

**SECTION A**

**[40 Marks]**

**Answer ALL Questions in this section.**

A1. State whether the following statements either TRUE or FALSE. [11]

- (a) Relational database uses one-dimensional table to store information.
- (b) Relation is also known as table in relation database environment.
- (c) A single row or attributes representing all data required for a particular object.
- (d) Retrieve an unknown value from a table, IS NULL operator is use.
- (e) The symbol '&' is use to combine two columns to become one.
- (f) The keyword 'IS' is use to rename a column aliases.
- (g) The name given to the column aliases can include space without any additional symbol.
- (h) DISTINCT keyword is use to eliminate duplicate rows.
- (i) The order of the rows in a table is vital.
- (j) No key is needed to identify each row in a table.
- (k) No keyword is needed when rename a table alias.

***Please turn over***

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- A2. Define the following terminology. [2]
- (i) Primary Key [2]
  - (ii) Foreign Key [2]
  - (iii) NULL [2]

- A3. 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;
```

- A4. State the five multiple-row functions. [5]

- A5. Answer the following question based on the table below. [9]

TOY

| <b>Toy ID</b> | <b>Toy Name</b> | <b>Quantity</b> | <b>Price</b> |
|---------------|-----------------|-----------------|--------------|
| T001          | Pokemon         | 8               | 15           |
| T002          | Teddy Bear      | 5               | 10           |
| T003          | Barbie          | 10              | 20           |

Concatenate both column Toy Name and Price and change the header to TOY's PRICE.  
The result is as follow: 'Pokemon is 15 dollar each'.

- A6. Display today's date and change the header to TODAY from a table TESTING. [3]

***Please turn over***

**SECTION B**

**[60 Marks]**

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

B1.

[30 marks]

- (a) Describe two characteristics that distinguish the database approach with the file-based approach. [6]
- (b) Provides four benefits of using database approach as compare to using the file-based system. [4]
- (c) Answer the following question based on the table below.

**Employee**

| EmpID | EmpName         | Job             | Salary | Commission |
|-------|-----------------|-----------------|--------|------------|
| E003  | Lewis Operation | Executive       | 3400   | 23:00      |
| E007  | Amanda          | HR Manager      | 4000   |            |
| E009  | Keith           | Sales Manager   | 2500   | 500        |
| E012  | Bobby           | Sales Assistant | 1800   | 1500       |

You have to write the SQL statement to achieve the following task.

- (i) Display the total salary of all the employees and change the heading to ‘Total Salary’. [4]
- (ii) Display the total income of all the employees (hint: include commission) and change the heading to ‘Total Income’. [6]

***Please turn over***

- (d) Explain two objective of 'ORDER BY' clause [2]
- (e) The following SELECT statement is a sub-query that used to retrieve the employee's name (Ename) with the lowest sales commission (S\_comm) from the Employee table. There are four errors in the statement. Identify and explain why it is an error.
- Select ename  
From employee  
Where salary > (select lowest(S\_comm)  
From employee; [8]

***Please turn over***

B2. [30 marks]

(a) Write an SQL statement to display the warranty date which is six months from the date of purchase (purchase\_date). Using a table called Purchases. [6]

(b) State the function use to display the current date and time in SQL. [1]

(c) Write an SQL statement to display the output as shown below. Use the system date to get today's date. Assume the table is called 'Dual'. [7]

TODAY

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Today, October 22 2009

(d) Write an SQL statement to display all names of students who obtained the lowest marks in each subject. Use the table structure provided. [8]

Student\_Grade

| Sid | Sname | Subject | Marks |
|-----|-------|---------|-------|
|-----|-------|---------|-------|

(e) Write an SQL statement to display all country name (Cname) that start with the letter 'N' from country table. Label the Cname column as "Name starts with N". [8]

***Please turn over***

B3.

[30 marks]

- (a) Answer the following question, based on the below table. The table name is Product.

| ProductId | BrandName | Quantity |
|-----------|-----------|----------|
| TV101     | Toshiba   | 5        |
| TV002     | Sony      | 12       |
| TV400     | Philips   | 15       |
| TV851     | Samsung   | 2        |
| TV006     | Pioneer   | 11       |

Write the SQL statements to accomplish the following tasks.

- (i) Display the ProductID and BrandName for all that have a quantity greater than 10. [5]
  - (ii) Display the BrandName and Quantity for all the stock in descending order. [5]
  - (iii) Write an SQL statement to display all BrandNames that start with the letter 'S' from product table. Label the BrandName column as "Brands start with S". [5]
- (b) List and describe the two types of Functions. [6]
- (c) List the four types of Single-row functions. [4]
- (d) List the five different types of database model. [5]

**-END OF PAPER-**