

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech (CE) Examination

May-June 2017

CE307.02/CE307.01/CE307 Advanced Java Programming

Date: 08.06.2017, Thursday

Time: 10.00 a.m. To 01.00 p.m.

Maximum Marks: 70

Instructions:

1. The question paper comprises two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.

SECTION - I

Q - 1 Answer the following questions.

- A. Consider the following HTML page code:

[01]

```
<html><body>
<a href="/servlet/HelloServlet">POST</a>
</body></html>
```

Which method of HelloServlet will be invoked when the hyperlink displayed by the above page is clicked?

- B. Differentiate between ServletConfig and ServletContext object with example.

[03]

- C. Explain getByName() and getLocalHost() InetAddress class methods. Give example.

[03]

- Q - 2.A** List and Explain Different types of JDBC Drivers along with Advantages and disadvantages of each JDBC driver.

[07]

Q - 2.B Answer the following questions [Attempt Any one].

[07]

1. What is Deployment Descriptor? Explain following Deployment Descriptor elements.

1. <servlet-mapping>
2. <error-page >
3. <welcome-file-list>

2. Explain the use of JDBC PreparedStatement with appropriate example.

Q - 3 Answer the following questions. [Attempt Any Two].

[14]

- A. What is ResultSet Object in JDBC? Explain following ResultSet cursor types with example.

1. TYPE_FORWARD_ONLY
2. TYPE_SCROLL_INSENSITIVE
3. CONCUR_UPDATABLE

- B. Bob want to chat with Alice, To provide chat solution, you have to write UDP server client program.

- C. Assume you have a Servlet named "SecureServlet." Write a filter that will block all the requests to "SecureServlet" from IP address 172.16.12.5. Also apply this filter to the servlet using Deployment Descriptor entry.

SECTION - II

Q - 4 Answer the following questions.

- A. What are cookies and session?

[01]

- B. Consider the contents of two JSP files:

File 1: this.jsp

```
<html>
<body>
<pre>
<jsp:include page="that.jsp" >
    <jsp:param name="color" value="red" />
    <jsp:param name="color" value="green" />
</jsp:include>
</pre>
</body>
</html>
```

File 2: that.jsp

```
<%
String colors[] = request.getParameterValues("color");
for (int i=0; i<colors.length; i++)
{
    out.print(colors[i] + " ");
}
%>
```

What will be the output of accessing the this.jsp file via the following URL?
<http://localhost:8080/jspDemo/this.jsp?color=blue>

- C. Will the following code compile? If yes What will be the output?

[02]

```
<% int x=3; %>
<% ! int x=5; %>
<% ! int y=6; %>
```

The sum of x and y is <%=x+y%>

- D. What is the output of the following code?

[02]

```
<% int i; %>
<% for(i=0; i<3; i++) %>The value of i is
<%= i %>
```

Q - 5.A What is JSP (Java Server Pages)? What are the benefits of JSP over Servlet? Draw [07] and explain Life cycle of JSP.

Q - 5.B Write a JSTL program for Viral who wants to fetch 6th semester CE students' details [07] (ID, Name, Email Id, Mobile No., Result of All Semester) from the university database server which is running on MySql.

OR

Q - 5.A What is JSF (Java Server Faces)? Draw and explain the life cycle of JSF along with [07] advantages and disadvantages.

Q - 5.B Enlist and explain usage of various implicit JSP objects. [07]

Q - 6. Answer the following. [Attempt any two]

A. Draw and explain Hibernate Architecture and Object Relation Mapping in Hibernate.

B. Draw Spring Architecture. Explain Dependency Injection along with advantages in Spring. Give suitable example.

C. What are the available scopes for managed bean in JSF? Explain following JSF UI (User Interface) and Validation components with example.

1. <h:inputText>

2. <f:validateLength>

3. <h:dataTable>

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech (CE/IT) Examination

December 2015

CE307.01/307 Advanced Java Programming

Date: 02.12.2015, Wednesday

Time: 01.30 p.m. To 04.30 p.m.

Maximum Marks: 70

Instructions:

1. The question paper comprises two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.

SECTION - I

Q - 1 Answer the following questions.

