**Problem Statement**: : **QualityCare Clinic software application.**

QuatlityCare Clinic requires software for maintaining information of its patients. Software should have functionality to add new patient information and search patient information. The patient details are stored in any type of **Collection.**

Display menu to the user should be as follows

1. Add Patient Information
2. Search Patient by Id
3. Exit

**SECTION-1: [40 Marks]**

**Add Patient Information:**

When the user select this menu option, it allows the user to enter the patient details as shown in the below sample screen. All the details entered will be added successfully to the Collection, and it should print the message “Patient Information stored successfully for <PatientID>”.

Note: (a) Patient ID should be generated by using random function.

(b) Validation should be taken care for all input fields.

(c) Consultation date should be the current date.

**Sample Screen**

**Enter the name of the Patient:** Smitha

**Enter Patient Age:** 35

**Enter Patient phone number:** 9768587350

**Enter Description:** Suffering from high fever.

**Following validations need to be taken care of :**

* + - **Patient Name** can be minimum 5 & maximum 15 alphabets long and one space (optional) incase if there is ‘firstName lastName’.
    - **Patient Age** should be between 1 and 100 only
    - **Patient Mobile Number** should contain only a 10-digit number starting with either 7 / /8 /9.
    - **Description** can allow a maximum of 40 characters.
    - **Patient ID** should be generated by using random function after filling the above details.
    - **Consultation Date** should be the current date.

**Marks Distribution :**

|  |  |
| --- | --- |
| Application UI | 3 |
| Use of random number generation logic to get patient ID | 4 |
| Name validation with validation error message | 4 |
| Age validation with validation error message | 4 |
| Mobile Number validation with validation error message | 4 |
| Description validation with validation error message | 4 |
| Updating current date as consultation date | 4 |
| Adding patient details in the collection | 5 |
| Proper Exception handling | 5 |
| Comments and best practices | 3 |

**SECTION-2 :**

**(1) Search Patient by Id [7 Marks]**

When the user selects this option, application should accept the Patient ID from the user and display the Patient details for valid Patient ID as shown in the following sample screen.

**Name of the Patient:** Smitha

**Age:**  35

**Phone Number:** 9768587350

**Description:** Suffering from high fever.

**Consultation Date:** 2014-12-09

For invalid Patient ID it should display following error message: “**There is no patient with this ID**”.

1. **Exit [3 Marks]**

If user opts for Exit, he /she should be able to quit from the application.

**SECTION-3 :**

Write JUNIT test cases for all the functions written in the PatientHelper and PatientValidator class. **[20 Marks]**

**Classes to be created**

**com.capgemini.patient.bean**

class PatientDetails

{

String patientName;

int patientAge;

int patientID;

String mobileNo;

String patientDesc;

Date consultationDate;

}

**com. capgemini.patient.ui**

class PatientClient

{

public static void main(// to display the menu and accept the details from user.

// create object for appropriate classes and execute the respective methods

}

**com. capgemini.patient.service**

class PatientHelper

{

public void addPatientDetails(PatientDetails patientDetails){….}

public void searchPatient(int patientID){…..}

}

class PatientValidator

{

boolean validateName(String patientName){. . . }

boolean validateMobileNumber(String mobileNo){. . . }

boolean validateAge(int patientAge){. . . }

boolean validateDesc(String patientDesc){. . . }

}

Add appropriate user defined Exception classes for all the functions written in validator class.