RAMAIAH INSTITUTE OF TECHNOLOGY

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(Autonomous Institute, Affiliated to VTU)
Bangalore – 560 054

SEMESTER END EXAMINATIONS – MAY/JUNE 2017

Course & Branch	:	B.E : Information Science and Engineering	Semester	: VI
Subject	:	Java and J2EE	Max. Marks	: 100
Subject Code	:	IS624	Duration	: 3 Hrs

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT - I

1.	a)	Create a class called hospital with the data members (patient_no – integer, patient_name String, phone_no: integer, treatment: string), and following methods : i) getInput() to record the data of the patient. ii) suggestTreatment() method which suggests a treatment for certain diseased like headache, body pain, fever, common cold. iii) Deposit() method to deposit the treatment amount. iv) Throw exception for depositing amount less than 5000.	CO1	(10)
	b)	Explain the keywords: this, super, static, final and throws. Write a program to create a class called shape and find area of square and rectangle. Use the above mentioned keywords in the program.	CO1	(10)
2.	a)	Explain different level of access specifiers in different levels of accessing classes and packages with a neat table. Also write small snippets of code to demonstrate the role of access specifiers used in java.	CO1	(10)
	b)	Write a java program to implement push, pop and display functions on a ***dynamic stack***. Define push, pop and display in an interface and implement the interface in a class. Also use parameterized constructor to allocate and initialize the variables.	CO1	(10)

UNIT - II

3.	a)	Create a collection (LinkedList) of customers. Customer details include name, age, profession and salary. Traverse through the collection. If the salary is < 1,00,000 print a message saying "Not eligible for loan".	CO2	(08)
	b)	Discuss the methods of the Map interface.	CO2	(06)
	c)	Discuss any 3 exceptions that would occur while using the methods of the Collection Interface.	CO2	(06)
4.	a)	Explain the constructors of the HashSet and LinkedList collection classes.	CO2	(06)
	b)	Create an array of 10 integers. Store values -3*I at location (index)I. Using the methods of the Arrays class do the following i) Search for an element -27 in this array ii) Copy the contents of this array to another array iii) Compare the two arrays iv) Place element -1 from index location 2 to 6 v) Sort the elements from location 3 to 9. Write a function Display to display the elements of the array after every step.	CO2	(08)
	c)	Write a java program to read an array of integers. Generate a hashmap<Integer,Integer> from the array holding the integer and the number of times it occurred in the array.	CO2	(06)

UNIT - III

5.	a)	What are the Swing Basic Containers? Explain any three components of the root pane class.	CO3	(10)
	b)	Write a Java program to create four checkboxes named 'INDIA', 'CHINA', 'KOREA', 'JAPAN' and a text field with flow layout left. When you click, any of these checkboxes, the label of the respective check box will get displayed in the text field.	CO3	(10)
6.	a)	Illustrate the working of option dialog box with an example.	CO3	(07)
	b)	List any four methods provided by the JTextArea class.	CO3	(06)
	c)	Develop a java program to create a frame to find the factorial of a number which is entered in text field 1.When you press button captioned "find factorial" result is displayed in text field 2.When you press button captioned "clear" then values present in the text field should clear.	CO3	(07)

UNIT – IV

7.	a)	Explain the different types of JDBC Drivers.	CO4	(08)
	b)	What are the three different ways to execute a query when you establish a database connection? Write the syntax of each. Illustrate these statements with an example.	CO4	(07)
	c)	Create a login page to check for valid login id and password using Servlets.	CO4	(05)
8.	a)	With the diagram explain the interaction of JDBC with the databases.	CO4	(08)
	b)	Discuss the life cycle of a Thread.	CO4	(06)
	c)	Write a program to add n numbers where the job is distributed among two threads. Use Runnable interface.	CO4	(06)

UNIT - V

9.	a)	Explain the usage of JSP directives with code snippets.	CO5	(10)
	b)	Write a JSP program to buy a mobile online. Display 10 models of phones and upon selection of a particular phone the page is redirected to checkout. Create an order number and display a success message on purchase or redirect to error page on failure of purchase.	CO5	(10)
10.	a)	Write a Java Bean program to convert a currency amount entered by user in INR to USD.	CO5	(10)
	b)	With a neat diagram explain Stateless Session Bean and Stateful Session Bean.	CO5	(10)

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MAKEUP EXAMINATIONS – MAY/JUNE 2017

Course & Branch	:	**B.E : Information Science and Engineering**	**Semester**	:	**VI**
Subject	:	**Java and J2EE**	**Max. Marks**	:	**100**
Subject Code	:	**IS624**	**Duration**	:	**3 Hrs**

Instructions to the Candidates:

- Answer one full question from each unit.