[07]

- A. JDBC stands for:
- a. Java Database Connectivity
 - b. Java Database Control
 - c. Java Database Components
 - d. None of the above is correct.
- B. State true or false. Does the JDBC-ODBC Bridge support multiple concurrent open statements per connection?
- a. True
 - b. False
- C. State true or false. Is the JDBC-ODBC bridge multithreaded?
- a. True
 - b. False
- D. _____ is an open source DBMS product that runs on UNIX, Linux and Windows.
- a. MySQL
 - b. JSP/SQL
 - c. JDBC/SQL
 - d. Sun Access
- E. Which of these package contains classes and interfaces for networking?
- a. java.io
 - b. java.util
 - c. java.net
 - d. java.network
- F. Which of these class is used to encapsulate IP address and DNS?
- a. DatagramPacket
 - b. URL
 - c. InetAddress
 - d. ContentHandler
- G. What is the correct syntax of the declaration which defines the XML version?
- a. <xml version="A.0" />
 - b. <?xml version="A.0"?>
 - c. <?xml version="A.0" />
 - d. None of the above

Q - 2.A What is JDBC? Explain types of JDBC Drivers with example. [08]

Q - 2.B Answer the following questions [Any Two]. [10]

1. Define XML. Explain advantages to use xml.
2. Define DTD. Explain structure of DTD with example.
3. Create XML file for charusat exam mark-sheet

Q - 3 Answer the following questions. [Any Two]. [10]

- A. Write a code for ECHO Client and Server using TCP Socket.
- B. Write a code using UDP Socket which performs addition of two number.
- C. Write a code for DayTime Client and Server using either TCP or UDP Socket.

SECTION - II

Q - 4 Answer the following questions. [07]

- A. Which package is used for Remote Method Invocation (RMI)?
 - a. java.lang.rmi
 - b. java.lang.reflect
 - c. java.applet
 - d. java.rmi
- B. An RMI Server is responsible for _____.
 - a. Creating an instance of the remote object
 - b. Exporting the remote object
 - c. Binding the instance of the remote object to the RMI registry
 - d. All mentioned above
- C. In RMI, the objects are passed by _____.
 - a. Value
 - b. Reference
 - c. Value and Reference
 - d. None of the above
- D. A deployment descriptor describes
 - a. web component response settings
 - b. web component settings
 - c. web component request objects
 - d. All of the above
- E. The method forward(request, response) will
 - a. return back to the same method from where the forward was invoked
 - b. not return back to the same method from where the forward was invoked and the web pages navigation continues
 - c. Both a and b are correct
 - d. None of the above
- F. Which method is used to specify before any lines that uses the PrintWriter?
 - a. setPageType()
 - b. setContextType()
 - c. setContentType()
 - d. setResponseType()
- G. What is difference between GET and POST method in HTTP protocol?

Candidate Seat no.....

Q – 5.A Draw and Explain Architecture of RMI. [07]

Q – 5.B Draw and Explain life cycle of Servlet. [06]

OR

Q – 5.B List various servlet filter. Explain any two with example. [06]

Q – 6.A **Answer the following questions. [Any One]** [07]

1. List and explain directives in JSP. Give appropriate example.
2. Draw and Explain the life cycle of JSP.

Q – 6.B **Answer the following. [Any Two]** [08]

1. Write a short note on J2EE Design Pattern.
2. What is JSTL? Explain with example.
3. What is XSLT? Explain <templet>, <value-of> and <for-each> with example.

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech (CE/IT) Examination

November 2014

CE307/CE307.01Advanced Java Programming

Date: 26.11.2014, Wednesday

Time: 01.30 p.m. To 04.30 p.m.

Maximum Marks: 70

Instructions:

1. The question paper comprises two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

Q - 1 Answer the question below.

