

**ADVANCE JAVA AND WEB TECHNOLOGY
(INFO 3203)**

Time Allotted : 3 hrs

Full Marks : 70

Figures out of the right margin indicate full marks.

Candidates are required to answer Group A and any 5 (five) from Group B to E, taking at least one from each group.

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

**Group - A
(Multiple Choice Type Questions)**

1. Choose the correct alternative for the following: **10 × 1 = 10**
- (i) _____ tag describes the document's information like keyword, author name, expiry date etc.
 (a) Alpha (b) Meta
 (c) Beta (d) Hash.
- (ii) _____ tag is used in the HTML document if the browser does not support script languages.
 (a) Basicscript (b) Goscript
 (c) Noscript (d) None of the above.
- (iii) The Embedded style sheets can be applied
 (a) only within one web document (b) for many documents
 (c) all of the above (d) none of the above.
- (iv) The elements within the Web document can be accessed through _____ method of DOM
 (a) getElementById() (b) retrieveElementById()
 (c) accessElementById() (d) None of the above.
- (v) JSP provides session object _____
 (a) implicitly (b) explicitly
 (c) as predefined method/component (d) none of the above.
- (vi) Java codes are embedded into a JSP page using _____ component.
 (a) expression (b) scriptlet
 (c) declaration (d) none of the above.
- (vii) JNI of Java Technology Stands for
 (a) Java Naming Interface (b) Java Native Interface
 (c) Java Name Interface (d) None of the above.

- (viii) JSP files are compiled into a servlet by _____
 (a) IS server (b) Windows server
 (c) JSP engine (d) none of the above.
- (ix) The cookie can set with an expiry information through _____
 (a) cookie setMaxAge(); (b) cookie setAge();
 (c) cookie Age(); (d) cookie noAge();
- (x) _____ directive serves for including a file during compile time.
 (a) @ import (b) @ page
 (c) @ include (d) @ instance

Group - B

2. (a) Describe the structure of an HTML document. What is the difference between tag and attributes? Explain with an example.
 (b) What do you mean by internal linking? How will you implement it? State the importance of <meta> tag. Describe with examples the frame model of HTML document.
- (2 + 3) + (3 + 2 + 2) = 12**
3. (a) How will you create hyperlinks in web documents? Describe three tier architecture in detail.
 (b) Describe applet life cycle in detail. State the differences between HTTP GET and POST method.

(3 + 3) + (4 + 2) = 12

Group - C

4. (a) How will you do client side validation using JavaScript? Explain the various methods and its usage of String object.
 (b) Write a script that uses function 'c-area' to prompt the user for the radius of a circle and calculate and print the area of a circle. Write a Javascript function that determines for a pair of integers whether the second integer is a multiple of the first.
- (3 + 3) + (3 + 3) = 12**
5. (a) What is a cookie and how it can be created? How is a session created? Explain with example.
 (b) Explain the life cycle of a servlet. Compare and contrast servlets and CGI.

(3 + 3) + (4 + 2) = 12

Group - D

6. (a) What are custom tags? What are scriplets and explain with an example. What are JSP declaration tags?
- (b) How does JSP handles runtime exceptions? How comments are added in a JSP page?

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

7. (a) Create an application in JSP to redirect the request to any other page. Explain the importance of <jsp:useBean> action with example.
- (b) What are the different types of JDBC API available in JSP? Write a JSP application to show create, store and update operation in a database.

$$(3 + 3) + (3 + 3) = 12$$

Group - E

8. (a) Describe the several components of J2EE technologies. State different types of EJB. State the differences between stateful session bean and stateless session bean.
- (b) How stub and skeleton facilities the process of Remote Method Invocation?

$$(4 + 2 + 2) + 4 = 12$$

9. (a) What is a DTD? What are its disadvantages? What is the syntax of declaring an attribute in a DTD? What are the benefits and drawbacks of XML namespaces?
- (b) Create a small XML file designed to contain information about student performance on a module. Each student has a name, a roll number, a subject mark and an exam mark. Create a DTD (or Schema) capturing that document type. Validate your document against the DTD.

$$(1 + 1 + 1 + 1) + (4 + 4) = 12$$