

FINAL
Examination Paper

(COVER PAGE)

Session : January 2017

Programme : Diploma In Information And Communication Technology (DICTN)

Course : **ICT1104: Database Management**

Date of Examination : 07 March, 2017 (Tuesday)

Time : 11:00am – 1:00pm 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) : **Tang Yang Tze** and **Light Lau Teng Lye**

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: JANUARY 2017 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 use of **file** and the **database**. (4 marks)
- (b) Explain the benefits of using database in terms of data redundancy, data security, data sharing, and data consistency. (12 marks)
- (c) List **FOUR (4)** responsibilities of the **Database Administrator**. (4 marks)

Question 2

- (a) A database can be presented at three different levels: **internal**, **conceptual** and **external** views. Describe these database views. (6 marks)
- (b) Given the following relation and functional dependencies, normalize the relation to third normal form (3NF). Explain your working steps.

R (A1, B1, A2, A3, A4, B2, B3, B4, B5, C1, C2, C3, C4)

fd1: A1 → A2, A3, A4

fd2: B1 → B2, B3, B4, B5

fd3: C1 → C2, C3, C4

(14 marks)

Question 3

- (a) Explain the concept of **entity** in the Entity-Relationship (ER) Model. (5 marks)
- (b) Construct a simplified ER diagram for the scenario below. Specify the **entities** and **relationships**.

A customer can order one or more cars at a time. But, the order is recorded separately for each car model. Each order is accepted and processed by only one sales agent. Every order record is unique. A sales agent can accept and process orders from one or many customers. Customer is required to settle the payment upon the delivery of the cars. A customer can make a payment for several orders. But, the payment will be recorded separately for each order. Every payment record is unique.

(15 marks)

Question 4

- (a) List **FOUR (4)** data types that support multiple formats. (4 marks)
- (b) Explain the use of **Input Mask** and **Validation Rule** properties in Access. Support your answer with suitable examples. (8 marks)
- (c) Differentiate between the **entity integrity** rule and **referential integrity** rule in relational database. (8 marks)

Question 5

- (a) Differentiate **forms** and **reports** in Access database. (4 marks)
- (b) Identify **FIVE (5)** types of controls that can present multiple options in a form. (5 marks)
- (c) Explain the use of **sub forms** in Access database. (6 marks)
- (d) List **FIVE (5)** examples of output documents for business applications. (5 marks)

Question 6

Create queries (in Access Design view) for the below requirements, based on the following tables.

Videos (Vcode, Title, Description, Author, Duration, Price, Type, Size, Status)

Downloads (Dno, Vcode, Date, Time, Destination, Status)

- (a) List the records of the videos for the “Comedy” type. (5 marks)
- (b) List the video titles that consist of the phrase “STAR WAR”. (5 marks)
- (c) Calculate the total number of video downloads on 31-1-2017. (5 marks)
- (d) Change the status of a video (code = SF40035) to “Not Available”. (5 marks)

~ The End ~

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