

**ADVANCED JAVA & WEB TECHNOLOGY**  
**(INFO 3101)**

**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) Web pages are created in the \_\_\_\_\_ language.  
(a) HTTP                      (b) WWW                      (c) Java                      (d) HTML
- (ii) PUT command is used to \_\_\_\_\_ a HTML document.  
(a) download                      (b) upload  
(c) delete                      (d) modify
- (iii) JavaScript is contained inside the \_\_\_\_\_ tags.  
(a) <font>...</font>                      (b) <script>...</script>  
(c) <head>...</head>                      (d) <body>...</body>
- (iv) Client-side technology \_\_\_\_\_ is used for validating user inputs.  
(a) JavaScript                      (b) ASP.NET  
(c) PHP                      (d) JSP
- (v) JSP provides session object \_\_\_\_\_.  
(a) implicitly                      (b) explicitly  
(c) as predefined method/component                      (d) anonymously
- (vi) \_\_\_\_\_ directive serves the purpose of include a file during compile time.  
(a) @import                      (b) @page  
(c) @include                      (d) @instance
- (vii) Which of the below is not a session tracking method?  
(a) URL rewriting                      (b) History  
(c) Cookies                      (d) Http session API.
- (viii) JSF technology based upon which of the following architecture?  
(a) MVVM                      (b) Layered architecture  
(c) Client-server architecture                      (d) MVC architecture.

- (ix) Which of the following is correct about resource representation in REST?  
 (a) REST uses various representations to represent a resource where text, JSON, XML.  
 (b) XML and JSON are the most popular representations of resources.  
 (c) Both of the above.  
 (d) None of the above.
- (x) JSF provides support for mapping \_\_\_\_\_ in HTTP GET requests to an EL.  
 (a) function parameters (b) URL parameters  
 (c) method parameters (d) URI parameters

*Fill in the blanks with the correct word*

- (xi) Markup tags tell the web browser to \_\_\_\_\_.
- (xii) In JSP action tags, \_\_\_\_\_ tag is used for java bean.
- (xiii) \_\_\_\_\_ bean represents persistent data storage.
- (xiv) The elements within the web document can be accessed through \_\_\_\_\_ method of DOM.
- (xv) The \_\_\_\_\_ method of Servlet is called only once at the end of the life cycle.

### **Group - B**

2. (a) State the differences between HTTP GET and POST method. Discuss any two HTTP commands. [[CO1](Remember/LOCQ)]  
 (b) How will you create hyperlinks in web documents, explain with example? [[CO1](Apply/IOCQ)]  
 (c) Describe the HTML <meta> tag with example. [[CO1](Apply/IOCQ)]  
**(2 + 2) + 4 + 4 = 12**
3. (a) Write a CSS rule that places a background image at the bottom left corner of the page and tiling it horizontally. The image should remain in place when the user scrolls up or down. Use external style sheet. [[CO1](Apply/IOCQ)]  
 (b) What is an Applet? Give an example of Applet. [[CO1](Remember/LOCQ)]  
**6 + (2 + 4) = 12**

### **Group - C**

4. (a) Create a html page having 3 text boxes and a submit button. The text boxes are Email-id, Age and Name. The e-mail-id text box has to contain @ symbol, Age should be greater than 1 and less than 100 and Name should not exceed 10 characters. Fire an alert message if these are not satisfied. [[CO2](Analyse/HOCQ)]  
 (b) Describe several techniques of object creation in the context of JavaScript. [[CO2](Remember/LOCQ)]  
**8 + 4 = 12**
5. (a) Explain the concept of Set and Map class in the context of JavaScript. [[CO2](Remember/LOCQ)]

- (b) Define associative array in the context of JavaScript with example. [[CO2](Apply/IOCQ)]
- (c) Use Regular Expression in Java script to accepts phone numbers only if it contains 10 digits exactly. [[CO2](Apply/IOCQ)]
- 4 + 3 + 5 = 12**

### Group - D

6. (a) JSP is slower than Servlet. Justify for or against the statement. [[CO3](Remember/LOCQ)]
- (b) Explain the JSP declaration tag and the JSP expression tag with example. [[CO4](Apply/IOCQ)]
- (c) Write a JSP code to track the number of times a particular JSP page is visited. Invocation of JSP page is done from a HTML page containing submit button. [[CO4](Apply/IOCQ)]
- 2 + 4 + 6 = 12**
7. (a) Develop a small web application that works as a telephone directory. Retrieve the phone numbers from a database using JSP and JDBC. [[CO4](Apply/IOCQ)]
- (b) Explain the importance of <jsp:useBean> action with example. [[CO4](Apply/IOCQ)]
- 8 + 4 = 12**

### Group - E

8. (a) Describe the resources in the context of RESTful Web Services. [[CO5](Remember/LOCQ)]
- (b) Explain the process of binding HTTP methods in the context of RESTful Web Services. [[CO5](Remember/LOCQ)]
- (c) Explain the multiple resource representations in the context of RESTful Web Services. [[CO5](Remember/LOCQ)]
- 4 + 4 + 4 = 12**
9. (a) Describe the several components of J2EE technologies. [[CO6](Remember/LOCQ)]
- (b) State the differences between stateful session bean and stateless session bean. [[CO6](Remember/LOCQ)]
- (c) Explain how Entity Beans different from Session Beans. [[CO6](Remember/LOCQ)]
- 4 + 4 + 4 = 12**

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Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	45.88	45.83	8.33