[07]

- a. Which of the following protocol is used for database connectivity?
 - A. RMI
 - B. TCP
 - C. HTTP
 - D. JDBC
- b. To execute normal SQL which of the following type of object is preferable?
 - A. Statement
 - B. PreparedStatement
 - C. CallableStatement
 - D. BatchStatement
- c. To know only the host IP address which of the following is used?
 - A. Server
 - B. DatagramSocket
 - C. InetAddress
 - D. SocketAddress
- d. TCP socket and UDP socket may communicate with each other. State true or false.
Justify the statement.
- e. Which of the following is default port of RMI?
 - A. 25
 - B. 80
 - C. 1099
 - D. 8080

f. Which of the following is a marker interface that does not have any methods of its own?

- A. DatabaseMetaData
- B. ResultSetMetaData
- C. Remote
- D. SocketOptions

g. Which of the following is used to develop GUI application?

- A. JFC
- B. Socket
- C. Jdbc
- D. RMI

Q - 2.a Explain the DatagramSocket and DatagramPacket in brief. [04]

Q - 2.b Answer any two questions. [10]

- (i) Write steps to make database connectivity using appropriate classes and interface.
- (ii) Write a server and a client socket program. Client socket would able to send the string to server and server has to find the length of the string and return length to the client.
- (iii) Write jdbc program to demonstrate the use of DatabaseMetadata and ResultSetMetadata interfaces.

Q - 3 Answer any two. [14]

- a. Explain various API classes of RMI frameworks. Write the steps for developing the RMI object.
- b. Explain types of various JDBC drivers. Using any one type of driver, explain how to create different statement handles.
- c. What is Remote interface? What are the stub and skeleton in RMI? Which command is used to create them?

SECTION – II

Q - 4 Answer the question below. [07]

- a. Which of the following interprets html code and renders webpages to user?
 - A. Client
 - B. Server
 - C. Browser
 - D. Operating System

b. Which html tag can be used to send the request to servlet?

- A. Action
- B. Form
- C. Input
- D. All of the above

c. In which folder we can put web.xml?

- A. Classes
- B. WEB-INF
- C. Package
- D. webapps

d. Which tag of DD maps internal name of servlet to public URL pattern?

- A. Servlet
- B. Servlet-mapping
- C. Web-app
- D. Servlet-class

e. Which of the following correctly represents the JSP statement?

- A. <jsp:expression=x/>
- B. <jsp:expression>x</jsp:expression>
- C. <jsp:statement>x</jsp:statement>
- D. <jsp:declaration>x</jsp:declaration>

f. Which of the following is not example of JSP directive?

- A. include
- B. exclude
- C. import
- D. page

g. Which of the following JSP variables is not available within a JSP expression?

- A. out
- B. request
- C. response
- D. httpsession

Q – 5.a Write a simple servlet and html to set and retrieve client information like ip address, browser details etc... using cookies. [05]

OR

Q – 5.a Write a servlet for login validation. [05]

Q – 5.b What is session? Explain the various ways to handle session? [04]

Q – 5.c Write the differences between sendRedirect() and RequestDispatchure class. [05]

OR

Q – 5.c Write the differences between ServletConfig and ServletContext objects. [05]

Q – 6.a Explain JSP implicit objects with their scope. [05]

Q – 6.b What are scripting elements in JSP? Explain all scripting elements. [05]

Q – 6.c What is the purpose of directives in JSP? How many different types of directives are there? Explain any two attributes of page directive. [04]

OR

Q – 6.c Write the structural difference between servlet and JSP. [04]

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Six Semester of B.Tech. Examination (CE/IT)

May 2014

CE 307/307.01 Advanced Java Programming

Date: 15.05.2014, Thursday

Time: 10:00 a.m. To 01:00 p.m.

Maximum Marks: 70

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

Q - 1 (a) Do as Directed.

