International Islamic University Chittagong (IIUC)

Department of Electronic and Telecommunication Engineering

Final Examination

Program: B.Sc Engg. (ETE) | Semester: Autumn 2021
Course Code: ETE-3545 | Course Title: Object Oriented Programming with Java
Total Marks: 50 | Time: 2 Hours 30 Minutes

i) The figures in the right-hand margin indicate full marks
ii) Course Outcomes are mentioned in additional Columns

Part A

[Answer any twoquestions from followings]

Q1. (a) Definemethodoverridingandmethodoverloading.Whataretherulesformethodoverriding? CLO1 3

(b) Create a class with a method that prints "This is parent class" and its subclass with another method that prints "This is child class". Now, create an object for each of the class and call CLO1 4

- method of parent class by object of parent class
- method of child class by object of child class
- method of parent class by object of child class

(c) What is polymorphism? Write an example of Java runtime polymorphism. CLO1 3

Q2. (a) Defineexceptionhandling.ExplainJavaexceptionhierarchy. CLO2 4

(b) What are the types of java exception? Write the output of the following program: CLO2 3

```
public class MyClass {
  public static void main(String[] args) {
    try {
int[] myNumbers = {1, 2, 3};
System.out.println(myNumbers[10]);
    } catch (Exception e) {
System.out.println("Something went wrong.");
    } finally {
System.out.println("The 'try catch' is finished.");
    } } }
```

(c) Assume that you wrote a java program, and you know that it may be produce any of three runtime errors, but you don't know which of those three run time errors the program may produce- Discuss with an example how will handle the situation. CLO2 3

Q3. (a) What is inheritance? Why and when to Use "Inheritance"? Write the output of the following program: CLO1 3

```
class Bike{
 int speedlimit=90;  }
class Honda3 extends Bike{
 int speedlimit=150;
 public static void main(String args[]) {
```

```
Bike obj=new Honda3();
System.out.println(obj.speedlimit); }
```

(b) What is super keyword? What are the usages of Java super Keyword? Write a java program where super is used to invoke parent class method. CLO1 4

(c) Write the differences between throw and throws. CLO1 3

Part B

[Answer any three questions from followings]

Q4. (a) Whatismultithreading?Describetheadvantagesofmultithreading. CLO3 3

(b) How to create thread? Write an example of multithreading by implementing Runnable interface. CLO3 4

(c) Describe the states in the lifecycle of a Thread. CLO3 3

Q5. (a) Define package. Why it is used and how to import it? CLO2 3

(b) What is interface and why to use java interface? Write an example of multiple interface. CLO1 4

(c) Summarize the benefits of using package. What types of classes are contained in the following package? CLO1 3

- java.lang
- java.awt

Q6. (a) Write a java program that will CLO2 6

- create a file namely **etc.txt** at **D:** drive.
- write "Files in Java might be tricky, but it is fun enough" into the created file.
- print name and absolute path of the file
- delete the file.

(b) Write short note on: CLO1 4

i) Byte Stream
ii) Character Stream

Q7. (a) How do you set priority for a thread? Give an example. CLO3 3

(b) Describe the differences between Thread and Runnable in Java. CLO3 3

(c) Describe the working process of sleep() method. Write a program where Thread.sleep() is used to pause the main thread execution for 2 seconds CLO3 4