

LAGOS CITY POLYTECHNIC, IKEJA
SCHOOL OF ENGINEERING AND APPLIED SCIENCE
DEPARTMENT OF COMPUTER SCIENCE
2013/2014 FIRST SEMESTER EXAMINATION

COURSE	TITLE:	DATA	STRUCTURES &
	ALGORITHMS		NO OF QUESTIONS : 4
COURSE CODE:	COM 124		TIME ALLOWED: 2 HRS
FOR WHOM:			EXAMINER:
NO OF STUDENT:			INSTRUCTIONS: ANSWER
ALL			

QUESTIONS

1. (a) Write short notes on the following:
 - (i) STACK
 - (ii) QUEUE
 - (iii) GRAPHS
 - (iv) POINTERS
- (b) List four(4) tools for identifying data and explain one(1) in details.
2. (a) What is an array? Distinguish between STATIC and DYNAMIC arrays
- (b) Given DIMENSION A (5, 20), express the array linearly.
- (c) What is the significance of data structure in developing high-quality programs?
3. (a) What do you understand by the term Data Lifecycle? Explain any four(4) concepts of data life cycle.
- (b) Distinguish between Fixed and Variable length fields. State advantages of each.
- (c) Interpret the instruction DIM Y (80).
4. (a) What would the contents of a list be after the following operations? Given that the list before adding value is

	A	B	C	
(i)	Add	(1,	X,	L)
(ii)	Set	(2,	K,	L)
(iii)	Remove	(K,		L)
(iv)	Get	(2,		L)
- (b) What is sorting? Outline and explain four (4) comparison-sort algorithms.