NOTE:
• Question 1 is compulsory and carries 28 marks. Answer any FOUR questions from the rest. Marks are indicated against each question.
• Parts of a question should be answered at the same place.

Q.1
a. Compare Application Server with web server.

b. Write the advantages of using Cascading style sheet in web page design.

c. Define XQL. How it is different from SQL?

d. List two advantages and two disadvantages of dynamic script loading.

e. Write some of the characteristics of an enterprise bean.

f. Write short notes on DWR.

g. How Does the JMS API Work with the Java EE Platform? (7×4)

Q.2
a. Create a HTML form that has the following controls:
   • A TEXT control called firstName to collect the first name.
   • A TEXT control called lastName to collect the last name.
   • A TEXT control called email to collect the email address.
   • A TEXT control called phone to collect the phone number.
   • A SELECT control called software for displaying a combo box with software list.
   • A SELECT control called os for displaying a combo box with operating systems.
   • A TEXTAREA control called txtArea for displaying problem description.
   • A SUBMIT control called submit for submitting the information.

b. Write a simple program that downloads and prints out the contents of a specified POP mailbox. (9)
Q.3 a. Following are the content to put into the XML document:
   (i) The root element is "Employee_Info"
   (ii) As the content for "Employee_Info," "Employee" occurs 0 or more times
   (iii) As content of "Employee," "Name," "Department," "Telephone," and "Email"
        elements occur once in respective order
   (iv) "Name," "Department," "Telephone," and "Email" content are text strings
   (v) "Employee" has an attribute called "Employee_Number"
   (vi) "Employee_Number" content must be int type

Prepare XML Schema to provide a schema definition for the content given above
(employee.xs). Also prepare a valid XML document (employee.xml) for the XML
Schema (employee.xs).
Also create the tree structure for information given above. (4+4+4)

b. Write a function in java script that validates if the content has the general syntax of
an email. (6)

Q.4 a. With the help of a diagram, explain the lifecycle of Stateful Session bean state. (9)

b. Write a command line argument that parses a document and counts the number of
elements in it. The output must list the number of elements in the XML file given as
argument on the command line. (9)

Q.5 a. Explain Ajax web application model with the help of a diagram. Also explain
principles and technologies behind Ajax. (10)

b. What is EJB container? Explain the different services provided by EJB container to
the application developer. (8)

Q.6 Explain the process of creating and sending an Ajax request using each of the
following attributes:
(i) Using the event Attribute
(ii) Using the execute Attribute
(iii) Using the immediate Attribute
(iv) Using the listener Attribute (4 × 4.5)

Q.7 a. Write a Simple bean component which has three properties length, width and height.
Write a program for accessing the properties of the bean. (9)

b. Explain the main architecture of JMS API Programming Model. (9)