



FINAL
Examination Paper
(COVER PAGE)

Session : January 2014

Programme : Diploma In Information And Communication Technology (DICTN)

Course : ICT1104 : Database Management

Date of Examination : March 11, 2014

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

Duration : 2 Hours

Special Instructions :

Answer any **FOUR (4)** questions.

Materials permitted : Nil

Materials provided : Nil

Examiner (s) : Mr. Koo Lee Chun, Mahaletchumy Ramakrishnan

Moderator : Dr. Vincent Khoo Kay Teong

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

INTI INTERNATIONAL COLLEGE PENANG

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY (DICTN)
 ICT1104: DATABASE MANAGEMENT
 FINAL EXAMINATION: JANUARY 2014 SESSION

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

Question 1

(a) Briefly explain the differences between data and information and provide a suitable example to support the answer.

(5 marks)

(b) What are the basic components in a database system? Briefly describe each of the components.

(10 marks)

(c) Describe the **Five (5)** functions of DBMS.

(10 marks)

Question 2

The relation below represents a scenario in a college. One student can register multiple courses; however a course can only be assigned to a professor.

Student(StudentID, Name, CourseID, Course name, Grade, Professor Name, Office Room, Office Contact Number)

StudentID	Name	CourseID	Course Name	Grade	Professor Name	Office Room	Office contact Number
1002	Ali	C001	IT	A	Mary Chew	L3-001	105-5678
1003	Ryan	C001	IT	C	Mary Chew	L3-001	105-5678
1002	Ali	C002	MPW	B	Pn. Siti	L2-002	345-4566
1004	Chew Shi Ling	C004	Multimedia	B	Rajan	L2-003	345-5677
1002	Ali	C004	Multimedia	B	Rajan	L2-003	345-5677

(a) Identify the insertion, deletion and modification anomalies for the table above.

(9 marks)

(b) Explain the condition in which you may determine a table is in :

- (i) 1NF
- (ii) 2NF
- (iii) 3NF

(6 marks)

(c) Normalise the table above from 1NF to 3NF.

(10 marks)

Question 3

(a) Explain the use of the following field properties in Microsoft Access. For each, give a suitable example.

- (i) Default Value
- (ii) Validation Rule
- (iii) Input Mask

(9 marks)

(b) Briefly explain the **FOUR (4)** primary Microsoft Access Objects.

(6 marks)

(c) List any **FIVE (5)** types of data type supported by Microsoft Access. For each, give a suitable example of use.

(10 marks)

Question 4

(a) List any **TWO (2)** properties for a good relation.

(3 marks)

(b) Based on the scenario below, answer Questions 4 (b) (i) and (ii)

- Employees are given an employee number when they join a company. This is stored along with their name, contact number and date they joined the company.
- An employee may be assigned to work in a department. However, each department consists of many employees. Each department has department id, name and location.
- An employee will be assigned to one or more job assignments in a particular date. Each job has job id, description and due date. Each job may be assigned to one or more employees.

(i) Create an Entity Relationship Diagram (ERD).

(10 marks)

(ii) Create a relational model.

(12 marks)

Question 5

Hotel (hotelNo, hotelName, city)

Room (roomNo, hotelNo, type, price)

Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)

Guest (guestNo, guestName, guestAddress)

- (a) Write an SQL statement for the following based on the table given above.
- (i) Display all Room No and room type for room price between RM350 and RM460 inclusive. (4 marks)
 - (ii) Insert a booking information in booking table for guest number 345. (3 marks)
 - (iii) Update the hotel Name to "Hard Rock" for hotel number 288. (4 marks)
- (b) Based on the same table above, define the following request in design grid form (Query Design View) for questions 5 (b) (i)-(iii).
- (i) List all guest information stay in Penang and sort the result based on guest name in descending order. (6 marks)
 - (ii) Create a parameter query to update the room price by 20% based on the room type entered. (4 marks)
 - (iii) Delete the room number 111 from booking table. (4 marks)

Question 6

- (a) List **EIGHT (8)** stages of Database Applications Life Cycle. (8 marks)
- (b) Distinguish between Form and Report. (5 marks)
- (c) With the aid of a diagram, compare 2-tier and 3-tier client-server database architecture. (6 marks)
- (d) Discuss any **THREE (3)** people/personnel involved in database environment. (6 marks)

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