

**WEB TECHNOLOGIES
(CSE3133)**

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) Which of the following is the correct way to add background color in HTML?
(a) <body color = "green">
(b) <body bg-color = "green">
(c) <body style = "background-color=green">
(d) <body style = "background-color: green;">
- (ii) 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
- (iii) Suppose your current location is <http://www.indal.com/html/> and you want to reference the <http://www.indal.com/html/admin/registration.aspx> page using href attribute of <a>, what root relative URL should you use in href attribute?
(a) /registration.aspx (b) /html/admin/registration.aspx
(c) /admin/registration.aspx (d) registration.aspx
- (iv) 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
- (v) What will be the output of the following JavaScript code?
var v1=[1,2,3];
var v2=[6,7,8];
var result =v1.concat(v2);
(a) 1,2,3 (b) Error (c) 1,2,3,6,7,8 (d)123

3. (a) Write HTML code for dividing the browser window into two horizontal parts (left part is content and right part is main). Left part should contain the anchors clicking on which corresponding page to be displayed at the right part. Clearly state the assumptions regarding the developed code. [[CO3](Analyse/HOCQ)]
- (b) Say you have a map of India which is only showing the boundary of each state. Write an HTML page to show that map and when user click within the boundary of West Bengal and Bihar it will be redirected to the detail map of corresponding state. You may assume arbitrary polygon area in the said boundaries for this purpose. [[CO4](Analyze/IOCQ)]
- 6 + 6 = 12**

Group - C

4. (a) What is web container? Write a simple servlet program which will return the current date and time. [[CO3](Create/HOCQ)]
- (b) Discuss the lifecycle of a servlet [[CO3](Remember/LOCQ)]
- (2 + 5) + 5 = 12**
5. (a) What is the output of the following Javascript snippet? Show reasons.
- ```
var num = 1+2+"3";
if ((num == 123) || (num == 33)) {
 console.log("equal: " + num);
} else {
 console.log("other:" + num);
}
```
- [[CO1](Apply/IOCQ)]
- (b) A servlet is used to maintain a shopping cart session for users visiting an e-commerce site. Explain how sessions work, how they are created and destroyed, and how they differ from cookies. [[CO2](Analyze/LOCQ)]
- (c) Explain why validation is important in XML documents. What are the differences between DTD and XSD for validation? [[CO4](Remember/LOCQ)]
- (1 + 2) + (2 + 2 + 2) + (1 + 2) = 12**

### Group - D

6. (a) What is difference between scriptlet and expression? Explain with example. [[CO3](Remember/IOCQ)]
- (b) What do you understand by JDBC-ODBC bridging? [[CO4](Remember/LOCQ)]
- (c) Write a JSP program that shows the System date and time. [[CO2](Apply/IOCQ)]
- 4 + 3 + 5 = 12**
7. (a) Explain the role of **JSP** in dynamic web page development. [[CO3](Analyze/IOCQ)]
- (b) Write the steps needed to connect a JSP page to a MySQL database using **JDBC**. [[CO4](Remember/LOCQ)]
- (c) Write a JSP code snippet that takes a student's **roll number** and **password** from a login form, validates them against the database (table: students), and displays a welcome message on successful login. [[CO4](Analyze/HOCQ)]

- (d) What is the difference between **executeQuery()** and **executeUpdate()** in JDBC?  
 [[CO2](Remember/LOCQ)]  
**2 + 3 + 5 + 2 = 12**

### Group - E

8. (a) What is meant by a Spoofing attack? [[CO5](Remember/LOCQ)]  
 (b) Describe in brief the types of spoofing attack [[CO5](Remember/LOCQ)]  
 (c) Consider the case of the SYN Flood attack and explain briefly what a Denial of Service attack is. [[CO6](Apply/IOCQ)]  
**2 + 6 + 4 = 12**
9. (a) Users connect to a public Wi-Fi hotspot in a mall. A malicious user sets up a rogue access point, capturing user credentials and personal data.  
 (i) Explain how this eavesdropping attack works.  
 (ii) What signs would indicate to users that the network is compromised?  
 (iii) Suggest preventive and corrective measures users and providers can take. [[CO5](Analyse/IOCQ)]
- (b) A hospital's network contains critical systems like patient records, monitoring devices, and appointment scheduling. Recently, the network has been targeted by a new malware variant that spreads through infected USB drives and phishing emails. The hospital's firewall only filters known threats and does not inspect encrypted traffic.  
 (i) Identify which types of malware are most likely involved in this attack.  
 (ii) Suggest three network security techniques that would help protect the hospital's network.  
 (iii) Explain why passive monitoring alone is insufficient in this case. [[CO6](Understand/IOCQ)]  
**(2 + 2 + 2) + (2 + 2 + 2) = 12**

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|-------------------------|-------|-------|-------|
| Cognition Level         | LOCQ  | IOCQ  | HOCQ  |
| Percentage distribution | 33.33 | 42.71 | 23.96 |