



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

COURSE CODE: CIT427

COURSE TITLE: Database Systems and Management (3 units)

TIME ALLOWED: 3hrs

INSTRUCTION: Answer any five (5) questions

QUESTIONS

- 1a. State the general syntax for deletion in SQL. (5 marks)
1b. Distinguish between a domain constraint and a key constraint. (5 marks)
1c. Specify two (2) modes of inserting data into a relation. (4 marks)

[Total = 14 marks]

2a. Specify the main function of the following predefined internal entities:

- i. <
- ii. >
- iii. &
- iv. ' (apostrophe)
- v. " (quotation mark)

(2 marks each, Total=10 marks)

- 2b. Describe the process of accessing weather information by means of Web services. (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 them down. (4 marks)

[Total = 14 marks]

4a. Within the context of database systems, explain the following:

- i. A list of names)
- ii. CDATA)
- iii. Entity or Entities)
- iv. ID) (2 marks each, 10 marks)
- v. IDREF or IDREFS)

4b. Identify 4 major components of an entity-relationship diagram (4marks)

[Total = 14 marks]

5a. List and briefly explain any five (5) forms of operations in a relational algebra.(10 marks)

5b. State the **Cartesian** product for the relations d_1 and d_2 . (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 s , write the expression to find the names of all the sections in a shop relation. (6 marks)

6c. What is the key role of a select clause? (2 marks)

[Total = 14 marks]

7. Carefully go through the following codes below and answer the questions that follow:

```
<?xml version="1.0"?>
<freshplay>
<burns>Say <quote>goodday</quote>,
Shola.</burns>
<allen><quote>Goodday,
Shola.</quote></allen>
<applause/>
</freshplay>
```

7a. Identify the of processing instruction is depicted above (4 marks)

7b. Specify the main role of this instruction (6 marks)

7c. Define an empty element in the context of documents (4 marks)

[Total = 14 marks]