- 1 Differentiate between ServletContext and ServletConfig. [02]
- 2 List out Java Standard Tag Library tags and show advantages of it. [02]
- 3 What is role of stub in RMI? [02]
- 4 Differentiate DDL and DML statements which are either performed by executeQuery() or executeUpdate() in JDBC? [01]
- 5 State True or False that in JDBC-ODBC bridge supports multiple concurrent open statements per connection. [01]

(b) Differentiate functionalities between Application Server and Web Server. [02]

Q - 2 (a) Explain every phases of JSP life cycle. Also compare with Servlet life cycle. [06]

(b) Explain different types of JDBC Drivers. [05]

(c) What are the different methods of session management in servlets? [04]

OR

Q - 2 (a) Explain every phases of Servlet life cycle. Also compare with JSP life cycle. [06]

(b) What is JDBC Statement? Explain steps to get Database connection in a simple java program. [05]

(c) What is servlet filter? List out various servlet filter and explain any one with example. [04]

Q - 3 (a) List and explain JSP action elements or action tags with example. [04]

(b) Write a java client-server application in which [06]

- i) A client reads a character from the keyboard and sends the character out of its socket to the server.
- ii) The server reads the characters from its connection socket.
- iii) The server finds the ASCII values of the character.
- iv) The server sends the ASCII value out of its connection socket to the client.
- v) The client reads the result from its socket and prints the result on its standard output device.

OR

(b) Perform following tasks using java socket

[06]

- i) Find the IP address of website [Pass website name from command line].
- ii) Find the host name from IP address.
- iii) Find the IP address of local machine.

SECTION - II

- Q - 4 (a) Do as Directed [08]**
- 1 What is marshalling and Unmarshaling in RMI? [02]
 - 2 Define XSLT and also show the importance of it. [02]
 - 3 Create deployment descriptor which includes two servlet along with necessary elements. [02]
 - 4 Which of the following methods can be used to get information about parameters applied to entire application? [01]
 - A. ServletConfig.getParameter();
 - B. ServletContext.getAttributeNames();
 - C. ServletContext.getParameterNames();
 - D. ServletContext.getInitParameterNames();
 - 5 By creating object of _____ we can get all raw information of your database or table. [01]
- (b) Why should you use PreparedStatement in Java and What are the major advantages of using PreparedStatement? [02]**
- Q - 5 (a) What is xml? Which are the rules to follow strictly to create well-formed xml file? [06]**
Create xml file of online Bookstore.
- (b) List out various java TCP socket along with necessary class and function which are used at client side and server side to set up reliable connection. [05]**
- (c) Give the step to send email using Gmail SMTP server. [04]**
- OR**
- Q - 5 (a) Explain J2EE design pattern [06]**
- (b) List out various java UDP socket along with necessary class and function which are used at client side and server side. [05]**
- (c) Using Java Mail API send email along with one attachment which include simple document file. [04]**
- Q - 6 (a) Explain RMI Architecture. [04]**
- (b) Create RMI application in which server invoke method which authenticate user by username and password.[Take username and password as "admin"] [06]**
- OR**
- (b) Create RMI application which perform basic arithmetic operation. [06]**

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech. Examination (CE/IT)

Dec 2013

CE307 Advanced Java Programming

Date: 07.12.2013, Saturday

Time: 01:30 p.m. To 04:30 p.m.

Maximum Marks: 70

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

- Q – 1 (a)** What is InetAddress? How it is used to bind the ip address with machine name? [03]
- (b) What is swing and JFC? How does it differ from applet? [04]
- Q - 2 (a)** Explain the following terms related to Remote Method Invocation (RMI). [04]
1. RMI registry
 2. Stub and Skeleton
- (b) Write a program for chat server that connects two or more clients so that the input of one client is output to all other clients using socket programming. [07]
- (c) Explain the any three methods related to MulticastSocket. [03]

OR

- Q - 2 (a)** Explain various API classes of RMI application. Write the steps for developing the RMI application. [04]
- (b) Write a TCP/IP server and client to computes sum of complex number. Client sends two complex numbers to server, server computes sum and sends result back to client. Server should handle multiple client requests. [07]
- (c) Explain the DatagramSocket socket class. Which methods are used to set data and length of data for the packet? [03]
- Q - 3 (a)** Write a database application that allows users to insert values in a table from command prompt and manages appropriate Exception handling when wrong values are entered. Don't load database driver from application. [07]
- (b) Explain the types of jdbc drivers. [04]
- (c) Explain the ScrollableResultSet Parameter Constants. [03]

