



**NATIONAL OPEN UNIVERSITY OF NIGERIA,
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2023_2 EXAMINATIONS**

COURSE CODE: CIT332

COURSE CREDIT: 3

COURSE TITLE: SURVEY OF PROGRAMMING LANGUAGES

TIME ALLOWED: 2½ HOURS

INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS

QUESTION

1(a) Given the tasks of resetting, fetching, executing and decoding instructions, draw up a top- approach of doing this by a computer. [4 marks]

(b) What are the 4 major strength of the fifth generation of programming languages [5 marks]

(c) Identify and describe the main features List and Tuples in Python programming language [5 marks]

(d) Identify 3 main differences between the python list and python tuple [3.5 marks]

(e) Illustrate the syntax of Class in Java programming and show an example with a class named MyData having one attribute named “b” and one method named “okay” which returns a null value and print a message ”I am alright” from the console. [7.5 marks]

2 (a) Apply maintenance, usage and speed of processing to tabulate the differences between low level and high level languages [7.5 marks]

(b) Analyse the trade-off between each of the following in a medical diagnosis system (i) Reliability and programmability (ii) maintainability and Availability [7.5 marks]

3(a) Show the syntax of the If-else statement in (i) C++ (ii) C# [9 marks]

(b) Analyse the structure PERL programming language [4 marks]

(c) Why is python a portable programming language ? [2 marks]

4 (a) The table below shows the characteristics of programming languages and the criteria for achieving those characteristics. Check the box with an X to show which criterion meets which characteristics [6 marks]

Characteristics	Readability	Writability	Reliability
Simplicity		X	
Orthogonality			
Syntax Design			
Type checking			
Exception Checking			
Expressivity			

(b) Explain 3 types of errors that can occur during the execution of computer program [6 marks]

(c) With the aid of their syntax differentiate between the dotimes and the dolist iteration in LISP [3 marks]

5 (a) Justify the use of HMTL for the development of a web software [3 marks]

(b) Differentiate between ATOM evaluation and LIST evaluation in LISP programming language [6 marks]

(c) Explain the Java switch-case statement and illustrate its syntax [6 marks]

6 (a) Fill the missing information about a generative grammar in the following table

Grammar Type	Grammar Accepted	Language Accepted	Automation
Type 0	Unrestricted grammar		
Type 1			
Type 2			
Type 3			Finite state automaton

[10 marks]

(b) Explain the term syntactic ambiguity

[5 marks]