SUPPLEMENTARY SEMESTER EXAMINATIONS – AUGUST 2017

Course & Branch	: B.E : Information Science and Engineering	**Semester**	: **VI**
Subject	: Java and J2EE	**Max. Marks**	: 100
Subject Code	: IS624/IS624E	**Duration**	: 3 Hrs

Instructions to the Candidates:
- Answer one full question from each unit.

UNIT - I

1. a) Illustrate with an example the uses of super keyword.   CO1 (06)

   b) What will be the output of the following program? Explain your answer.   CO1 (08)

   ```
   i) import java.util.*;
   public class Sample
   {
           public static void main(String[] args)
           {
               ArrayList list=null;
               try{
                   list.add(1,new Integer(1));
               }catch(Exception ex){
               System.out.println(ex);
               }
           }
   }
   ii) class A{
   final void math(){
       System.out.println("Class A");
   }
   }
   class B extends A{
   void math(){
       System.out.println("Class B");
   }
   }
   ```

   c) Write a java program to traversing ArrayList in forward direction using List Iterator.   CO1 (06)

2. a) Discuss with an example four methods defined by List interface.   CO1 (08)

   b) i) Find the errors in the following code.   CO1 (06)

   ```
   class ThrowsDemo{
           static void throwOne(){
           System.out.println("inside throwOne");
           throw new IllegalAccessException("demo");}
           public static void main(String args[]){
           throwOne();
           }
   }
   ii)Is the following code legal?
           try {
               ---
           } finally {
           }
   ```

c) Explain dynamic method dispatch with an example.

CO1

UNIT - II

3. a) What is Map? Discuss the interfaces which support maps.

CO2

b) Write a Java program to copy the contents of one HashMap to another HashMap.

CO2

c) Write a Java program to demonstrate storing user-defined Objects in a collection.

CO2

4. a) With an example discuss how do you obtain an array from an ArrayList.

CO2

b) What are the different ways to traverse a List? Illustrate each with an example.

CO2

c) Implement the Queue data structure using LinkedList class.

CO2

UNIT - III

5. a) Write java code to display a form accepting customer details (custid, name, rating (use checkbox), benefits_offered(text area) and a button submit). On clicking on the submit button

CO3

i) if rating is 2 star display dialog box indicating the benefits offered as 200points.

ii) If rating is 4 star display dialog box indicating the benefits offered as 400 points.

iii) If rating is 5 star display dialog box indicating the benefits offered as 500 points.

Place the consolidated details of the customer in another dialog box.

CO3

b) Explain the key features of Java Foundation Classes and Swings.

CO3

c) With a suitable diagram, explain the components of the root pane class.

CO3

6. a) Create a Swing program to enter patient information. It should receive the following inputs from the user. (i) Patient Name (ii) Patient Address (iii) Create checkboxes which specify the tests to be conducted: Blood test, Urine Test, Ultra-sound scan, MRI scans (iv) Specialist to be consulted in list- Neurologist, Gynacologist, Dentist and Surgeon. (v) Radio buttons to enter payment options: Cash, Cheque and Credit Card. (vi) Provide a submit button:

CO3

*   If the radio button cash is selected, insert the remaining amount of cash to be paid in the text area.

*   If the radio button cheque is selected, allow the user to enter cheque number, bank and branch details.

*   If the radio button credit card is selected, forward to the payment gateway and allow the user to enter the CVV, Expiry date and Name_on_the_card details.

CO3

b) List and Explain any 10 Swing Components.

IS624/IS624E

UNIT – IV
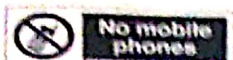
7. a) Explain Lifecycle of a Servlet with a neat diagram. List any two classes and interfaces required for the Servlet.　CO4 (10)

   b) Create a Servlet to file IT returns that accepts personal information, salary information and Tax deduction details from the user and write the information into a file. Also accept the name of the person and display in on the page.　CO4 (10)

8. a) Write a Java program to create two threads. One thread displays the current time after a sleep of 5 seconds and the second thread displays random message stored on an array list.　CO4 (10)

   b) Write a Servlet program to grade a student based on marks with following parameters:　CO4 (10)

      i) Above 90% is S grade

      ii) Within 80% to 90% is A grade

      iii) Within 70% to 80% is B grade

      iv) Within 60% to 70% is C grade

      v) Within 50% to 60% is D grade

      vi) Less than 50% is F grade.

