

SECTION A

[40 marks]

Answer ALL questions in this section.

- A1.** Complete the statements below with the most appropriate word or words from the list of words shown below. [10]

Describe	Row	Order	IN	Select
Restriction	Field	Where	Distinct	Join
Projection	Single	IS NULL	Group by	AND

- (a) A _____ can be found at the intersection of a row and a column. There can be only one value in it.
- (b) To view the field names and data types of a table, use the _____ command.
- (c) The _____ clause is the first part of a query. This clause says which columns of information you want, what order you want them in, and what you want them to be called.
- (d) The _____ BY command is used to list data in a specific order.
- (e) _____ chooses the rows in a table that you want returned by a query. You can use various criteria to restrict the rows that you see.
- (f) The literals are enclosed in _____ quotation marks, which enable access to distinguish them from schema object names.
- (g) To eliminate duplicate rows in a table, the keyword _____ is use in the SELECT clause.

- (h) The _____ clause is used to restrict the rows returned from the query. Because a table can have thousands of rows, this clause must be flexible enough to specify many different conditions.
- (i) The _____ operator is used when there is a list of discrete values that satisfy the condition. The set of all these valid values is placed in parenthesis as a comma-delimited list.
- (j) _____ operator only can be used to retrieve NULL values in a table. A null value is used to show where data is missing in the fields.

A2. State whether the following statements are TRUE or FALSE. Write your answer in your answer booklet. [10]

- (a) Count (fieldname) will ignore the fields that contain null values.
- (b) 'Memo' is one of the data types available in Access.
- (c) Relation is also known as table in relation database environment.
- (d) DBMS is a database software.
- (e) NZ is a function that deals with null value.
- (f) Numeric values must enclose in quotes.
- (g) A Foreign key is a unique column.
- (h) Group functions include nulls in calculations.
- (i) You cannot use group functions, if you did not include a GROUP BY clause.
- (j) Relational database uses one-dimensional table to store information.

STRICTLY CONFIDENTIAL
CDB101 - December 2011 - QP

- A3.** List **two** examples of a Data Manipulation Language (DML) and **two** examples of Data Control Language (DCL) statement. [4]
- A4.** State **five** examples of string manipulation functions in Access. [5]
- A5.** Define single row function. List **four** types of single row functions. [5]
- A6.** Write the output produced by the following SQL statement. [6]

```
SELECT Round(5.255,0) as [Round to 0], Round(5.255,1) as [Round to 1],  
Round(5.255,2) as [Round to 2]  
FROM test;
```

SECTION B

[60 marks]

Answer **ANY TWO** questions in this section.

B1.

[30 marks]

- (a) The following list summarizes all the field data types available in Microsoft Access. You are required to identify the correct data types according to their usage shown in the below table. [7]

Hyperlink	Text	Memo
Yes/No	AutoNumber	Currency
OLE Object	Date/Time	Number

Data Types	Usage
(i)	Use for text or combinations of text and numbers, such as addresses, or for numbers that do not require calculations, such as phone numbers, part numbers, or postal codes.
(ii)	Use for lengthy text and numbers, such as notes or descriptions.
(iii)	Use for data to be included in mathematical calculations, except calculations involving money (use Currency type).
(iv)	Use for dates and times.
(v)	Use for currency values and to prevent rounding off during calculations.
(vi)	Use for unique sequential (incrementing by 1) or random numbers that are automatically inserted when a record is added.
(vii)	Use for data that can be only one of two possible values, such as True/False, On/Off. Null values are not allowed.

- (b) Write SQL statements to select member name (*mem_name*) from the *MEMBER* table and identity (*m_id*) from the *FEE* table where there is a match on the age field (*mem_age*) common to both tables. [6]

- (c) Write the command to display the price column in the format shown below. You do not need to write the SELECT statement. [4]

Required output structure:

\$4,526.00

- (d) Identify the wildcard symbols used in the WHERE clause in Access based on the following explanations. [5]

(i) Compare a string of characters of any length

(ii) Compare one character

(iii) Compare one digit (numeric character)

(iv) Compare any of this range of characters

(v) Compare any of this outside a range of characters

- (e) Explain the term Database. List **five** advantages of Database. [7]

- (f) Which conversion function is used to convert date data type to character data type? [1]

B2.

[30 marks]

- (a) Describe **three** case conversion functions. Give **one** example for each. [6]
- (b) Based on the customer billing statement of the fields shown, suggest suitable Data Types for the Columns indicated: Such as **Text, Number, and Date/Time** [5]

Table	Column	Data Type
Order form	Order Date	(i)
	Customer Name	(ii)
	Order Number	(iii)
	Customer Telephone	(iv)
	Total Amount Order	(v)

- (c) Answer the following question, based on the table below. Table name is Employee.

ID	Empname	Salary	Department
456120	Mike Lim	2500	Accounting
456239	Jonathan Lee	4500	IT
222356	Christopher	3000	Production
321456	Jenny	2800	Accounting
741250	Deepa	4500	Production

Write the SQL statement to accomplish the following task.

- (i) Display each employee department and their total salary using Group By. [5]
- (ii) Display the ID and Empname that having the same department as 'Christopher'. Use subqueries to complete this task. [10]
- (d) List **four** the guidelines that must be followed when using subqueries [4]

B3.

[30 marks]

- (a) (i) State **two** features for a 'Primary key'. [2]
- (ii) Based on the table below, which field is best to be chosen as a Primary key.
Explain your answer. [2]

Product

ProductID	ProductName	Price
P001	Kitchen Table	\$599
P002	Coffee Table	\$199

- (b) How many rows will the Cartesian product produce for the join of 2 tables listed in the following? Show your calculations. [2]
- (i) 10 rows and 2 rows
- (ii) 3 rows and 7 rows
- (c) Answer the following question based on the table below.

MOVIE

MovieID	MovieName	MovieDate	MovieTime
M11	Mission Impossible	12-Jun-2011	23:00
M14	Harry Potter	14-Jun-2011	14:00

- (i) Write the SELECT statement to concatenate the columns *MovieName*, *MovieDate* and *MovieTime*. Rename the column aliases as **Movie's Information**. [8]

Sample Output:

Movie's Information

Mission Impossible will be shown on 12-Jun-2011 at 23:00.

- (ii) Show the Access function and argument that will change the *MovieDate* column from the MOVIE table to display in this format '**12 of June 2011, Monday**'.

Note: You do not need to write the complete SELECT statement. [4]

- (d) Write a SQL statement that displays the result of the calculation '*add 5 to 219 and multiply the result by 15*'. [2]

- (e) Explain what happens when the following query is executed. [5]

```
SELECT ENAME  
FROM EMP  
WHERE SAL BETWEEN [low] and [high];
```

- (f) Display all the information of employees whose salaries are less than 3000. [3]

- (g) Explain the meaning of Cartesian Product. [2]

-END OF PAPER-