

**WEB TECHNOLOGIES
(CSEN 3133)**

Time Allotted : 2½ hrs

Full Marks : 60

Figures out of the right margin indicate full marks.

Candidates are required to answer Group A and any 4 (four) from Group B to E, taking one from each group.

Candidates are required to give answer in their own words as far as practicable.

Group – A

1. Answer any twelve:

12 × 1 = 12

Choose the correct alternative for the following

- (i) What is the effect of this CSS rule?
P:first-line{font-style:small-caps}
(a) Converts the content of a paragraph into capital letters
(b) Converts the first line of a paragraph to capital
(c) Converts the content of a page to capital letters
(d) No Visible effect.
- (ii) The following message is displayed on the browser, while trying to access a URLServer; Error 403. The reason for the message
(a) The requested HTML file is not available
(b) The URL refers to a CGI script and the header of the script does not indicate where the interpreter is located
(c) The path to the interpreter of the script file is invalid
(d) The requested HTML file or CGI script has insufficient permission.
- (iii) Predict the output of the following JavaScript code.
<script type="text/javascript">
a = 8 + "8";
document.write(a);
</script>
(a) 16 (b) compilation error (c) 88 (d) run time error
- (iv) Which of the following function of the String object returns the character in the string starting at the specified position via the specified number of characters?
(a) slice() (b) split() (c) substr() (d) search()
- (v) Which option is true about session scope?
(a) Objects are accessible only from the page in which they are created
(b) Objects are accessible only from the pages which are in same session
(c) Objects are accessible only from the pages which are processing the same request
(d) Objects are accessible only from the pages which reside in same application.

- (vi) "request" is instance of which one of the following classes?
 (a) Request (b) HttpRequest
 (c) HttpServletRequest (d) ServletRequest.
- (vii) When a DNS server accepts and uses incorrect information from a host that has no authority giving that information, then it is called
 (a) DNS lookup (b) DNS hijacking
 (c) DNS spoofing (d) DNS spoofing.
- (viii) A proxy firewall filters at
 (a) Physical layer (b) Data link layer
 (c) Network layer (d) Application layer
- (ix) Network layer firewall has two sub-categories as
 (a) State full firewall and stateless firewall
 (b) Bit oriented firewall and byte oriented firewall
 (c) Frame firewall and packet firewall
 (d) Network layer firewall and session layer firewall.
- (x) Using VPN, we can access
 (a) Access sites that are blocked geographically
 (b) Compromise other's system remotely
 (c) Hide our personal data in the cloud
 (d) Encrypts our local drive files while transferring.

Fill in the blanks with the correct word

- (xi) The doGet() method in the example extracts values of the parameter's type and number by using _____.
- (xii) _____ is used to obtain initialization parameters in a servlet.
- (xiii) http is a _____ protocol.
- (xiv) _____ tag is used for scriptlet.
- (xv) In tunnel mode, IPSec protects the _____.

Group - B

2. (a) Differentiate between GET and POST Method. [[CO1](Remember/LOCQ)]
 (b) Why is HTTP protocol called stateless protocol? How does it manage its state during item addition in the e-commerce shopping cart? [[CO1](Understand/LOCQ)]
 (c) What do you mean by client side validation and server side validation? Briefly explain with example. [[CO1](Apply/IOCQ)]
- 3 + (2 + 2) + 5 = 12**
3. Develop an html form to accept following inputs from the user as shown below. Assume that Favorite color list contains three colors Purple, Red and Green.

First Name:	<input type="text" value="Sutapa"/>
Last Name:	<input type="text" value="Sinha"/>
Roll No.:	<input type="text" value="1234"/>
Age:	<input type="text" value="22"/>
Gender :	<input type="checkbox"/> Male <input checked="" type="checkbox"/> Female
Course :	<input type="radio"/> B.Tech <input checked="" type="radio"/> M.Tech
Favorite Color :	<input type="text" value="Purple"/> <input type="button" value="v"/>
<input type="button" value="Submit Query"/>	

[[CO1)(Analyse/HOCQ]]

12

Group - C

4. (a) Create XML document which has a root element student. Root element contains more than one student element. Each student has sub-element student_name, student_id, gender, course_name and marks.
Write XSLT code to display the names and gender of the students
Write XSLT code which will print the names of the students in sorted order
Write XSLT code which will print the marks and names of the students who has got marks>75.
- [[CO4)(Apply/HOCQ]]
- (b) What is the need for Namespace in XML?
- [[CO4)(Understand/LOCQ]]
- 10 + 2 = 12**
5. (a) Write a program in JavaScript to validate IP address (in IPV4 address format) in a form using regular expression.
- [[CO2)(Apply/HOCQ]]
- (b) Flight numbers are typically of the format AI 123 or 6E 2415. First two letters correspond to the flight company followed by a space, and then followed by 3 or 4 digits. Write a regular expression that will validate the above format.
- [[CO2)(Analyze/IOCQ]]
- (c) Write a JavaScript program to remove the duplicate items from an array (ignore case sensitivity).
- [[CO2)(Apply/IOCQ]]
- 6 + 2 + 4 = 12**

Group - D

6. Assume a table EMP [fields: ID, NAME, SALARY, AGE] in mySql in your localhost. Now do the following from your Java file:
- (i) Register the JDBC driver
 - (ii) Open a connection
 - (iii) Execute a query to find out the Employees above 40 years of age who get salary above Rs 40,000 per month
 - (iv) Display the result
 - (v) Close the connection.

[[CO2)(Analyze/IOCQ]]

(2 + 2 + 3 + 3 + 2) = 12

7. (a) What is the difference between Prepared and Callable statements? Explain with example. *[[C02](Understand/LOCQ)]*
 (b) Explain the steps of creating the web page by web server when you request a JSP page from your browser. *[[C04](Remember/LOCQ)]*
 (c) Explain the use of forward action in JSP with an example. *[[C02](Remember/LOCQ)]*
5 + 5 + 2 = 12

Group - E

8. (a) Explain man-in-the -middle attack with suitable example. *[[C05](Remember/LOCQ)]*
 (b) What is a worm? How does it differ from a virus? *[[C05](Analyze/IOCQ)]*
 (c) What is VPN? Why VPN is required? *[[C06](Analyze/IOCQ)]*
4 + (2 + 2) + (2 + 2) = 12
9. (a) Explain different attacks possible on packet filtering router State the suitable countermeasure for each attack. *[[C06](Analyse/HOCQ)]*
 (b) Explain the working of SSL record protocol in detail, with a neat diagram. *[[C06](Understand/LOCQ)]*
 (c) Define the term non-repudiation. *[[C05](remember/IOCQ)]*
(3 + 3) + 4 + 2 = 12

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	30.21	34.38	35.42