COURSE CODE: CIT332
COURSE CREDIT: 3 Units
COURSE TITLE: Survey of Programming Languages
TIME ALLOWED: 2½ Hours

INSTRUCTION: Answer Question One (1) and any other Three (3) Questions

Question 1

1a. Describe six (6) features of High-Level languages. **(6 Marks)**

1b. Differentiate between Low Level and High Level Languages by filling in the blank spaces in the table below. **(6 Marks)**

	Parameter	High-Level Language	Low-Level Language
1.	Basic		
2.	Ease of Execution		
3.	Process of Translation		
4.	Efficiency of Memory		
5.	Portability		
6.	Comprehensibility		

1c. List four (4) key concepts of imperative programming languages. **(2 Marks)**

1d. Define Logic/Declarative/non-algorithmic based languages. **(4 Marks)**

1e. Identify any four (4) key concepts of functional programming. **(4 Marks)**

1f. Describe the key concept of Scripting Languages called Dynamic Typing. **(3 Marks)**

Question 2

2a. Define Scripting Languages. **(1 Mark)**

2b. Highlight any two (2) roles of programming languages. **(3 Marks)**

2c. Expressivity is an evaluation criteria that means the ability of a language to clearly reflect the meaning intended by the algorithm designer (the programmer). Identify and describe three (3) other Language evaluation criteria. **(6 Marks)**

2d. Discuss the importance of Evaluation in programming. **(3 Marks)**

2e. Identify two (2) key core concepts of Logic programming. **(2 Marks)**

Question 3

3a. Highlight four (4) features of Low Level Languages. **(6 Marks)**

3b. Define Parsing. **(2 Marks)**

3bii. Draw a well-labeled flow diagram of the Parsing process. **(7 Marks)**

Question 4

4a. Describe two (2) approaches to Parsing. **(4 Marks)**

4b. Outline five (5) key concepts of Functional Programming. **(5 Marks)**

4c. Explain four (4) Categories of Expressions used in programming languages. **(6 Marks)**

Question 5

5a. Define Syntactic Ambiguity. **(2 marks)**

5b. Selection Logic involves a number of conditions or parameters which decides one out of several written modules. The structures which use this type of logic are known as Conditional Structures. Provide sample code for the following two (2) structures: **(6 Marks)**

    i.   Double Alternative   **(2.5 Marks)**
    ii.   Multiple Alternatives   **(3.5 Marks)**

5c. Describe the following concepts in programming languages: **(7 Marks)**
    i.   Static Scope
    ii.   Dynamic Scope
    iii. Referencing

Question 6

6a. Define Type Checking. **(2 Marks)**

6aii. Differentiate between Strongly Typed and Weakly Typed Programming Languages. **(6 Marks**

6b. In the context of Abstracting Concepts using Procedures, outline four (4) principle actions associated with a procedure call/return mechanism during implementation. **(4 Marks)**

6c. Outline three (3) techniques used to interpret the syntax of a programming language. **(3 Marks)**