



NATIONAL OPEN UNIVERSITY OF NIGERIA

PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESS WAY, JABI, ABUJA

FACULTY OF SCIENCES

2021\_2 EXAMINATION 45678

COURSE CODE: CIT 467

COURSE TITLE: VISUAL PROGRAMMING & APPLICATIONS

CREDIT: 3 UNITS

TIME ALLOWED: 2HOURS 30MINUTES

**INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER FOUR (4)**

**Question 1 (22 marks) Compulsory**

- (a) Give a formal description of Visual Programming Language (VPL) according to Totoro (1990) (2mks)
- (b) Give four distinct ways of defining Visual Programming Language (4mks)
- (c) Distinguish between absolute and relative URL (3mks)
- (d) How does HTML works (2mks)
- (d) Give a brief description of Markup tags and how they are used. (3mks)
- (e) In a tabular form distinguish clearly between class and object (4mks)
- (f) Enumerate four key principles of Java that makes it to be popular. (4mks)

**Question 2 (12 marks)**

- (a) Classify VPL according to the type and extent of visual expression used. (3mks)
- (b) How is VPL created by programmers and subsequently compiled? (3mks)
- (c) Distinguish between physical and logical markup tags, hence state six examples each (6mks)

**Question 3 (12 marks)**

- (a) Describe the body section of HTML (2mks)
- (b) Describe in full the various sections of HTML document (4mks)
- (c) Write a HTML code to give the output below (6mks)

**My grocery list**

- carrot
- mango
- potato
- orange

**My sport list**

1. carrot
2. mango
3. potato
4. orange

**Question 4 (12 marks)**

- (a) Distinguish between process icons and object icons in VPL (3mks)
- (b) According to Chang (1990), the syntactic analysis of visual sentences is based upon a number of approaches, make a partial listing of four of such approaches. (2mks)
- (c) Describe in details, the interconnection between object, methods and class (7mks)

**Question 5 (12 marks)**

Describe the following concepts in Object Oriented Programming: (12mks)

- i. Genericity
- ii. Polymorphism
- iii. Multiple inheritance
- iv. Persistence

**Question 6 (12 marks)**

- (a) Outline any six of the primitive data types supported by Java (6mks)
- (b) Write a Java program named if-else Demo which assigns a grade based on the value of a test score: an A for a score of 90% or above, a B for a score of 80% or above, a C for a score of 70% or above, a D for a score of 60% or above and F a score of less than 60%. (6mks)