



NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
MARCH/APRIL 2014 EXAMINATION

COURSE CODE: CIT 341

COURSE TITLE: DATA STRUCTURES

TIME ALLOWED: 3HOURS

INSTRUCTION: ANSWER ANY FIVE (5) QUESTIONS

- 1a. In what ways could data be classified? (4 Marks)
- 1b. Exhaustively define Data Structure (4 Marks)
- 1c. With explanation classify data structure (6 Marks)

- 2a. What is an Abstract Data Type?
- 2b. List the Single Data Type classification

- 3a. What is an Array? (4 Marks)
- 3b. When can an array be called a multidimensional array? (5 Marks)
- 3c. Describe the classification of an Arrays (5marks)

- 4a. What is a List Data Structure? (5 Marks)
- 4b. What are the properties of a Linked List? (4 Marks)
- 4c. What are the main primitive operations and the functions? (5 Marks)

- 5a. What other primitive operations could be classified as additional operations and what are their functions? (4 Marks)
- 5b. What are the properties of an array list? (4 Marks)
- 5c. Explain a scenario where stack could be used (5 Marks)

- 6a. When searching a Binary Tree, describe what happens when a search is not successful? (5 Marks)
- 6b. What is a Hash Table? (4 Marks)
- 6c. List the properties of a Linked List (4 Marks)

- 7a. What is Memory Allocation? (5 Marks)
- 7b. What is List Data Structure? (4 Marks)
- 7c. State and explain how Lists could be implemented (4 Marks)