EAST WEST UNIVERSITY
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
Mid Term Examination, Fall 2024 Semester

Course: **CSE430, Section 1, Software Quality Assurance and Testing**
Instructor: **Anika Tabassum, Lecturer, CSE Department**
Full Marks: **30**
Time: **1 hour**

Note: There are **Four** questions, answer ALL of them. The Mark of each question is mentioned at the right margin.

1.
Suppose you are testing a banking system. Can you explain the steps you would follow to complete your testing life cycle.

[CO2,C3, Mark: 6]

2.
Suppose, you are a SQA engineer, you are testing a hospital management system. Do you need verification for this system? If yes, explain the reason.

[CO1,C3, Mark: 8]

3.
An online shopping system provides discounts based on the following conditions:

[CO2, C3, Mark: 8]

- Total Purchase Amount:
    - High (more than $100)
    - Low (less than or equal to $100)
- User Loyalty:
    - Loyal Customer (Has been registered for more than 1 year)
    - New Customer (Less than 1 year)
- Coupon Code:
    - Valid Coupon
    - No Coupon

The system follows the following rules while giving discount to the customers:
- ❖ Apply a **10%** discount if the total purchase is high and the customer is loyal.
- ❖ Apply a **20%** discount if the total purchase is high, the customer is new, and they have a valid coupon.
- ❖ Apply a **5%** discount if the total purchase is low, the customer is loyal, and they have a valid coupon.

❖ **No** discount applied if the total purchase is low, the customer is new, and there is no coupon.

Based on the above conditions and actions, create test cases for all possible combinations of conditions **(high or low purchase, loyal or new customer, valid or no coupon)** and write down the test cases with expected outcomes using **decision table based testing technique**.

4. Consider a system that accepts a password input with the following rules: [CO2, C3, Mark: 8]
   ➔ Username: Must be between 6 and 20 characters long.
   ➔ The password must be between 8 and 12 characters in length.
   ➔ The password must contain at least one uppercase letter.
   ➔ The password must contain at least one lowercase letter.
   ➔ The password must contain at least one digit.
   ➔ The password must contain at least one special character (e.g., !, @, #, $).

Identify the valid and invalid equivalence classes for each of the input criteria and create test cases that cover all the **equivalence classes**.