



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
MARCH/APRIL 2016 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: CIT427
COURSE TITLE: Database Systems and Management

TIME ALLOWED: 3 Hours
INSTRUCTION: Answer any five (5) questions

1a. State the main function and example of the following predefined internal entities:

- i. <
- ii. >
- iii. &
- iv. '
- v. "

(2 marks each, 2x5=10 marks)

1b. Who is a database administrator? (4 marks)

[Total = 14 marks]

2a. By means of a well-labelled diagram, explain how weather information can be accessed by means of Web services. (10 marks)

2b. Describe where and how security is maintained in a database. (4 marks)

[Total = 14 marks]

3a. List and explain five duties of a database administrator. (10 marks)

3b. Data manipulation can be described in four (4) different ways, write down these ways. (4 marks)

[Total = 14 marks]

4. Go through the code below carefully and answer the questions that follow:

```

<?xml version="1.0"?>
<freshplay>
<burns>Say <quote>goodday</quote>,
Demola.</burns>
<allen><quote>Bonjour,
Demola.</quote></allen>
<applause/>
</freshplay>

```

- 4a. What sort of processing instruction is depicted above
 4b. Specify the main role of this instruction
 4c. Identify and write the empty element in this instruction

(4 marks)

(6 marks)

(4 marks)

[Total = 14 marks]

- 5a. Write two (2) main functions of the check clause.

(5 marks)

- 5b. Distinguish between a domain constraint and a key constraint.

(5 marks)

- 5c. Specify two (2) modes of inserting data into a relation.

(4 marks)

[Total = 14 marks]

- 6a. State the three (3) main components of an SQL expression.

(6 marks)

- 6b. If a section in a shop is denoted by g, write the expression to find the names of all sections in that shop relation.

(4 marks)

- 6c. Give four (4) reasons why the data definition language is vital in databases. (4 marks)

[Total = 14 marks]

- 7a. Give a brief explanation of the following attributes:

- i. Entity or Entities)
- ii. ID) (2 marks each, =6 marks)
- iii. NMTOKEN or NMTOKENS)

7b. Write down the four (4) main components of an entity-relationship diagram with their corresponding roles

(8 marks)

[Total = 14 marks]