

SOUTH EASTERN UNIVERSITY OF SRI LANKA
SECOND EXAMINATION IN BACHELOR OF SCIENCE IN MANAGEMENT AND
INFORMATION TECHNOLOGY -2009/2010
SEMESTER – II, FEBRUARY-2012

MIT 2233 – DATABASE MANAGEMENT SYSTEM

Answer all questions

Time: 03 Hours

(01)

- a. Based on the tables given below, write down the query in Relational Algebra.

Sailors			
sid	sname	rating	age
22	Jaris	7	23.0
31	Priya	8	24.5
58	Renuka	10	25.0

Boats			
bid	brame	color	bid
101	Interlake	Blue	101
102	Interlake	Red	102
103	Clipper	Green	103
104	Marine	Red	104

Reserves			
sid	bid	day	sid
22	101	10/10/11	22
58	103	11/12/11	58

- i. Find names of sailors who have reserved bid 103
- ii. Find names of sailors who have reserved a Red boat

(02x04= 08 Marks)

- b. Explain the three anomalies in schema refinement with suitable example?

(07 Marks)

(Total 15 Marks)

(02) Write down the SQL statements:

- a. Column names and values to be inserted for the Invoice table are given below. You are requested to write the SQL statement to insert the row.

Column Name	Values
InvoiceID	(Next available unique ID)
SupplierID	97
InvoiceNo	456789
InvoiceDate	20/02/2010
InvoiceTotal	8,344.50
PaymentTotal	0
InvoiceDueDate	12/31/2011
PaymentDate	Null
TermsID	1

(04 Marks)

- b. Refer to the fields of Invoice table given in question (02) a.
- a. Now you want to change a value for InvoiceNo1000. The InvoiceDate column is to be updated with current date.

(02 Marks)

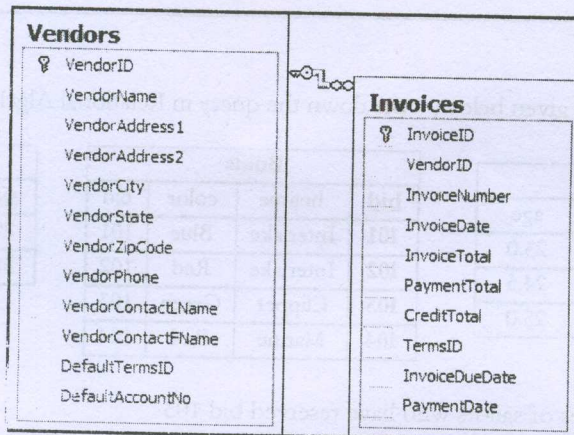
- b. You want to delete all invoice records from Invoice table with InvoiceTotal column's value is less than 30,000/-.

(02 Marks)

- c. You want to change the TermID as '3' for all invoices with InvoiceTotal values less than average InvoiceTotal.

(04 Marks)

- c. Consider the figure below



Write the SQL statement to delete all records from Invoices table for a vendor whose name is "Jayasuriya".

(04 Marks)

- d. Consider the figure given in (02) e. Write the query to delete all invoice records of vendors whose VendorCity is 'Ampara' or 'Batticaloa' or 'Trincomalee'.

(04 Marks)

(Total 20 Marks)

(03)

- a) Describe the usage of Subqueries and their advantages briefly.

(05 Marks)

- b) Describe the following

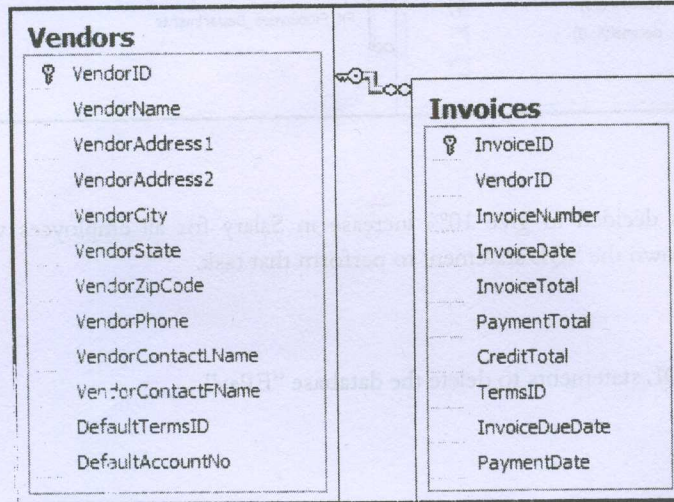
- i. Column Alias
- ii. Cross Join
- iii. Default Value
- iv. Extended E-R Diagram

(04 x 05 = 20 Marks)

(Total 25 Marks)

(04)

- a) Write down the steps clearly to detach an SQL Server database file using SQL Server Management Studio. (04 Marks)
- b) The extract of database diagram for Accounts Payable database is shown below. Use it to answer the questions following.



You are requested to write queries to retrieve

- i. Unique values of VendorCity
- ii. All VendorID from Vendors table and InvoiceID, VendorID, InvoiceAmount, and InvoiceTotal.
- iii. All records from Vendors table for vendors whose name contains the character "K"
- iv. The total, average of InvoiceTotal, and number of invoices

(04 x 04 =16 Marks)

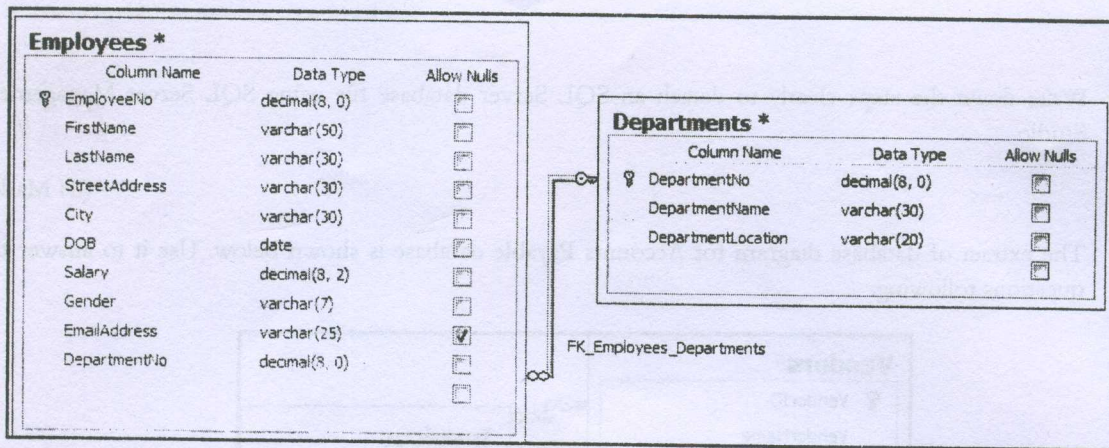
(Total 20 Marks)

(05)

- a. Defining suitable Data Types for table attributes helps keep table data neat and clean. What is data type? List out at least 05 data types available in SQL Server 2008. (05 Marks)
- b. Using the following structure given, write down the complete SQL DDL statements to create Employees and Departments tables with necessary constraints, etc.

Constraints are

- The DOB column should not allow values greater than today's date.
- EmployeeNo columns should allow only numbers.
- Primary Keys and Foreign Key constraints have to be established.



(10 Marks)

c. The company has decided to give 10% increase in Salary for all employees whose salary is below 25,000/=. Write down the SQL statement to perform that task.

(03 Marks)

d. Write down the SQL statements to delete the database "EPay"

(02 Marks)

(Total 20 Marks)