NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI-ABUJA
FACULTY OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE
2024_2 EXAMINATION

COURSE CODE : CIT 834
COURSE TITLE : OBJECT-ORIENTED PROGRAMMING USING C#
CREDIT UNIT : 3
TIME ALLOWED : 2½ HOURS
INSTRUCTION : Answer Question 1 and any other Three Questions

1.
a) write short note on 32-bit signed integer ***[5 marks]***
b) what's the difference between Double and Float Variables ***[4 marks]***
c) state the steps in declaring variable instance ***[4 marks]***
d) Write short note on the term Class ***[4 marks]***
e) why is constructor needed when creating object of a class ***[4 marks]***
f) How can a method return a value to the caller in C#? ***[4 marks]***

2.
a) What is the difference between methods and properties in a class**?** ***[4 marks]***
b) What is the purpose of a destructor in C#? ***[4 marks]***
c) Give the code for adding a destructor to the Triangle class ***[4 marks]***
d) State the Role of the Garbage Collector ***[3 marks]***

3.
a) give the Syntax Required for Creating a Method ***[4 marks]***
b) give syntax to Declaring a Binary Operator ***[4 marks]***
c) why is Static used in the Method in C# and illustrate that with an example using CalculateMass(int density, int volume) ***[4 marks]***
d) write short note on the different types of inheritance ***[3 marks]***

4.
a) What are the ways in which Object-Oriented Programming (OOP) aims to resolve issues ***[4 marks]***
b) How does OOP aid in software reuse? ***[4 marks]***
c) State 3 Advantages of Method Overloading ***[3 marks]***
d) Define the term Operator Overloading ***[4 marks]***

5.
a) Illustrate with an example on how two-dimensional vector with X and Y properties is implemented ***[4 marks]***
b) list 4 main arithmetic operators and their symbol ***[4 marks]***
c) state 5 Characteristics of Object-Oriented Programming (OOP) ***[4 marks]***
d) What are objects in an object-oriented system? ***[3 marks]***

6.

a) state the fundamental concepts of OOP ***[4 marks]***
b) write short note on Encapsulation ***[4 marks]***
c) State the area of application of OOP ***[4 marks]***
d) define the term Object-oriented programming ***[3 marks]***