UNIT - V

9. a) Create a Jsp file that allows the user to enter the starting and destination location. On the click of the submit button check the starting and destination values. If not same, then forward to the train_details.jsp to display the list of other trains running from source station to destination station. Else print a message indicating "Incorrect Details".　CO5 (10)

   b) Explain the different types of Enterprise beans in Java.　CO5 (10)

10. a) With help of a neat diagram, explain life cycle of a JSP Page.　CO5 (06)

    b) Illustrate the working of Enterprise Bean with an example.　CO5 (08)

    c) Create a main.jsp (included file) which fetches the name, account number and amount to be withdrawn as parameters from included file bankdetails.jsp. Assume a balance amount of Rs 2500/-. Display appropriate message to indicate whether the person can withdraw the amount or not.　CO5 (06)

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M S RAMAIAH INSTITUTE OF TECHNOLOGY
(AUTONOMOUS INSTITUTE, AFFILIATED TO VTU)
BANGALORE – 560 054
MAKEUP EXAMINATIONS – JULY 2016

Course & Branch : B.E. – Information Science & Engg.	Semester : VI
Subject : **Java and J2EE**	Max. Marks : 100
Subject Code : IS624 / IS624E	Duration : 3 Hrs

Instructions to the Candidates:
- Answer one full question from each unit.

UNIT – I

1. a) Explain data type conversion and casting feature of Java with an example   CO1 (06)

   b) Write a java program to read 20 marks and store them in an array. Define your own exception. Make use of your own exception when a marks is < 0 and >100.   CO1 (08)

   c) Differentiate between with an example   CO1 (06)
      i.   Interface and abstract class
      ii. Default and public access specifier.

2. a) Write a java program to read a string from the user. Count the number of consonants and vowels in this string.   CO1 (06)

   b) Create a user defined package to find all roots of quadratic equation. Write a program to use this package.   CO1 (08)

   c) i.   Write a program to show with comparison operators (< or >).   CO1 (06)
      ii. Write a program to show the working of enumerations.

UNIT – II

3. a) Write a java program to create a list of addresses using Collections. If the **city** field of the address is "Bangalore", remove it from the existing list and add it to a new list. Display both the lists.   CO2 (10)

   b) Create an array of 10 integers with data being stored at an index I is -3*I. Using the methods of the Arrays class do the following   CO2 (10)
      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 an array after every step.

4. a) Write a java program to help the shop owner to create a Map of his customer's id with the credit point. The customer id's are in the range 100 to 200. For customer's id from 105 to 120 update the credit points by 20 . For customer's id from 125 to 200 update the credit points by 30.
   Display the customer map.   CO2 (08)

   b) Explain the constructors of the HashSet and LinkedList collection classes.   CO2 (06)

   c) Discuss any 3 exceptions that would occur while using the methods of the Collection Interface.   CO2 (06)

UNIT – III

5. a) List any five Commonly used Methods of AbstractButton class in swings and write a program for displaying image on the button in the frame window and clicking on image button the hello message should display in JDialog.   CO3

   b) Discuss JFC. Write a program to handle mouse events for capturing a button click and display the approximate messagebox by capturing the position of button click.   CO3

6. a) Create a swing application to convert the entered degree Celsius in a JTextField to Fahrenheit on click of a button and display the result in a JDialog.   CO3

   b) Discuss three commonly used Constructors of JComboBox class. Write a program to create a JFrame and insert JComboBox class for displaying country list and insert a text box to take value to generate odd number from starting till enter valued by clicking on JButton.   CO3

UNIT – IV

7. a) List any 4 advantages of JDBC. With a diagram explain the interaction of the JDBC with databases.   CO4

   b) Write a Servlet program to accept details like patient_id, patient_name, price of an treatment from a HTML page and receive the parameters to a servlet. Calculate the percentage of discount based on following: CO4
   i) 10000 to 50000 Rs. Discount 10%
   ii) 50000 to 2,00,000 Rs Discount 20%
   iii) 2,00,000 to 10,00,000 Rs. Discount 35%

8. a) 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

   b) Write a multi-threading program using Runnable Interface, to display odd and even numbers for a given value 'N'. Also create a new thread to print the square of even numbers.   CO4

UNIT – V

9. a) Explain types of Enterprise Beans in Java.   CO5

   b) Write a JSP application to acceptdetails of driver renting a car with following attributes Driver_Info(Name, DLno, Address, Phone_Number) and Car_Details(CarNo, RegisterNo, Type_of_car, Name_of_Car) and store it in the database. Also on click of submit the page should redirect to display page to show the entire booking details.   CO5

10. a) Write a JSP application to search an e-book and subscribe it from a particular publication. Create three tables Books(ISBN, Title, Author, Publication), Users(UserID, Name, Age, Sex), Subscription(UserID, ISBN). Display the e-book to a particular user based on the subscription details. (Assume the appropriate fields and files)   CO5

    b) With a neat diagram explain life cycle of JSP.   CO5

    c) List and explain any 5 action elements in JSP.   CO5

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RAMAIAH
INSTITUTE OF
TECHNOLOGY

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Instructions to the Candidates:
- Answer one full question from each unit.

