**Question 1:-**

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. For unlisted numbers, set the name to “private caller”.

Choose or extend the most appropriate collection class and provide the following features.

Numbers are recalled in the order they arrive

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.

After each number display, the user can select

1. To delete the call (Delete the number if user specifies a number to delete)
2. To go on to the next missed call, or
3. To display the call details (number, caller name and time).

Write a helper class to represent an incoming call with fields to hold the number, name of the caller, and time of the call.

Write a tester call that stores the several numbers, simulate the user pressing the missed-calls button, and finally prints the entire collection of stored calls.

**Question 2:-**

Write a Java program using user-defined storage classes to create a book database and store it in a Collection List. Books collection should include title, author, publisher and price.

Also write a method to sort the books in ascending order of price and store it in **another List.**

Prompt for an author name and list all the books with the same author’s name.

Identify a publisher and print books from a particular publisher.

Create a new list holding all the book details with price greater than a user specified price.

Update the publisher details based on a title.

For a given a value by the user, find all the books that match either the whole or a part of the book title.

Maintain the book details with respect to an unique book id.

**Question 3:-**

Create a desktop java application using swings to enable a user to enter student information such as name, usn, age, address, sgpa of 8 semesters, category.

Perform validations on age and sgpa. Display appropriate messages in pop up boxes to indicate wrong entries, on clicking of the “compute” button.

Also find the cgpa based on the obtained sgpa. On clicking of the “done” button, place the student details in a collection.

A click on the “display” button should display the collection in a textarea.

**Question 4:-**

Write a java program using swings to validate user login information using dialog boxes.

Once validated, allow the user to enter the **customer id,** if the person is a new customer, else check whether the customer exists in a collection and obtain the customer id. The customer id can be obtained given a mobile number.

Allow the user to enter the item purchased by giving the **item id** and **quantity** purchased.

On clicking of a button, the **item name** and the **total cost** should appear in the corresponding GUI components.

Using option dialog box, indicate the types of discounts available for the customer.

On clicking on the print button, print the details in information dialog box.

**Question 5:-**

Write a program that uses Java Swing and JDBC to create a stand-alone application:

Create two tables namely, Representative (RepNo, RepName, State, Comission, Rate) and

Customer (CustNo, CustName, State, Credit\_Limit, RepNo) in MySQL database.

Use appropriate Swing components to insert values in a form.

*Use another form to display Representative’s information when Credit\_Limit is above 15,000.*

**Question 6:-**

Write a program that uses Java Swing and JDBC to create a stand-alone application:

Create two tables namely, Patient and Medicine in MySQL database.

Use appropriate Swing components to insert values in a form for patient and medicine.

List the patient details suffering from a particular type of disease.

List the patients taking a particular type of medicine.

**Question 7:-**

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.

**Question 8:-**

Create a servlet that accepts patient information in a hospital such as patient id, patient name, and age, date of admission, cause of admission, doctor diagnosed, and treatment proposed.

Place the details into a database.

Allow options to insert, update, and view and delete the contents in the database.

**Question 9:-**

Write a JSP and Servlet Program to do the following to buy a T-Shirt online:

1. A set of checkboxes to select your T-Shirt accessories such as ‘belt’, ‘cap’, ‘hair-band’ etc.
2. A text area / text field to enter your T-Shirt tag-line
3. A Radio-button that allows the user to choose between T-Shirt with chest pocket and without.
4. A Combo Box to choose your T-Shirt color
5. Appropriate labels for these GUI Components
6. A Button called “Click Me” which when pressed will Insert the details entered into a table called ‘TShirts’.
7. An OrderNo is generated by adding ‘1’ to the existing ‘OrderNo’
8. If ‘TShirts’ table is empty the initial value of ‘OrderNo’ is 100.
9. This ‘OrderNo’ is also inserted into the ‘TShirts’ table
10. Display all the records of the ‘TShirts’ table in tabular form

PS: Frontend display should be in JSP and the business logic should be written in Servlet Class.