UNIT - I

1.	a)	Write an interface Queue with methods insert_front() and delete_rear(). Define a QueueImplement class that implements the interface Queue based on the operations of the float type queue data structure. Raise IsFullException and IsEmptyException when the queue is full and empty respectively.	CO1	(10)
	b)	Explain the role of enumerations with suitable illustrations.	CO1	(04)
	c)	How are packages created in java? Write a java program that addresses the categories of visibility for class members in a package.	CO1	(06)
2.	a)	Write a java program to read a file "input.txt" and copy every alternate character to an output file "out1.txt". Also, from the second half of the "input.txt" copy a character that is a number or a special character to an output file "out2.txt".	CO1	(08)
	b)	Indicate the usage of final keyword in class, interface and methods.	CO1	(06)
	c)	Differentiate between: i) interface and abstract classes. ii) Autoboxing and type casting.	CO1	(06)

UNIT - II

3.	a)	Use Linked List class and create a list of 20 participants applied for sports at university sports meet. Sort the list according to number of medals won in previous events and shortlist first 7 athletes who have won more than 4 medals. Copy on to another list of shortlisted candidates and display the same.	CO2	(10)
	b)	Define Collection Interfaces. List and explain 10 collection methods.	CO2	(10)
4.	a)	List and explain any Array class algorithms.	CO2	(10)
	b)	Write a Program that simulates a telephone that records missed incoming calls. For each missed call, store the time of call, telephone number of origin, and name of the caller if the name is available. Choose or extend the most appropriate collection class and provide the following features. i) Numbers are recalled in the order they arrive ii) Up to 10 numbers are recorded. When the eleventh call comes in, it is stored and the oldest call is deleted so that no more than 10 numbers are ever recorded. iii) Display the call details.	CO2	(10)

UNIT - III

5.	a)	Create a Java Swing application to record the details of books and various documents which are available under the library room. Maintain the list of the students on a LinkedList who will take the services of their library campus. Show creation of database and its tables.	CO3	(10)
	b)	Compare between Swing and AWT. Also Explain Swing basic containers with a neat diagram.	CO3	(10)
6.	a)	Explain any 10 swing components.	CO3	(10)
	b)	Create a swing based application to get details of a person like Basic,TA,DA and HRA. Calculate the eligibility of loan based on Total pay, If a person is drawing i) Less than 5 lakh pa, he is not eligible. ii) More than 5 lakh pa, less than 10 lakh pa ,eligible for loan of 10 lakh. iii) Above 10 lakh pa eligible for loan above 10 lakh. Display the information on JOptionPane.	CO3	(10)

UNIT – IV

7.	a)	List any 4 advantages of JDBC. With a diagram explain the interaction of the JDBC with databases.	CO4	(10)
	b)	Write a Java Program that creates two threads. One thread asks the user to enter a number, count the digits of the number and reverse the number. Second thread finds the number of vowels in a given string.	CO4	(10)
8.	a)	Discuss the different stages of Thread Life cycle.	CO4	(06)
	b)	Indicate the role of the ServletRequest and ServletResponse interfaces. Create a Servlet to accept personal information, insurance information and medical health details from the user and write the information of the person on the HTML page.	CO4	(10)
	c)	Define: i) Servlet ii) JDBC iii) Multithreading iv) Servlet Application Programming Interface.	CO4	(04)

UNIT - V

9.	a)	Write the syntax of <jsp:forward> action tag without parameter. Illustrate with an example.	CO5	(10)
	b)	Write a program to that forms java based client application and invokes the helloAdvise() method in the deployed bean.	CO5	(10)
10.	a)	Create a front end to enter train booking details and print confirmation along with booking details on the web page using JSP.	CO5	(10)
	b)	Discuss the three types of enterprise beans defined in the EJB architecture.	CO5	(10)

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