OR

- Q - 3** (a) Write a JDBC program to connect the database and verify the username and password [06] from the database. As well as provide the facility for create, delete and modify user.
(b) What is metadata interfaces in jdbc? Explain any two metadata interface. [04]
(c) What is HoldableResultset? Explain with proper constant name. [04]

SECTION - II

- Q - 4** (a) What is servlet? Write the difference between servlet and Common Gateway Interface [05] (CGI).
(b) What is Model View Controller (MVC)? [02]
- Q - 5** (a) Create a form processing servlet which demonstrates use of cookies and session. [07]
(b) Explain all the tags related to servlet in deployment descriptor. [04]
(c) Write the difference between HttpServlet and GenericServlet. [03]

OR

- Q - 5** (a) Write a servlet for login validation. Accept user id and password on the home page. If [07] it matches then the page should be redirected to status page.
(b) Give the difference between: [04]

1. sendRedirect and RequestDispatcher
2. ServletConfig and ServletContext

- Q - 6** (a) Discuss the different scopes of an object in JSP. [06]
(b) Explain the life cycle of simple tag handler. [06]

OR

- (b) Implement a scriptless JSP to test whether the id and password are valid or not. [06] Compare provided id and password with id and password set as init parameter for that JSP. Also implement an error page for null pointer exception.
(c) Briefly explain the procedure to create a tag library in JSP. [02]

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech. Examination (CE/IT)

May 2013

CE307 Advanced Java Programming

Date: 04.05.2013, Saturday

Time: 10:00 a.m. To 01:00 p.m.

Maximum Marks: 70

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

- Q – 1 (a)**
1. Which type of Statement can execute parameterized queries? [07]
A. PreparedStatement
B. ParameterizedStatement
C. ParameterizedStatement and CallableStatement
D. All kinds of Statements (i.e. which implement a sub interface of Statement)
 2. What is correct about DDL statements (create, grant...)?
A. DDL statements are treated as normal SQL statements, and are executed by calling the execute() method on a Statement (or a sub interface thereof) object
B. To execute DDL statements, you have to install additional support files
C. DDL statements cannot be executed by making use of JDBC, you should use the native database tools for this.
D. Support for DDL statements will be a feature of a future release of JDBC.
 3. If a DatagramSocket constructor fails to set up a DatagramSocket properly, an exception of type _____ occurs.
A. SocketException
B. CloseException
C. BindException
D. IOException
 4. Method getLocalHost returns a(n) _____ object containing the local IP address of the computer on which the program is executing.
A. InetAddress
B. Socket
C. ServerSocket
D. DatagramSocket
 5. Which of the following is a marker interface that does not have any methods of its own?
A. DatabaseMetaData
B. ResultSetMetaData
C. Remote
D. SocketOptions
 6. What is the default port of RMI registry?
A. 80
B. 99
C. 1099
D. 8080
 7. Which of following exception is not related to Socket class?
A. BindException
B. ConnectException
C. ProtocolException
D. None of the above

- Q - 2** (a) How does RMI provide abstraction over socket? How do RMI clients contact remote contact remote RMI server? List out all the steps. [07]
 (b) What is InetAddress? List and explain the factory methods available in InetAddress? [04]
 (c) What is MulticastSocket? Explain how user can join the multicast group. [03]

OR

- Q - 2** (a) Write a RMI client and server program to find the binary equivalent of the integer number passed by the client program. Use an exception handling mechanism to handle float errors. [07]
 (b) What is the difference between Server and ServerSocket? Explain the accept() and bind() methods of ServerSocket. [04]
 (c) Why there are two separate classes for UDP in Java (e.g. DatagramPacket and DatagramSocket)? List the methods to set data and length of data for the packet. [03]
- Q - 3** (a) Assume an employee table with fields like empno, name and phone no fields. Write a database application which allows inserting, updating and deleting records from table using JDBC. Print information of all employees in alphabetical order. [06]
 (b) What is JDBC? Compare the type 1 and type 4 JDBC driver. [04]
 (c) Write the difference between PreparedStatement and CallableStatement. How SQL can be executed in batch? Explain with suitable example. [04]

