

**FEDERAL UNIVERSITY OF TECHNOLOGY MINNA**  
**SCHOOL OF INFORMATION & COMMUNICATION TECHNOLOGY**  
**DEPARTMENT OF INFORMATION & MEDIA TECHNOLOGY**  
**SECOND SEMESTER EXAMINATION 2011/2012 SESSION**  
**CIT 324: SQL**

**INSTRUCTION: ANSWER ALL QUESTIONS**

**TIME ALLOWED: 2 <sup>1/2</sup> HRS**

1. a) Explain five (5) major features of SQL that makes it endeared the mind of database users. *(5 marks)*  
b) Describe the emergence of the SQL standards. *(3 marks)*  
c) Describe the hierarchical data model along with its advantages and disadvantage. *(5marks)*  
d) Explain the relational data model. *(2 marks)*
2. a) Explain the following terms: *(5 marks)*
  - i) Primary Key
  - ii) Foreign Key
  - iii) Built-in Functions
  - iv) Qualified column name
  - v) Expressionsb) Write the full form of the SELECT statement and explain any two of its clauses. *(4 marks)*  
c) Describe the SQL column functions *(3 marks)*  
d) What is the difference between a nested sub-query and a correlated sub-query? *(2 marks)*  
e) What SQL clause is used to specify a search condition for groups? *(1 mark)*
3. a) Describe the syntax for the single-row INSERT statement. *(1 mark)*  
b) How does the DBMS enforce the required data constraint? *(2 marks)*  
c) What is the difference between the RESTRICT delete rule and CASCADE delete rule? *(2 marks)*  
d) Describe the three fundamental problems that could occur if transactions are not

- handled properly in a multi-user environment. (3 marks)
- e) Explain the different types of locks that can be implemented at various levels of the database. (4 marks)
- f) Explain how a DBMS handles deadlock in a database. (2 marks)
- g) Describe how privilege(s) can be passed using SQL. (1 mark)
4. a) Explain the advantages and disadvantages of views. (5 marks)
- b) Consider the database which consists of the three tables below to write the following SQL queries:
- Retrieve the age of the youngest sailor. (1 marks)
  - Retrieve the names of Sailors who reserved a boat on the following days: 10/10/2008, 10/11/2008, 12/11/2008. (2 marks)
  - Retrieve the names of Sailors who have reserved a Blue boat. (2 marks)
  - Reassign all the reservations made by the sailor with Sid 22 to the sailor with Sid 29. (2 marks)
  - Delete the sailor named 'David'. (1 marks)
  - Create a view from the Sailors Table called 'SailorsRating' which has the following columns: Sname, Rating. (2 marks)

**Sailors Table**

Sid	Sname	Rating	Age
22	David	7	45
29	Bala	1	33
31	Lukman	8	55
32	Andy	8	25
58	Richard	10	35
64	Harold	7	35
71	Zubair	10	16
74	Helen	9	35
85	Ali	3	25
95	Bob	3	63

**Reservations Table**

Sid	Bid	Day
22	101	10/10/2008
22	102	10/10/2008
22	103	8/10/2008
22	104	7/10/2008
31	102	10/11/2008
31	103	6/11/2008
31	104	12/11/2008
64	101	5/9/2008
64	102	8/9/2008
64	103	8/9/2008

**Boats Table**

Bid	Bname	Colour
101	Interlake	Blue
102	Interlake	Red
103	Clipper	Green
104	Marine	Red