

**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) Web pages can be of
(a) 3 types (b) 2 types (c) 4 types (d) none of these.
- (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) What happens if the break statement is encountered inside the loop?
(a) Control goes to next statement
(b) Control goes to next statement after the loop
(c) Program will stop unexpectedly
(d) Skip the current statement and continue with next statement.
- (v) Type 3 JDBC driver
(a) calls directly into the native protocol
(b) calls vendor specific API functions
(c) is single threaded JDBC driver
(d) uses a network protocol to a middleware server.
- (vi) JSP provides session object _____
(a) implicitly (b) explicitly
(c) as predefined method/component (d) none of the above.
- (vii) The cookie can set with an expiry information through _____
(a) cookie setMaxAge(); (b) cookie setAge();
(c) cookie Age(); (d) cookie noAge();

- (viii) _____ directive serves for including a file during compile time.
(a) @ import (b) @ page
(c) @ include (d) @ instance
- (ix) Cookies are stored in
(a) Web Server (b) Web Browser
(c) Application Server (d) Database server.
- (x) What does CSS stand for?
(a) computer style sheet (b) cascading style sheet
(c) colourful style sheet (d) none of (a), (b) & (c).

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) What is an Applet? Describe Applet life cycle with diagram.
(b) What is the difference between static and dynamic web pages? What is URL and how does it differ from URI? State the advantages of Java Swing over Abstract Windowing Toolkit.

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

Group – C

4. (a) Give an example where CSS and Java Script are used together. How arrays are handled in Java Script?
(b) Using Servlet calculate the area and circumference of a circle. The user enters the radius of a circle and clicks button "Calculate".

(4 + 2) + 6 = 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) Compare ASP and JSP. Draw and describe the lifecycle of JSP.
(b) Write a JSP program to store the name, age, id of employees of an organization in a database and to retrieve any particular record by a particular id.

(2 + 4) + 6 = 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) What are the basic differences of EJB and Java Bean? Can all application servers run EJB? How many types of EJB are there?
(b) What is the goal of RMI and how does it differ from RPC? How can we develop a simple RMI program? What do you mean by Stub and Skeleton?
- (2 + 2 + 2) + (2 + 2 + 2) = 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**

