

**SECTION A**

**[40 Marks]**

**Answer ALL questions in this section.**

A1. State whether the following statements are TRUE or FALSE. [10]

- (a) The IN operator allows you to specify multiple values in a WHERE clause.
- (b) SQL is procedural language.
- (c) SQL do not allowed for wildcard search.
- (d) The physical level of database describes how the data are actually stored.
- (e) SQL is NOT case sensitive.
- (f) The Network data model represents data as tree structures and also represents a limited type of one to many relationship.
- (g) The Hierarchical data model represents data as relations.
- (h) The SQL SELECT statement is used to extracts data from a database.
- (i) The CHECK constraint is used to limit the value range that can be placed in a column.
- (j) The Foreign keys values must contain UNIQUE and NOT NULL.

A2. Write the SQL statements for each of the following questions based on the table below.

**BOOK**

ID	TITLE	QUANTITY	Price
101	DATA DESIGN	8	40
102	C PROGRAMMING	3	55
103	JAVA PROGRAMMING	10	55
104	DATABASE	2	60

- (a) Write the SQL statements to display all books with quantity the less than 5. [4]
- (b) Write the SQL statements to display the price of most expensive book.  
Rename the display column name as “EXPENSIVE” [3]
- (c) Write the SQL statements to display the all books that start with alphabets  
“DA” [4]

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- A3. Expand the following abbreviation and briefly explain its usage under the context of SQL. [4]
- (a) DDL
  - (b) DCL
- A4. Write short notes about Primary Key constraint. [4]
- A5. Briefly describe the following terms in the context of database
- (a) Multi value attribute [2]
  - (b) Ternary relationship [2]
- A6. Draw an Entity Relationship Diagram to represent scenario below: [7]
- Student is to provide their student ID and name when they are register to attend the graduation ceremony. The Graduation committee will inform student for the Graduation date, time and venue six months before the ceremony.

***Please turn over***

**SECTION B**

**[60 Marks]**

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

B1.

[30 marks]

- (a) Answer the following questions based on the table below.

**PATIENT**

ID	NAME	DATEOFBIRTH	COMPANYNAME
1001	WILLIS	11-MAR-1985	AAA MARINE
1002	CATTY	2-JAN-1982	AAA MARINE
1003	LINDA	05-JUN 1965	
1004	COMPTON	10-OCT-1977	BBB CORP
1005	STEPHEN	10-AUG-2000	

- (i) Display all patient who worked under AAA MARINE company, sort the name in ascending order. [4]
  - (ii) Display the name and the age of patients who did not belong to any company. [6]
  - (iii) Display the total number of patient for each company [4]
  - (iv) Display the youngest patient's date of birth, rename the output column as youngest [4]
  - (v) Display the patient name in lower case [2]
- (b) Identify and briefly explain five benefits of Database approach. [10]

*Please turn over*

B2.

[30 marks]

- (a) Answer the following questions based on the table structure below.

**STUDENT**

DATA NAME	DATA TYPE	DATA LENGTH	CONSTRAINT
STUDID	INT	5	PRIMARY KEY
NAME	VARCHAR	25	UNIQUE
DOB	DATE		

- (i) Write an SQL statement to create the *student* table based on information given above. [9]
- (ii) Write an SQL statement to add a new column to the *student* table as below: [5]

DATA NAME	DATA TYPE	DATA LENGTH	CONSTRAINT
ADDRESS	VARCHAR	30	NOT NULL

- (iii) Write an SQL statement to delete the *student* table. [2]

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- (b) (i) Write short notes about VIEW under the SQL context. [4]
- (ii) Create a VIEW called TARGET which has the country name, depart date and package price based on tables below. [6]

**DESTINATION**

ID	COUNTRY
10	FRANCE
11	UK
12	ITALY

**TOURPACKAGE**

ID	DEPARTURE_DATE	PRICE
10	25-DEC-2010	3000
11	24-DEC-2010	2550
12	24-DEC-2010	3500
10	31-DEC-2010	2800
11	31-DEC-2010	2400

- (c) Define the following:
- (i) Tuple [2]
- (ii) Field [2]

*Please turn over*

B3.

[30 marks]

- (a) Answer the following questions based on the tables below.

**PUPIL**

PID	NAME
1	MARY
2	JOHN
3	AMOS
4	LILY

**EXAM**

PID	SUBJECT	MARK
1	MATHEMATICS	66
1	SCIENCE	88
2	MATHEMATICS	5
2	SCIENCE	20
3	MATHAMATICS	50
3	SCIENCE	90

- (i) Display the pupil ID and the pupil name for all pupils, including pupil (s) who do not attempt for any examination. [8]
- (ii) Display the highest mark for each subject. [5]
- (iii) Write SQL statement to add the following record to the *exam* table. [5]

PID	SUBJECT
4	MATHEMATICS

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- (iv) Write SQL statement to update the following student's Mathematics mark to 88. [5]

PID	SUBJECT
4	MATHEMATICS

- (v) Write SQL statement to remove the following record from the *exam* table. [2]

PID	SUBJECT	MARK
4	MATHEMATICS	88

- (b) (i) What is usage of UNION operator under the context of SQL? [2]  
(ii) State three rules when using UNION operation [3]

**-END OF PAPER-**