



FINAL
Examination Paper

(COVER PAGE)

Session : April 2013

Programme : Diploma In Information And Communication Technology (DICTN)

Course : ICT1104 : Database Management

Date of Examination : July 31, 2013

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) : Ms. Leong Siok Jen, Light Lau Teng Lye.

Moderator : Dr. Vincent Khoo Kay Teong

This paper consists of 5 printed pages, including the cover page.

INTI INTERNATIONAL COLLEGE SUBANG

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY PROGRAMME
(DICTN)

ICT 1104: DATABASE MANAGEMENT
FINAL EXAMINATIONS : APRIL 2013 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. Provide an example to support your answer. (3 marks)
- b) Describe **THREE (3)** limitations of a file system. (6 marks)
- c) Define the term "View" in a database management system and briefly describe **THREE (3)** benefits of a view. (8 marks)
- d) Discuss **FOUR (4)** functionalities of a Database Management System (DBMS). (8 marks)

Question 2

- a) List any **SIX (6)** properties of a good relation. (9 marks)
- b) Differentiate between a candidate key, a primary key and an alternative key. Use examples to support your argument. (9 marks)

c) Based on the table below, answer c (i) and (ii)

Symbol	Company	Initial Cost	Present Cost	Number of Shares
ABT	ABBOTT LABS	\$43.20	\$45.30	500
BNI	BURLINGTON N. S.F.	\$40.10	\$44.10	1800
CLX	CLOROX CORP	\$55.00	\$55.85	1250
DD	DUPONT	\$43.44	\$43.44	2100
G	GILLETTE	\$43.01	\$43.99	7800
HNZ	HEINZ, H. J.	\$38.40	\$38.41	3200
INTC	INTEL CORPORATION	\$24.06	\$23.17	1100
KO	COCA COLA COMPANY	\$43.47	\$40.96	1700
VIAB	VIACOM INC.	\$35.66	\$35.76	1627
XOM	EXXON MOBIL CORP.	\$32.43	\$49.66	800
YUM	YUM BRANDS INC	\$43.19	\$45.62	1200

- (i) What is the total number of tuples?
(ii) List all the attributes and state the most suitable data type for each of them.
(7 marks)

Question 3

- a) List and describe in the correct order, the **SIX (6)** sections we have in report design.
(9 marks)
- b) Database objects should be named with a consistent naming convention. Give **FOUR (4)** restrictions on naming database objects.
(8 marks)
- c) Draw a diagram to illustrate the client-server architectures below.
- i) two-tier
ii) three-tier
(8 marks)

Question 4

Based on the scenario below:

- Students are each given a student number when they join the school. This is stored along with their name, date of birth, and the date they joined the school.
- An instructor may be assigned to teach any number of classes, but each class has one and only one assigned instructor.
- A class is offered for a specific level at a specific time, day of the week, and location. For example, one class taught on Mondays at 5:00 pm in Room #1 is an intermediate-level class. Another class taught on Mondays at 6:00 pm in Room #1 is a beginner-level class. A third class taught on Tuesdays at 5:00 pm in Room #2 is an advanced-level class.
- A student may attend many different classes; and each class is normally attended by many students.

- a) Create an Entity Relationship Diagram (ERD). (8 marks)
- b) Create a relational model. (9 marks)
- c) Briefly explain the **FOUR (4)** primary MS Access Objects. (8 marks)

Question 5

Sample INVOICE Record

Inv_Num	Prod_Num	Sale_Date	Prod_Label	Vend_Code	Vend_Name	Qty	Price
211347	AA-01	15Jan2012	Power drill	211	Nep	1	49.95
211347	AA-02	15Jan2012	Drill	211	Nep	8	3.45
211347	AA-03	15Jan2012	Saw	309	Touch	1	39.99
211348	AA-01	15Jan2012	Power drill	211	Nep	2	49.95
211349	AA-04	16Jan2012	Ladder	157	Pumi	1	87.75

- a) Identify the insertion, deletion and modification anomalies for the table above. (9 marks)
- b) Normalise the table above to 3 NF. (13 marks)
- c) Explain the purpose of normalisation. (3 marks)

Question 6

Employee(emp_id, name, gender, address, telno, date_of_birth)

Write an SQL statement for the following based on the table above

- i) Display all employee names with the gender "Male". (3 marks)
- ii) Delete the name Coco Lim from the employee table. (3 marks)
- iii) Insert a new employee record into the employee table. (4 marks)

Based on the same table above, define the query for the following request in design grid form (Query Design View) for questions, (iv), (v) and (vi).

- iv) Update the telephone no of the employee Alan to 0175668929. (5 marks)
- v) Create a parameter query to find information of the employee based on the employee name entered. (4 marks)
- vi) List out all the employee name sorted according to descending order with the date of birth between 1/01/1970 and 12/12/1970. (6 marks)

-The End-

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