FINAL
Examination Paper

(COVER PAGE)

Session : January 2015
Programme : Diploma In Information And Communication Technology (DICTN)
Course : ICT1104 : Database Management
Date of Examination : March 12, 2015
Time : 2:00pm – 4:00pm  Reading Time: Nil
Duration : 2 Hours
Special Instructions :

Answer any FOUR (4) questions.

Materials permitted : Nil
Materials provided : Nil

Examiner (s) : Mr. Tang Yang Tze, Koo Lee Chun.
Moderator : Ms. Leong Siok Jen.

This paper consists of 4 printed pages, including the cover page.
INTI INTERNATIONAL COLLEGE SUBANG

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY (DICTN)

ICT1104: DATABASE MANAGEMENT

FINAL EXAMINATION: JANUARY 2015 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) Differentiate between data and information. (4 marks)

(b) Identify and describe THREE (3) basic components of database system. (9 marks)

(c) Explain any FOUR (4) advantages of database system as compared to file-based system. (12 marks)

Question 2

(a) Define the primary key and foreign key in relational model. (4 marks)

(b) Explain the first, second and third normal forms (1NF, 2NF and 3NF) in normalization. (6 marks)

(c) Given the following relation and functional dependencies, normalize the relation to third normal form (3NF). Explain your working steps.

R (p1, a1, p2, p3, p4, a2, a3, a4, a5, m1, m2, m3, m4, x1, x2, x3, x4, x5, x6)

fd1: p1 → p2, p3, p4
fd2: a1 → a2, a3, a4, a5
fd3: m1 → m2, m3, m4
fd4: x1 → x2, x3, x4, x5, x6

(15 marks)
Question 3

(a) Convert the following relations into Entity-Relationship (ER) model. Specify the foreign keys, and relationships.

Customers (Cno, name, IC, company, address, contact)
Orders (Ono, date, Cno, total, remarks)
Order_Product (Ono, Pcode, price, quantity, subtotal)
Products (Pcode, name, description, category, price)
Payments (Pno, date, Cno, amount, description, Ono)  (15 marks)

(b) Define the entity integrity rule and referential integrity rule.  (4 marks)

(c) Explain the view mechanism in database system. Support your explanation with a suitable example.  (6 marks)

Question 4

Given the following tables of a company’s database:

Staff (staffid, name, dob, gender, position, salary, deptcode)
Department (deptcode, name, address, phone, fax, description)
Training (refno, title, date, duration, venue, trainerid, description)
Trainer (trainerid, name, specialty, status, remarks)

Define a query (in Query Design format) for each of the following requests.

(a) List the id and names of the trainers with the status of ‘GOOD’.  (6 marks)

(b) List the titles of all training conducted in the year 2014.  (6 marks)

(c) Group the training records by trainers. List the trainer names and numbers of training for each trainer.  (8 marks)

(d) Change the date of the training with reference no ‘TR000312’ to 25-Jun-2014.  (5 marks)
**Question 5**

(a) List any **SEVEN (7)** basic data types supported by Access 2010.  

(b) Explain the use of *Input Mask*, *Default Value* and *Validation Rule* properties in Access database. For each property, give a suitable example.  

(c) List and describe **TWO (2)** types of relationships that are identifiable by Access 2010.  

**Question 6**

(a) Differentiate between *Forms* and *Reports* in Access database.  

(b) Identify and describe **FIVE (5)** types of form controls for data entry.  

(c) Explain the use of single report and grouped report.  

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*The End*