Examination	: **Second Sessional**	**Seat No.**	:	
Date	: **07/09/2016**	**Day**	: **Wednesday**	
Time	: **2:15 to 3:30 PM**	**Max. Marks**	: **36**	

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 **Do as directed**. [12]
(a) Which two concepts are used by distributed garbage collection in RMI? Briefly discuss both. [2]
(b) Discuss when object is returned as "return by stub" and "return by copy of object" in RMI method call? [2]
(c) What are the responsibilities of (1) stub-skeleton layer, and (2) remote reference layer? [2]
(d) Explain isErrorPage and errorPage attributes of JSP page directive. [2]
(e) (i) List jsp implicit objects. [2]
(ii) The out implicit object of of JSP is of _____ class.
(f) Differentiate <%@ include %> and <jsp:include>. [2]

Q.2 Attempt *Any Two* from the following questions. [12]
(a) Draw and discuss "dynamic class loading of remote stub class". [4]
Also briefly discuss why in a practical RMI application it is needed? [2]
(b) Create RMI based server application (only server part). The server provides facility of viewing [6]
teacher's information (EMP_ID, Name, Qualification, and Subjects-taught) and modifying/adding teacher's information (Qualification, and Subjects-taught) on teacher's object from remote client. The server registers its service with the name *MyUniversityService* in RMI registry. The university object provides getTeacher() remote method using which the client can get remote teacher object. For implementing of teachers' record, data structure such as array may be used. Write server interfaces and server implementations only.
(c) Answer the following: [6]
(1) Draw and discuss MVC-2 design pattern applied in Java EE.
(2) Discuss situations in which Callback RMI is useful? Discuss how does a server get remote client's object?

Q.3 Attempt following questions. [12]
(a) (i) Write a JSP that displays the number of requests made to the JSP. [3]
(ii) Explain <jsp:useBean>,<jsp:getProperty> and <jsp:setProperty> with an example [3]
(b) Write JSP code, with the use of JSTL, in which you have to take a number and user name from a [6]
user. And check the following condition.
a) Given number is prime or not.
b) Given number is even or not.
Also it displays welcome message with user name for given number of times.

OR

Q.3 Attempt following questions. [12]
(a) Write a JEE application for Online Workshop Registration as per the following description. [6]
"Application has components register.html, registration.jsp and registrationBean.java".
1. register.html will allow user to enter the information like Name, Institute/Company Name, Designation, E-mail_Address, Contact_No.
2. registration.jsp will be called from register.html and create registrationBean object and set all the information to properties of the registrationBean and also display entered information.

(b) Create two JSP pages. First JSP page takes students's ID via form. In the second JSP page, [6]
using JSTL sql display corresponding student's (submitted via first page) record in tabular format.