NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi, Abuja
Faculty of Science

Course: CIT 734 – OBJECT ORIENTED TECHNOLOGY
Time Allowed: 2½ Hours
Instructions: Answer Question 1 and three (3) other questions

Q1 a. Describe the concept of Object Oriented Programming (5½ marks)
a. Describe the following terms
(i) Object (3 marks)
(ii) Class (3 marks)
(iii) Method (3 marks)
d. List three Object Oriented Programming languages (3 marks)

Q2 a. Explain the following terms
(i) Encapsulation (4 marks)
(ii) Polymorphism (4 marks)
(iii) Inheritance (4 marks)
b. Describe with diagrams three types of relationships (5½ marks)

Q3. a. Describe three programming techniques (9 marks)
b. Describe the phases of a Software Life Cycle (8½ marks)

Q4. a. Discuss seven (4) of the important qualities of software products (8½ marks)
b. List three Object Oriented and Analysis Design (OOAD) methodologies (3 marks)
c. Define the following
(i) Data Flow Diagram (2 marks)
(ii) Data Dictionary (2 marks)
(iii) Minispecification (2 marks)

Q5. a. Define the following programming terms
(i) Variable (3 marks)
(ii) Scope (3 marks)
(iii) Data type (3 marks)

b. Consider the following code snippet:

```
int i = 10;
int n = i++5;
```

(i) What are the values of i and n after the code is executed? (4 marks)

(ii) What are the final values of i and n if instead of using the postfix increment operator (i++), you use the prefix version (++i))? (4 ½marks)

Q6. a. Define Procedural Programming (4½ marks)

b. Differentiate between Procedural Programming and Object Oriented Programming in C++ (6 marks)

c. What is the difference between an integral variable and a floating-point variable? (4 marks)

d. What are the advantages of using a symbolic constant rather than a literal constant`? (3 marks)