OR

- Q - 3** (a) Consider a Bank table with attribute Account No, Customer Name, Balance, Phone and Address. Write a database application which allows insertion, updation and deletion of record in the Bank table. Print values of all customers whose balance is greater than 2,000. [06]
 (b) What are ResultSetMetaData and DatabaseMetaData? Explain the purpose of DriverManger in jdbc. [04]
 (c) Explain the constants related to ResultSet which are used to initialize connection with the database. [04]

SECTION – II

- Q - 4**
1. What is legal about JSP scriptlets?
 A. loop can begin in one Scriptlet and end in another
 B. Statements in Scriptlets should follow Java Syntax
 C. Semicolon is needed at the end of each statement in a Scriptlet
 D. All the above [07]
 2. In JSP, how can you know what HTTP method (GET or POST) is used by client request?
 A. by using request.getMethod()
 B. by using response.getMethod()
 C. by using config.getMethod()
 D. impossible to know
 3. Which method is called first time when a Servlet is invoked?
 A. start()
 B. run()
 C. service()
 D. init()
 4. Servlet may not have a main method. State true or false. Justify your answer.
 5. Which of the following is proper sequence of objects created by servlet container during life cycle of application?
 A. ServletContext, ServletConfig, HttpServletRequest, HttpServletResponse
 B. ServletConfig, HttpServletResponse, HttpServletRequest, ServletContext
 C. ServletContext, HttpServletRequest, HttpServletResponse, ServletConfig
 D. ServletConfig, HttpServletRequest, HttpServletResponse, ServletContext
 6. Context attributes need to be synchronized in servlet. State true or false. Justify your answer.
 7. Once session is destroyed, calling any method on HttpSession generates exception.

- Q - 5** (a) Write a program using Servlet, JSP, JDBC, and XML for developing an online application for the shopping of computer science books. (Hint: use concept of session tracking) You have to create a database for book title, author(s) of book, publisher, year of publication, price. Make necessary assumptions for book shopping. [07]
- (b) What is deployment descriptor? Write a tag in deployment descriptor that is used to handle the error generated by web container. [04]
- (c) Write the differences between servlet context and servlet config. Write methods name to get reference of each object in servlet. [03]

OR

- Q - 5** (a) Using Servlet, JSP, JDBC, and XML, create a Web application for a recruitment agency to providing assistance in searching the candidates from its databases as per requirements of its various clients. Make necessary assumptions while developing this application. [07]
- (b) What is response send redirect and request dispatcher? Which and why exception may be thrown by them? [04]
- (c) Write differences between GET and POST methods of HTTP. [03]

Q - 6

- (a) What is session? What are the possible ways to manage session in servlet? Explain the listeners related to HttpSession. [06]
- (b) What are the three different types of elements in JSP? Which are advantages of JSP over Servlet? List the implicit objects of JSP. [06]

OR

- (b) Explain the architecture of J2EE. Show how the components of J2EE fit in Model View Controller (MVC) architecture. [06]
- (c) What is tag library? List the steps to create a tag library in JSP. [02]

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY

Sixth Semester of B. Tech. Examination (CE/IT)

May 2012

CE307 Advanced Java Programming

Date: 11.05.2012, Friday

Time: 01:30 p.m. To 04:30 p.m.

Maximum Marks: 70

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

Q - 1

1. Which of the following method of InetAddress class returns array of byte? [07]
 - (a) getAddress()
 - (b) getHostAddress()
 - (c) getHostName()
 - (d) isMulticastAddress()
2. Which of the following exception might be thrown by method(s) of socket class?
 - (a) BindException
 - (b) ConnectException
 - (c) NoRouteToHostException
 - (d) All of the above
3. Which of the following is not a valid URL declaration?
 - (a) URL u = new URL("http://www.audubon.org/");
 - (b) URL u = new URL("http", "www.eff.org", "/blueribbon.html#intro");
 - (c) URL u = new URL("http", null, 8000, "/~dma3mjh/jsci/");
 - (d) URL u = new URL("finger", "utopia.poly.edu", 79, "/marcus", new com.macfaq.net.www.protocol.finger.Handler());
4. In Java RMI objects and primitives are passed by _____ and remote objects are passed by _____.
 - (a) value, pointer
 - (b) Reference, pointer
 - (c) value, reference
 - (d) None of the above
5. Compared to connection-oriented sockets, which statement about connectionless sockets is true?
 - (a) They support only character streams.
 - (b) They do not support two-way communication.
 - (c) They provide unreliable data transfer.
 - (d) They support three way handshaking.

```
6. Connection con = DriverManager.getConnection(  
    "jdbc:odbc:wombat", "login", "password");  
    Statement stmt = con.createStatement();  
    ResultSet rs = stmt.executeQuery("SELECT a, b, c FROM Table1");  
    while (rs.next()) {  
        Integer x = rs.getInt("c");  
        String s = rs.getString("a");  
        Float f = rs.getFloat("b");  
    }  
}
```

