if the eavesdropper were sending a request that was part of the same session? (8)
14. (a) (i) There are various products available in a store for sales which includes both perishable and non-perishable products. Consider the perishable (fresh) food items like ice cream as the product available in a Store. Every individual perishable item has product id, name, manufacturer, quantity, price, nutrition (calcium, protein, fat etc..) and expiration date etc. Also consider the non perishable items like batteries as the product available in the same store and their details as product id, name, manufacturer. quantity. price etc... Draw your XML tree which describes the above products detail and write a XML DTD document which describes the above product details. (8)
- (ii) Explain the DOM based XML processing with suitable examples. (8)

Or

- (b) (i) Define a DTD and XML Schema for 'email' which has the components such as head, body, to, from, subject etc... Compare your XML Schema with your DTD and list out the various differences. (8)
- (ii) Explain the event oriented parsing with SAX. Give suitable examples. (8)

15. (a) Create a guestbook in PHP to perform the following operations.
- (i) To accept input from users through a form and store the data into a file
 - (ii) To modify the data into the stored file
 - (iii) To display the stored data in the file.
 - (iv) To search and validate the data into the guesthook. (16)

Or

- (b) With a suitable example web application, explain the lifecycle of a cookie such as
- (i) Setting a Cookie
 - (ii) Retrieving a Cookie
 - (iii) Deleting a Cookie.
- Include the necessary code to demonstrate your application. (16)