



**NATIONAL OPEN UNIVERSITY OF NIGERIA,
PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI – ABUJA
FACULTY OF SCIENCES**

JULY 2017 EXAMINATION

COURSE CODE: CIT 427

COURSE CREDIT: 3

COURSE TITLE: DATABASE SYSTEMS AND MANAGEMENT_

TIME ALLOWED: 3 Hours

INSTRUCTION: Answer question 1 and any other four (4) questions

QUESTIONS

- 1a. Assuming you were employed as a Database Administrator in the IT unit of an establishment. Outline the precautionary steps you would adopt in specifying a system of file organisation for the records of this establishment. (6 marks)
- 1b. If Mallam Shehu banks with GTB and has ₦500, 000 in his account A304133991 at Wuse branch. Write down a tuple to insert this amount into his account in the specified branch. (4 marks)
- 1c. Explain by means of a well-labelled diagram how one can access the weather information from a web- service. (8 marks)
- 1d. Name two (2) common components of an entity-relationship diagram, specifying their equivalent roles. (4 marks)

[Total = 22 marks]

- 2a. Give an overview of the factors that affect the core design considerations in database systems (6 marks)
- 2b. State how a key is executed in an indexed-sequential organisation. (4 marks)
- 2c. List any two (2) kinds of declarations in XML. (2 marks)

[Total = 12 marks]

- 3a. Outline the procedure for determining the key in an indexed-sequential file organisation. (4 marks)
- 3b. Briefly describe the concept of file organisation within the context of a file system. (2 marks)
- 3c. State the two (2) major components of file organisation (2 marks)
- 3d. Give the full meaning of the acronym XML (2 marks)
- 3e. What is the significance of the XML? (2 marks)

[Total = 12 marks]

- 4a. Accessibility is a common feature in Database Management Systems (DBMS). List and explain the two (2) major modes of accessing information in this context. (6 marks)
- 4b. Give a brief description of the concept of Latency (2 marks)
- 4c. Name and state the uses of two (2) typical forms of magnetic disks. (4 marks)

[Total = 12 marks]

- 5a. In line with the W3C recommendation, the XML specification establishes a number of goals for XML. In simple terms, write down any six (6) of these goals. (6 marks)
- 5b. Name and state the main roles of six (6) typical kinds of markup that can occur in an XML document. (6 marks)

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[Total = 12 marks]

- 6a. Give a brief explanation of three (3) common modes of data manipulation. (6 marks)
- 6b. State the two (2) main classes of data independence outlining two (2) features of each of these classes. (6 marks)

(6 marks)

[Total = 12 marks]