NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, 91 Cadastral Zone, NnamdiAzikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
COMPUTER SCIENCE DEPARTMENT
2022_2 EXAMINATIONS

CIT435: STATISTICAL DATABASE SYSTEM   **Credit:** 3 units
TIME ALLOWED: 2½ Hours
INSTRUCTION: Answer Question 1 and any other FOUR (4) Questions

Question 1

a. List and discuss the three kinds of data usually contain in a statistical database?
   (**9 marks**)

b. What inference can be drawn from statistical correlation?   (**2 marks**)

c. Large corporations has integrated large database for their daily operations. Clearly list the actors that could be involved database scene, and explain their functions. (**6 marks**)

d. Briefly describe how the confidentiality of individual information can be protected**.   *(2 marks)***

e. With the aid of **Entity Relationship Diagram,** describe the relationship between the data stored about products (Product_Id, Unit_Price, Qty_on_hand), and the data stored about the organizations that supply the products(Name,Address). (**6 marks**)

Question 2

a. Explain any four different types of database model.   **(8 marks)**

b. Define the following terms: *(4 marks)*

   i. Decision Tree

   ii. Data Mining

c. What happens in parallel with the physical design phase of the database design?   *(1mark)*

d. Enumerate the approaches to database systems. **(2 marks)**

Question 3

a. Outline four characteristics of server systems. (**2** marks)

b. Identify the two main types of relationship constraints and outline their distinction. **(5 marks)**

c. Enumerate five types of statistical data models and identify which of the model covers all kinds of data using different paradigms. *(5marks)*

d. List with example the categories of end users that use the database.

(3marks)

Question 4

a. List and explain the two types of Data Manipulation Language. (6 *marks)*

b. What are the two distinct approaches to protection of SDB from inference attacks? **(6 marks)**

c. How is data architecture essential to realization of the target state?

(2marks)

d. Explain the responsibilities of any two actors that work behind any database scene. **(3marks)**

Question 5

a. Identify the implications associated with the release of tabulation or micro-data information for identity disclosure. (3*marks)*

b. Identify any five functions of database system utilities. *(2½ mark)*

c. What are the conditions for the positivity and negativity of a compromise? *(2 marks)*

d. What is the distinction between database schema and database instance? *(2 marks)*

e. Outline the common characteristics inherent in database approach.

(2½ marks)

f. Identify situations when the implementation of Database Management System may be unnecessary, intractable, and not cost effective.

(3 marks)

Question 6

a. Use the knowledge of three-schema architecture to explain the concept of data independence (*4 marks)*

b. Outline the implication of using database approach in an organization. *(2 marks)*

c. Briefly describe how the confidentiality of individual information can be protected. *(2 marks)*

d. What is data independence? **(2 marks)**

e. Tables are some of the most common elements used in a database application. Highlight with examples the conventions applicable to the use table in database applications. (**5 marks)**