NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
JANUARY/FEBRUARY 2013 EXAMINATION

Course Code: CIT 341 ***Time:*** 3hrs

Course Title: Data Structures ***Course Credit Unit***: 3

Instruction: Answer any **five (5)** questions.

QUESTIONS

1a. Distinguish between public and private modifiers. (16 marks)

1b. State any two (2) reference types. (4 marks)

[Total =20 marks]

2a. Write the transpose of the following digraph G = (V, E)? (4 marks)

2b. Give four main steps involved in Dynamic programming design. (16 marks)

[Total =20 marks]

3a. State the outcome of the following action on a stack:

i. IsEmpty
ii. IsFull
iii. Initialise

} 6 marks each

3b. Determine the linear expression of DIMY (6, 10) (2 marks)

[Total =20 marks]

4. Specify and explain two main operations of a stack.

[Total =20 marks]

5a Describe the concept of 'Interface' within the context of Java programming language (16 marks)

5b. Identify the main goal of the sorting algorithm in OOP. (4marks)

[Total =20 marks]

6b. State two key characteristics of a good hash function? (4 marks)

6c. Give a brief description of the following:

i. Fragmentation
ii. Best Fit

(8 marks each)

[Total =20 marks]

7. Give a brief description of the following:
   i. Package
   ii. Object-oriented programming
   iii. Interface
   iv. Object
   v. Dynamic programming

(4 marks each)

[Total =20 marks]

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