

FINAL
Examination Paper

(COVER PAGE)

Session : August 2016

Programme : Diploma In Information And Communication Technology (DICTN)

Course : ICT1104: Database Management

Date of Examination : 05 December, 2016 (Monday)

Time : 8:00am – 10:00am Reading Time : Nil

Duration : 2 Hours

Special Instructions :

This paper consists of SIX (6) questions. Answer any FOUR (4) questions in the answer booklet provided. All questions carry equal marks.

Materials permitted : Nil

Materials provided : Nil

Examiner(s) : Light Lau Teng Lye and Tang Yang Tze

Moderator : Noor Hasrina

This paper consists of 4 printed pages, including the cover page

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY
PROGRAMME (DICTN)
ICT1104: DATABASE MANAGEMENT
FINAL EXAMINATION: AUGUST 2016 SESSION

Instruction: This paper consists of **SIX (6)** questions. Answer any **FIVE (5)** questions in the answer booklet provided. All questions carry equal marks.

Question 1

- (a) Differentiate between the database system and file-based system. (6 marks)
- (b) Explain **FIVE (5)** advantages of database system as compared to file-based system. (10 marks)
- (c) Give **FOUR (4)** examples of business applications that use database systems. (4 marks)

(Total: 20 marks)

Question 2

- (a) Suggest **THREE (3)** form controls that can be used to browse, enter or edit data via a form. Explain how these form controls work. (9 marks)
- (b) Describe the Entity-Relationship (ER) model. (5 marks)
- (c) Explain the normalization and update anomalies.. (6 marks)

(Total: 20 marks)

Question 3

- (a) Differentiate between **Primary Key** and **Foreign Key** in Entity Relationship Diagram.
(5 marks)
- (b) Construct a simplified Entity Relationship diagram for the scenario below. Specify the entities and relationships.

A student can borrow one or more books from the library at a time. A student can borrow maximum 10 books at the same time. All students must return the books in two weeks. If a student returned a book after two weeks, he/she must pay a late-return penalty. The penalty is based on the number of days. A student can make a reservation for a book that is currently not available. When the book is returned, it will be reserved for the respective student. The library can purchase one or more copies of a book. Every copy is given a unique reference number. Every book is supplied by one publisher.

(15 marks)

(Total: 20 marks)

Question 4

- (a) Identify and describe **FOUR (4)** types of database objects in Microsoft Access.
(12 marks)
- (b) Differentiate between the **Datasheet view** and **Design view** of a table in Access.
(8 marks)

(Total: 20 marks)

Question 5

| Order no | Acc no | Customer | Address | Date | Item | Qty | Item Price | Total Cost |
|----------|--------|----------|--------------|---------|--------|-----|------------|------------|
| 7823 | 133 | Amy | 27 Bay Drive | 16/8/16 | Tart | 20 | 1.20 | 29.00 |
| | | | | | Pastry | 10 | 0.50 | |
| 4463 | 678 | Smith | 12 Dee Cove | 16/8/16 | Tart | 100 | 1.20 | 120.00 |
| 1734 | 345 | Sally | 17 Wood Lane | 17/8/16 | Pie | 10 | 2.00 | 49.00 |
| | | | | | Pastry | 10 | 0.50 | |
| | | | | | Tart | 20 | 1.20 | |

- (a) The table above represent the bakery shop database. Normalize the above UNF table to 3NF.
(15 marks)
- (b) Suggest **FIVE (5)** form controls that can be used to browse, enter or edit data via a form.

(5 marks)

(Total: 20 marks)

Question 6

Customer

| Cust id | Cust name | Cust post | Cust income | Cust state | Cust tel |
|---------|-----------|------------|-------------|------------|-----------|
| 1 | Sam | supervisor | \$1000 | Penang | 016-12345 |
| 4 | Kent | manager | \$1600 | Perlis | 012-23456 |
| 13 | Benny | manager | \$1500 | Kedah | 016-33445 |
| 21 | John | clerk | \$1200 | Ipoh | 019-99887 |
| 33 | James | clerk | \$1100 | Penang | 012-11223 |

Based on the above table, write the SQL statements and produce the queries for the following:-

- Display customer(s) name and identity number who are holding manager position. (5 marks)
- Display customer(s) name who are holding supervisor and also clerk position. (5 marks)
- List the customer(s) identity number who salary is in range of \$1300 to \$1600. (5 marks)
- List the customer(s) identity number and name who uses Digi mobile number. (5 marks)

~ The End ~

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