Roll_No..... **IT-610**

International Institute of Professional Studies
End-Semester Exam, March-June -2021
M. Tech (5 Yrs.) VI Semester
Advanced Java

Time: 3 Hrs **Max. Marks: 60**

Note: Question 1 is compulsory, Attempt any four questions from rest of the paper; solve all parts of the question at the same place.

Q.1) A. Make a Map that associates the following employee IDs with names. Keys and values of Maps can be any Object type, so in real life you would probably have the key be a String and the associated value be a Person or Employee object. To make things simpler on this exercise, you can use String for the ID and the name, rather than bothering to create a Person or Employee class. The point here is to associate keys with values, and then retrieve values later based on keys. 6

ID	Name
a1234	Steve Jobs
a1235	Scott McNealy
a1236	Jeff Bezos
a1237	Larry Ellison
a1238	Bill Gates

B. Briefly answer the following questions: 6

a) What is the primary difference between a Set and a Map?
b) What happens when you add a primitive type (e.g., double) value to a collection?
c) Can you print all the elements in a collection without using an Iterator? If yes, how?

Q.2) A Two problems that can occur in systems that allow threads to wait are deadlock, in which one or more threads will wait forever for an event that cannot occur, and indefinite postponement, in which one or more threads will be delayed for some unpredictably long time. Give an example of how each of these problems can occur in multithreaded Java programs. 6

B Differentiate between the following with example: 6

a) doGet() and doPost() methods
b) Prepared and Callable Statements
c) Stream based communication and packet based communication

6

Q.3) A Write a Java program to send a message from client to server and receive a response back using socket programming. This Java program must contains the Server class having the port number 34000. Client sends a number or message to the server. When server received the message or number from the client server add 5 in the received number and send back result to the client. In case the number sent by the client was not a proper number, server sends back the message "Please send a proper number" to the client.

	B	What are the ServletContext and ServletConfig objects? What are Servlet environment objects?	3
	C	HTTP is a stateless protocol, so how do you maintain state? How do you store user data between requests?	3
Q.4)	A.	Using JDBC driver three, Define a data-manipulation application for the books database. The user should be able to edit existing data and add new data to the database (obeying referential and entity integrity constraints). Allow the user to edit the database in the following ways: a) Add a new author. b) Edit the existing information for an author. c) Add a new title for an author. (Remember that the book must have an entry in the Author ISBN table.). d) Add a new entry in the Author ISBN table to link authors with titles.	6
	B.	What is a Transaction? What is the role of Transaction in JDBC? What does setAutoCommit do? Explain it, with one suitable example.	3
	C	What is the difference between JDBC-1.0 and JDBC-2.0? What are Scrollable ResultSets, Updateable ResultSets, RowSets, and Batch updates?	3
Q.5)		Answers the following questions: a) A JSP page, include.jsp, has an instance variable "int a", now this page is statically included in another JSP page, index.jsp, which has a instance variable "int a" declared. What happens when the index.jsp page is requested by the client? b) Why is _jspService() method starting with an '_' while other life cycle methods do not? c) How to pass information from JSP to included JSP? d) What is the difference between ServletContext and PageContext? e) How do you delete a Cookie within a JSP? f) Can we implement an interface in a JSP?	(6X2 =12)
Q.6)	A.	Give an overview of CORBA architecture. Discuss about the main goal of Object Management Architecture. Also explain the different types of services it provides.	6
	B.	Explain about the RMI architecture in detail. What is a remote object? Why should we extend UnicastRemoteObject?	6
Q.7)		Differentiate following with suitable example: (i) RMI Vs Socket (ii) CGI Vs Servlet (iii) HttpServlet Vs GenericServlet (iv)JSP Tags Vs Custom tag libraries	(4X3 =12)