UNIT - I

1. a) Illustrate with an example the uses of super keyword.   CO1 (06)
   b) What will be the output of the following program? Explain your answer.   CO1 (08)

   ```
   i) import java.util.*;
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       public static void main(String[] args)
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           ArrayList list=null;
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   ii) class A{
   final void math(){
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   class B extends A{
   void math(){
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   c) Write a java program to traversing ArrayList in forward direction using List Iterator.   CO1 (06)

2. a) Discuss with an example four methods defined by List interface.   CO1 (08)
   b) i) Find the errors in the following code.   CO1 (06)

   ```
   class ThrowsDemo{
       static void throwOne(){
       System.out.println("inside throwOne");
       throw new IllegalAccessException("demo");}
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   ii)Is the following code legal?
       try {
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       } finally {
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c) Explain dynamic method dispatch with an example. CO1 (06)

UNIT - II

3. a) What is Map? Discuss the interfaces which support maps. CO2 (07)
   b) Write a Java program to copy the contents of one HashMap to another HashMap. CO2 (07)
   c) Write a Java program to demonstrate storing user-defined Objects in a collection. CO2 (06)

4. a) With an example discuss how do you obtain an array from an ArrayList. CO2 (04)
   b) What are the different ways to traverse a List? Illustrate each with an example. CO2 (07)
   c) Implement the Queue data structure using LinkedList class. CO2 (09)

UNIT - III

5. a) Write Java code to display a form accepting customer details (custid, name, rating (use checkbox), benefits_offered(text area) and a button submit). On clicking on the submit button CO3 (08)
   i) If rating is 2 star display dialog box indicating the benefits offered as 200points.
   ii) If rating is 4 star display dialog box indicating the benefits offered as 400 points.
   iii) If rating is 5 star display dialog box indicating the benefits offered as 500 points.

   Place the consolidated details of the customer in another dialog box.
   b) Explain the key features of Java Foundation Classes and Swings. CO3 (06)
   c) With a suitable diagram, explain the components of the root pane class. CO3 (06)

6. a) Create a Swing program to enter patient information. It should receive the following inputs from the user. (i) Patient Name (ii) Patient Address (iii) Create checkboxes which specify the tests to be conducted: Blood test, Urine Test, Ultra-sound scan, MRI scans (iv) Specialist to be consulted in list- Neurologist, Gynacologist, Dentist and Surgeon. (v) Radio buttons to enter payment options: Cash, Cheque and Credit Card. (vi) Provide a submit button: CO3 (10)
   - If the radio button cash is selected, insert the remaining amount of cash to be paid in the text area.

   - If the radio button cheque is selected, allow the user to enter cheque number, bank and branch details.

   - If the radio button credit card is selected, forward to the payment gateway and allow the user to enter the CVV, Expiry date and Name_on_the_card details.

   b) List and Explain any 10 Swing Components. CO3 (10)

UNIT – IV

7. a) Explain Lifecycle of a Servlet with a neat diagram. List any two classes CO4 (10)
    and interfaces required for the Servlet.

    b) Create a Servlet to file IT returns that accepts personal information, CO4 (10)
    salary information and Tax deduction details from the user and write
    the information into a file. Also accept the name of the person and
    display in on the page.

8. a) Write a Java program to create two threads. One thread displays the CO4 (10)
    current time after a sleep of 5 seconds and the second thread displays
    random message stored on an array list.

    b) Write a Servlet program to grade a student based on marks with CO4 (10)
    following parameters:

    i) Above 90% is S grade

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UNIT - V

9. a) Create a jsp file that allows the user to enter the starting and CO5 (10)
    destination location. On the click of the submit button check the
    starting and destination values. If not same, then forward to the
    train_details.jsp to display the list of other trains running from source
    station to destination station. Else print a message indicating
    "Incorrect Details".

    b) Explain the different types of Enterprise beans in java. CO5 (10)

10. a) With help of a neat diagram, explain life cycle of a JSP Page. CO5 (06)
    b) Illustrate the working of Enterprise Bean with an example. CO5 (08)
    c) Create a main.jsp (included file) which fetches the name, account CO5 (06)
    number and amount to be withdrawn as parameters from included file
    bankdetails.jsp. Assume a balance amount of Rs 2500/-. Display
    appropriate message to indicate whether the person can withdraw the
    amount or not.

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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 : CO1 (10)
   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.

   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 CO2 (08)
   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.

   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)

IS624

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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