NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
JULY 2017 EXAMINATIONS

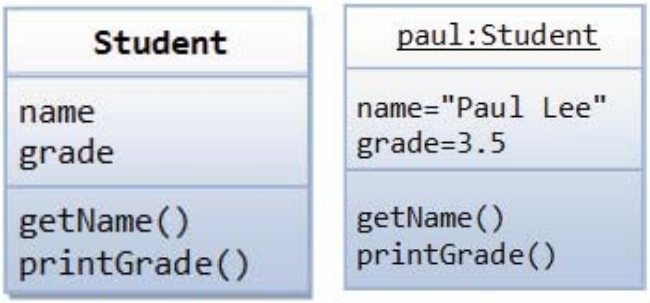
COURSE CODE:	**CIT734**
COURSE TITLE:	**OBJECT ORIENTED TECHNOLOGY**
CREDIT UNITS:	**3**
TIME ALLOTED:	**2 HOURS, 30 MINUTES**
INSTRUCTION:	***Answer Question 1 and any other FOUR questions. Cordless nonprogrammable calculators may be used.***

INSTRUCTION: ***Answer any five questions.***

Q1.

a) Briefly explain the concept of Object-Oriented Programming (OOP). (6 marks)

b) Consider the class ***Student*** depicted in Fig. Q1(a).



(a) (b)

Fig. Q1

c) Write down the definition for the class Student in Java. (6 marks)

d) Write down the Java definition of the instance paul. (4 marks)

e) Briefly explain what the contents of each of the three compartments of the class ***Student*** are listing their properties. (6 marks)

Q2.

a) Distinguish between **polymorphism** and **encapsulation** (4 marks)

b) Explain the concept of **abstraction**. (4 marks)

c) Briefly explain the relationship between a **superclass** and a **derived** class. (4 marks)

Q3.

a) Briefly distinguish between an **algorithm** and a **program**.
(4 marks)

b) Write brief notes on

i. Procedural Programming (4 marks)

ii. Modular Programming (4 marks)

c) Write down the advantages of object-oriented programming over other techniques.
(4 marks)

4. (a) Briefly describe the **main phases** of Software Engineering.
(4 marks)

(b) Write down **five** desirable **qualities** of a **software product**.
(4 marks)

(c) Write short notes on the following:

i. **Constructor**

ii. **Access Control modifiers**

(4 marks)

5. (a) Describe the **Waterfall** model of Software Development Life Cycle (SDLC). (6 marks)

(b) Write a brief note on programme **documentation** listing **three** baseline specifications.
(3 marks)

(c) Briefly explain the role of **requirement analysis and specification** in a software development project.
(3 marks)

6. (a) Describe **the Non-Formal View** of Object Oriented Design (OOD).
(4 marks)

(b) Write down **four** characteristics of Non-formal OOD.
(4 marks)

(c) List **four** advantages of **OOD solutions** in comparison with other structured analysis/design methodologies.
(4 marks)

7. (a) Briefly describe **Booch's approach** to Object Oriented Analysis and Design (OOAD) (4 marks)

(b) Compare **any four** OOAD methodologies in terms of Proprietary nature, Type, Scope, Strength and Primary Applications/ Market.
(4 marks)

(c) Mention **four** guidelines you would adopt in ***identifying potential classes*** in a software development process.
(4 marks)