



# ISLAMIC UNIVERSITY OF TECHNOLOGY



## Course Name: Object Oriented Concepts I

Course Code: SWE 4201

Time: 35 minutes

Quiz - 3

Marks: 25

[There are 2 (two) questions. Answer all of them. Figures in the right margin indicate marks.]

1. a) Suppose, a Software Engineering Conference will be held in Bangladesh on 20<sup>th</sup> January 2021. Many Researchers or Faculties will join the conference. The participants of the conference have different Cards like Master Card, Visa Card, etc by which they can pay the registration fees. A Researcher has a name, research organization, email address, salary, and a task to do research. A Faculty has a name, email address, salary, institute, and different tasks like teaching, supervising, etc. Every card has a number, amount, and payment method. 12

Now, draw UML diagrams of classes (from the Specification perspective). Identify the relationship and multiplicity among classes. [Be careful about UML notations.]

- b) What is Delegation? Why Delegation is useful? 3

2. a) Suppose, **Player** is a class. It has the following attributes and methods. 1+4  
Define the problem associated with the code. Re-write the class and create a better design.

Player
name: String position: String abilityLevel: int
getName() getPosition() getAbilityLevel() getPlayerInfo() getPlayersInfo() getTeamStrategy() getCoachInfo()

- b) What is Enum? Identify the errors of the following code snippet. 1+4

```
1  enum Season{
2      private String weather;
3
4      SPRING (Warm), SUMMER(Hot), FALL(Mild), WINTER(Cold);
5
6      public Season(String weather){
7          this.weather = weather;
8      }
9
10     public String getWeather(){
11         return this.weather;
12     }
13 }
14
15 public class MyClass {
16     public static void main(String args[]) {
17         for(weather s: Season.values()){
18             System.out.println(s.getWeather());
19         }
20     }
21 }
```