

FINAL
Examination Paper

(COVER PAGE)

Session : APRIL 2017

Programme : Diploma In Information And Communication Technology (DICTN)

Course : ICT1104: Database Management

Date of Examination : 04 August, 2017 (Friday)

Time : 5:00pm – 7:00pm Reading Time : Nil

Duration : 2 Hours

Special Instructions :

Section A : Answer **All** question.

Section B : Answer **Three (3)** question in the answer booklet provided.

IMPORTANT NOTE: THIS PAPER SHOULD NOT BE TAKEN OUT OF THE EXAMINATION HALL

Materials permitted

:

Nil

Materials provided :

OMR SHEETS

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Moderator : Noor Hasrina

This paper consists of 6 printed pages, including the cover page

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY
PROGRAMME (DICTN)
ICT1104: DATABASE MANAGEMENT
FINAL EXAMINATION: APRIL 2017 SESSION

SECTION A: (40 marks)

Instruction: This section consists of **TWENTY (20)** multiple-choice questions. Answer **ALL** questions in the OMR sheet provided. All questions carry equal marks.

1. The following software are Database Management System (DBMS), **EXCEPT**
 - A. Oracle
 - B. IBM DB2
 - C. Microsoft SQL Server
 - D. Google Drive

2. Which of the following characteristics is **NOT** a good quality of database?
 - A. Data integrity
 - B. Data consistency
 - C. Data accessibility
 - D. Data redundancy

3. Database Administrator (DBA) has the following responsibilities, **EXCEPT**
 - A. Create databases
 - B. Manage user accounts
 - C. Monitor system performance
 - D. Develop applications

4. Which of the following disadvantages is **FALSE** for database systems?
 - A. Difficult to manage and modify the DBMS
 - B. Higher impact of failure due to complexity
 - C. Higher cost for hardware, software and staffs
 - D. None of the above

5. The following people are possibly the end-users of a database system, **EXCEPT**
 - A. System administrators
 - B. Managers
 - C. Customers
 - D. Suppliers

6. A data model provides the following details of a database, **EXCEPT**
 - A. Conceptual or logical structure of a database
 - B. Methods to define or manipulate a database
 - C. A set of rules to ensure the data integrity
 - D. Implementation plan of a database

7. In relational model, the representation of a relation is called
- A. Attribute
 - B. Domain
 - C. Relationship
 - D. Schema
8. Which of the following descriptions of Entity-Relationship (ER) model is **FALSE**?
- A. ER model is a conceptual, graphical database model
 - B. ER model mainly consists of entities and relationships
 - C. ER model is independent of the implementation details
 - D. None of the above
9. Which of the followings is **NOT** a type of update anomalies?
- A. Insertion anomalies
 - B. Deletion anomalies
 - C. Modification anomalies
 - D. Selection anomalies
10. What is a “functional dependency” in the relational model?
- A. A condition of the database functions
 - B. A dependency between the relations
 - C. A relationship among the attributes of a relation
 - D. A rule to specify the domain or range of an attribute
11. Which of the following objects is the base object of Access database?
- A. Tables
 - B. Queries
 - C. Forms
 - D. Reports
12. You can perform the following actions in the Design view of a table, **EXCEPT**
- A. Enter data into table
 - B. Change the fields of a table
 - C. Select a primary key
 - D. Manage the field properties
13. Which of the following options is most likely **NOT** a field property?
- A. Format
 - B. Input Mask
 - C. Validation Rule
 - D. Referential Integrity Rule

14. Which of the following statements about query in Access database is **FALSE**?

- A. Query is a form of command in Access database
- B. Query is a source to form and report
- C. Query is reusable for repetitive operations
- D. Query is limited to only one table at a time

15. What is the function of **Append** query in Access database?

- A. It is used to copy records into a table
- B. It is used to insert new records into a table
- C. It is used to create a new blank table
- D. It is used to combine two or more tables

16. What type of query will ask users for input before it is fully executed?

- A. Embedded query
- B. Parameter query
- C. Nested query
- D. Sub query

17. Which of the following form layouts is **NOT** supported by the Form Wizard?

- A. Columnar
- B. Block
- C. Justified
- D. Tabular

18. Which of the following form controls can support input of data?

- A. Label
- B. Textbox
- C. Button
- D. Image

19. Which of the following statements about form in Access database is **FALSE**?

- A. A form is linked to only one source at a time
- B. A form is the user interface for one application
- C. A form can support input and output operations
- D. None of the above

20. You can use Access to create the following reports, **EXCEPT**

- A. Single report
- B. Continuous report
- C. Grouped report
- D. Project report

SECTION B: (60 marks)

Instruction: This section consists of **FOUR (4)** questions. Answer any **THREE (3)** questions in the answer booklet provided. All questions carry equal marks.

Question 1

- (a) Differentiate between *data* and *information*. (4 marks)
- (b) Explain the concept of *views* in database system. (3 marks)
- (c) Construct a simplified Entity-Relationship Diagram (ERD) for the scenario below. Specify the entities and relationships clearly.

A student can register one or more workshops at a time. The registration is recorded separately for each student and workshop. Every registration record is unique. Each workshop is conducted by only one instructor. An instructor cannot conduct two or more workshop at the same time. But, he/she can conduct multiple workshops at different times. Every workshop is associated with a specific partner. A partner can be a company or professional body. But, a partner can provide technical supports to all the associated workshops.

(13 marks)

Question 2

- (a) List **SIX (6)** important functions of DBMS. (6 marks)
- (b) Given the following relation and functional dependencies, normalize the relation to third normal form (3NF). Explain your working steps.

R (A1, A2, A3, A4, {G1, G2, G3, G4}, M1, M2, M3, M4)

fd1: A1 → A2, A3, A4, M1, M2, M3, M4

fd2: G1 → G2, G3, G4

fd3: M1 → M2, M3, M4

(14 marks)

Question 3

Based on the **Books** table below, create the queries. You can present your answers in QBE or SQL queries.

Books (*Bcode, Title, Edition, Year, Author, Publisher, ISBN, Price, Units, Category, Status*)

- (a) List the records of all the books published in 2016. (5 marks)
- (b) List the book titles that consist of the phrase "Database System". (5 marks)
- (c) Count the total number of books (different codes) for each publisher. (5 marks)
- (d) Change the status of a book (code = 2016-1035) to "Limited Access". (5 marks)

Question 4

- (a) Explain **FOUR (4)** factors that are important when designing forms. (8 marks)
- (b) List any **SIX (6)** data types supported by Access 2016. (6 marks)
- (c) Describe the *Combo Box* and *Check boxes*. (6 marks)