



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. **(3marks)**
- 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)**