What is true for above code?

- (a) Retrieval of the fields is in the wrong order.
- (b) The password must be encrypted before being sent to the DriverManager.
- (c) The Driver's URL is in the wrong format.
- (d) The ResultSet class returns primitive types for integers and floats.

7. Which of the following is not proper way to register jdbc driver?

- (a) Class.forName("...");
- (b) DriverManager.registerDriver();
- (c) Using the java.lang.System property jdbc.drivers
- (d) Prop.load();

Q - 2 (a) Write a multithreaded TCP/IP server code using networking classes and *Runnable* interface. [07]
(b) What is *MalformedURLException*? What does *openConnection()* method of *URL* class do? [07]

OR

Q - 2 (a) List and compare the classes used in connection oriented and connection less socket programming. What is *MulticastSocket*? [07]
(b) What is *InetAddress*? Which exception may be thrown by the static factory methods of *InetAddress*? What are the purposes of the static factory methods of *InetAddress*? [07]

Q - 3 (a) What are the types of statements in JDBC? What does *Class.forName()* method do? [07]
(b) Write simple java RMI application in which client will send two numbers to server and server will return sum of this number to client. [07]

OR

Q - 3 (a) What is RMI? Explain the use of stub and skeleton in RMI? What is object marshaling? [07]
(b) Write a jdbc application that finds out No. Of records, No. Of columns and types of the columns within a table. [07]

SECTION - II

Q - 4

1. Assume that the following servlet mapping is defined in the deployment descriptor of [07]

a web application:

```
<servlet-mapping>
<servlet-name>TestServlet</servlet-name>
<url-pattern>*.asp</url-pattern>
</servlet-mapping>
```

Which of the following requests will not be serviced by TestServlet?

- (a) /gui/hello.asp/bye.asp (b) /gui/*.asp
(c) /gui/asp (d) All of the above

2. Which method is used to retrieve an initialization parameter from a Servlet-Context?

- (a) String getInitParameter(String name) (b) Object getParameter(int index)
(c) Object getInitParameter(String name) (d) Object getInitParameter(int index)

3. Which of the following code snippets, when inserted in the doGet() method, will correctly count the number of GET requests made by a user?

(Assume: HttpSession session = request.getSession();)

- (a) int count = session.getAttribute("count");
session.setAttribute("count", count++);
(b) int count = (int) session.getAttribute("count");
session.setAttribute("count", count++);
(c) int count = ((Integer) session.getAttribute("count")).intValue();
session.setAttribute("count", count++);
(d) int count = ((Integer) session.getAttribute("count")).intValue();
session.setAttribute("count", new Integer(count++));

4. Which of the following methods is defined by the JSP engine?

- (a) jspInit()
(b) _jspService()
(c) _jspService(ServletRequest, ServletResponse)
(d) _jspService(HttpServletRequest, HttpServletResponse)

5. Consider the following code and select the correct statement about it from the options below.
- ```
<html><body>
```

```
<%! int aNum=5 %>
```

The value of aNum is <%= aNum %>

```
</body></html>
```

- (a) It will print "The value of aNum is 5" to the output.  
(b) It will flag a compile-time error because of an incorrect declaration.  
(c) It will throw a runtime exception while executing the expression.  
(d) It will not flag any compile time or runtime errors and will not print anything.