



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi, Abuja**  
**FACULTY OF SCIENCES**  
**JULY 2017 EXAMINATION**

**CIT736: Computer Programming**

**TIME ALLOWED: 3Hours**

**INSTRUCTION(S): Attempt any Four (4) questions**

**Question 1**

- a) List and briefly discuss using appropriate examples the different types of data types used in Pascal programming - **6 marks**
- b) List and explain the main properties of a professional computer program - **6 marks**
- c) List and explain any 10 input and output routines in Pascal - **5.5 marks**

**Question 2**

- (a) **Differentiate between the following terms** (2.5 marks each)
  - i) Sub routines and functions in FORTRAN
  - ii) WHILE DO loop and DO WHILE loop
  - iii) Exit and Cycle statements
- (b) The ELSE and ELSE IF statement is an important control structure in FORTRAN programming language, state its general format and conditions when it can be applied - **5 marks**
- (c) Using appropriate example, briefly state the format of a nested IF statement - **5 marks**

**Question 3**

- a) As a student of programming, discuss in details any 6 programming methodologies that you know - **6 marks**
- b) Develop a program in FORTRAN that can generates and print 5 random numbers between 0 and 1 - **6.5 marks**
- c) Explain any five types of program errors that you know - **5 marks**

**Question 4**

- a) What are functions and procedures and when are these keywords used in Pascal Programming? - **6 marks**
- b) List any 10 features of Fortran 90/95 - **5 marks**
- c) Write a program in FORTRAN to convert centimetres into inches - **6.5 marks**

**Question 5**

- a) Write an algorithm that accepts a person's hourly wage and calculates the person's Pay. Assume a withholding rate of 20%. - **7 marks**
- b) Develop a flowchart for the problem in question 6 (i) above - **5 marks**
- c) What is an array? State the formats for a 2 dimensional and multidimensional array?

**- 5.5 marks**