



NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi, Abuja
Faculty of Science
2023_2 EXAMINATION

DEPARTMENT:
COURSE TITLE:
COURSE CODE
CREDIT UNIT(S):
INSTRUCTION(S):

COMPUTER SCIENCE
ORGANISATION OF PROGRAMMING LANGUAGE
CIT401
3
ATTEMPT FOUR (4) QUESTIONS IN ALL, QUESTION ONE
(1) IS COMPULSORY

QUESTION ONE

- A. List three (3) extensions that are included in the version of EBNF? (3 marks)
- B. Illustrates the use of braces and multiple choices in an BNF and EBNF versions of an expression grammar? (7½ marks)
- C. Define the following: i. Subtree ii. Leaf iii. B-tree iv. Separate chaining
v. Linear probing (10 marks)
- D. List and explain three (3) statements that imperative programming offers with example? (4½ marks)

QUESTION TWO

- A. Compare and contrast on a five (5) points state the difference between run time and compile time (10 marks)
- B. State and explain three (3) reasons why lexical analysis is separated from syntax analysis? (3 marks)
- C. List any two (2) variations on BNF and EBNF? (2 marks)

QUESTION THREE

- A. Explain the application of BNF and syntax graph in lexical and syntactic structure (5 marks)
- B. In detail explain the term data structure (4 marks)
- C. List four (4) forms of data structure? (6 marks)

QUESTION FOUR

- A. What do you understand by middle level language, give two (2) examples? (3 marks)
- B. Define the following: i. Identifiers ii. Function iii. Subroutine (6 marks)
- C. Name and explain the three (3) components of structured programming languages? (6 marks)

*A newly recruited correctional officer, Tom, overhears three other correctional officers, Fred, Bob, and Charlie, discussing arrangements to assault an inmate, Raymond, who has previously attacked another correctional officer, a close friend of the three officers. Tom is faced with a dilemma: whether or not to prevent the attack on Raymond."

Giving appropriate reasons, what kind of dilemma is Tom faced with? 7marks

(c). What procedure should Tom follow in resolving the above dilemma? 6marks

Question 4

(a). Explain the word Taser?

10marks

(b). What are the warnings that law enforcement agents should guide against when using

a Taser?

10marks

Question 5

State ten frequently given reasons for the study of ethics.

20 marks