Module Test (Practical): Module 3 – Core Java 8 & Development Tools for V&V Automation Testing
Max Marks: 70
Duration: 210 Minutes
Mode: Open Book

Assessment Parameters

- Complete flow of the application with validation and exception handling -70%
- Comments/best practice, coding standards -10%
- Execution of the application (Output) -20%
- ScreenShot should be submitted along with the solution.
- The solution(Project) created by the trainee should have the name like AppName_Empid Ex:ABCCorp_675467
- Code with compilation errors will not be considered for evaluation.

Problem Statement: Online DTH Recharge is an application that allows the consumers to recharge their dish channels online by opting to a plan of their choice. The application maintains the recharge details in a COLLECTION (ArrayList).

Display the following menu to the Consumer to perform various operations :

1. Make a Recharge
2. Display Recharge Details
3. Exit.

First, add the following recharge details into the **ArrayList** using a static block in a service class :

-	recharge1 :	“Airtel”	1089343431	“Monthly”	210	4567
-	recharge2 :	“DishTV”	3033221223	“Yearly”	1260	2345
-	recharge3 :	“Reliance”	8923434300	“Quaterly”	650	1234

Section-1

1. **Make a Recharge** **[40 Marks]**

   If consumer selects this option, prompt him to enter the **Recharge details.**
   The consumer then makes two new recharges (one for the TV in his house and one for the TV in his office and both have different consumer nos.).
   - Accept recharge details (dthOperator, consumerNo, plan, amount) for two new recharges and add it into the ArrayList.

   Sample Run :

   Select DTH Operator (Airtel / DishTV / Reliance / TATASky) : Airtel
   Enter Registered Consumer No.: 3007588685
   Select Plan(Monthly / Quaterly / Half yearly / Annual) : Monthly
   Enter Amount (Rs.): 305

Once the consumer enters the recharge details successfully, the recharge details are added into the ArrayList along with the auto-generated Transaction_ID. Then, display the following message.

“Successful Recharge. Transaction ID : <Transaction_ID>”

In case there is any exception thrown, then show the error message as follows.

“Failed to Recharge.”

Following validations need to be taken care of :

- DTH Operator can be Airtel / DishTV / Reliance / TATASky.
- Consumer No. should contain only a 10-digit number.
- Recharge Plan can be Monthly / Quaterly / Half yearly / Annual
- Amount can be minimum 3-digit and max 4-digit number.
- Use random function to generate Transaction_ID of four digits after filling the above details.

Marks Distribution :

Application UI	2
DTH Operator validation with validation error messages	3
Consumer No. validation with validation error message	3
Recharge Plan validation with validation error messages	3
Amount validation with validation error messages	3
Adding the Recharge Object in the ArrayList	12
Use of random number generation logic to get Transaction_ID	5
Proper Exception handling	5
Comments and best practices	4

Section-2

2. **Display Recharge Details.** **[5 Marks]**
   In this option the user can view all the Recharge details available in the ArrayList.

3. **Exit** **[5 Marks]**
   If shopkeeper opts for Exit, he should be able to quit from the application.

4. Write JUNIT test cases for all the validation methods. **[20 Marks]**

<u>Classes to be created</u>

com.dthoperator.bean

```
class RechargeDetails
    {
            String dthOperator;
            int consumerNo;
            String rechargePlan;
            int amount;
            int transactionID;
    }
```

com.dthoperator.ui

```
class RechargeClient
    {
            public static void main(// to display the menu and accept the details from consumer.
            // create object for appropriate classes and execute the respective methods
    }
```

com.dthoperator.service

```
class RechargeCollectionHelper
    {
            public void addRechargeDetails(RechargeDetails rechargeDetails){….}
            public void displayRechargeDetails(int transactionID){…..}
    }

class RechargeDataValidator
    {
            boolean validatedthOperator(String dthOperator){. . . }
            boolean validateConsumerNo(String consumerNo){. . . }
            boolean validatePlan(String plan){. . . }
            boolean validateAmount(String amount){. . . }
    }
```

Add appropriate user defined Exception classes and any other supporting classes and packages as required.