

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

Department of Computer Science and Engineering (CSE)

MID SEMESTER EXAMINATION

WINTER SEMESTER, 2019-2020

DURATION: 1 Hour 30 Minutes

FULL MARKS: 75

CSE 4561: Computer Science and Technology-III

Programmable calculators are not allowed. Do not write anything on the question paper.

There are **4(Four)** questions. Answer **3 (three)** of them including Question 4

Figures in the right margin indicate marks.

1. a) Explain the characteristics of an Information System. 5
- b) What are the different categories of an Information system? Show the hierarchy of an organization with different operational levels and functional areas. 7
- c) What are the differences between Decision Support System and Executive Information System? 8
- d) What is an ERP? List the features of an ERP. 5
2. a) What is class and object in object-oriented programming? What is the relation between class and object? Give an example. 4
- b) What is the difference between object-oriented programming and procedure-oriented programming? 3
- c) Write a C++ program to read and print the details of a student. Create a class called Student and an object of this class. This class contains four data members (Name, Roll No, Total marks, Percentage) with *private access* and two member functions with public access, one for getting the details and another for showing the details. 6
- d) Every vehicle has a speed, color, and it can turn left and right. A bike is a vehicle which has a gear and rings bell for warning other vehicles in the road. Motor vehicles are special type of vehicles which runs on engine. The motor vehicles have different size of engines (usually measured in CC), license plates and beep horn for giving warning in the road. Among the motor vehicles, motor bike and car are of two types. All motor bikes have a model and cars have specific number of seats. Write C++ program for it. 12
3. a) What is a constructor and how does a constructor work? Can there be more than one constructor for a class? 5
- b) What is the difference between function overriding and function overloading? 4
- c) The following table is supposed to define the access to a field of a class permitted by each modifier in java. Fill in the blanks of the following table with "Yes" if the field is accessible from the Class/Package/Subclass/World or "No" if it is not accessible: 6

Table 1: Access Level

	Private	No Modifier	Protected	Public
Same class				
Subclass in same package				
Subclass in different package				
Non subclass in same package				