SRI RAMAJAYAM GLOBAL SENIOR SECONDARY CBSE SCHOOL

UNIT-3 (Chapter-12)

SIMPLE QUERIES IN SQL (02.02.2022)

STD: XII **TIME: 90 Minutes**

SUBJECT: COMPUTER SCIENCE **TOTAL MARKS: 35**

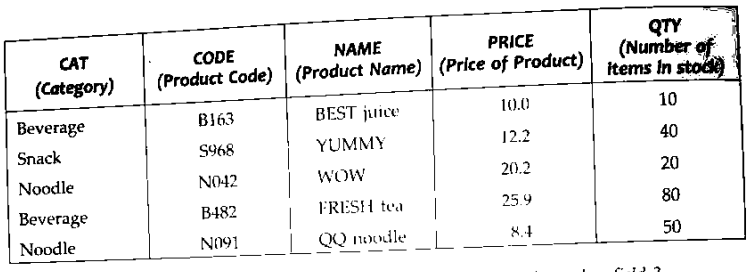
General Instructions

- The question paper is divided into 3 sections – A, B and C
- Section A, consists of 7 questions (1-7). Each question carries 2 marks.
- Section B, consists of 3 questions (8-10). Each question carries 3 marks.
- Section C, consists of 3 questions (11-13). Each question carries 4 marks.

SECTION-A
Each question carries 2 marks

Q. No	Part No.	Question	Marks
1		What are the aggregate functions in SQL?	**2**
2		Write the queries for the following questions using the table Product with the following fields. (P_ Code, P_Name, Qty, Price) (i) Display the price of product having code as P06. (ii) Display the name of all products with quantity greater than 50 and price less than 500.	**1** **1**
3		If the value in the column is repeatable, how doyou find out the unique values? (Write a query) **(NCERT)**	**2**
4		Explain the use of ORDER BY clause. Write sample Query.	**2**
5	i	Amit wrote the command to create a table "Student" as : **CREATE TABLE Student(RollNo integer, Name varchar(20), Marks float(8,2));** What does (8,2) mean here?	**1**
	ii	In the following query how many rows will be deleted? **(NCERT)** **DELETE Student WHERE Student_ID=109;** (Assuming a Student table with primary key Student_ID)	**1**
6		What do you mean by an operator? Name any four operators used in queries.	**2**
7	i	Write a Query to display all the records (All the columns) from table Employee.	**1**
	ii	What are the different types of datatypes in MySQL?(categories)	**1**

SECTION – B
Each question carries 3 marks

8		Write the use of LIKE clause and a short explanation on the two characters used with it. Give Example.	**3**
9		Mr. Singh is responsible for setting up an inventory system in a supermarket. He creates a database table INVENTORY, to store the information on products for sale. Table: INVENTORY  (a) *Which field, CAT, CODE, NAME, PRICE or QTY, should be used as a key field ?* (b) *The data type of QTY is integer. Judy, Mr. Singh's colleague, suggests changing it to real number or string. Mr. Singh disagrees with Judy's suggestion. Why ?* (c) *Mr. Singh write the following SQL command. Based on the five given records in INVENTORY above, what is the query result ?* `Select CODE, PRICE from INVENTORY where PRICE > 10 and QTY < 40`	**3**
10		Explain about Differenttypes of Date and Time Functions.	**3**

CAT (Category)	CODE (Product Code)	NAME (Product Name)	PRICE (Price of Product)	QTY (Number of items in stock)
Beverage	B163	BEST juice	10.0	10
Snack	S968	YUMMY	12.2	40
Noodle	N042	WOW	20.2	20
Beverage	B482	FRESH tea	25.9	80
Noodle	N091	QQ noodle	8.4	50

SECTION-C
Each question carries 4 marks

11		Consider the following tables STORE and answer the questions: Table: STORE  **Write SQL commands for the following statements:** (i) To display details of all the items in the STORE table in ascending order of LastBuy. (ii) To display ItemNo and Item name of those items from STORE table, whose Rate is more than ` 15. (iii) To display the details of those items whose Supplier code (Scode) is 22 or Quantity in Store (Qty) is more than 110 from the table STORE. (iv) To display the item with its quantity which include pen in their name.	**1** **1** **1** **1**

Id	ItemNo	Item	Scode	Qty	Rate	LastBuy
S01	2005	Sharpener Classic	23	60	8	31-JUN-09
	2003	Balls	22	50	25	01-FEB-10
S01	2002	Gel Pen Premium	21	150	12	24-FEB-10
S02	2006	Gel Pen Classic	21	250	20	11-MAR-09
S01	2001	Eraser Small	22	220	6	19-JAN-09
S02	2004	Eraser Big	22	110	8	02-DEC-09
	2009	Ball Pen 0.5	21	180	18	03-NOV-09
S03						

<table>
<tr>
<td>12</td>
<td>i</td>
<td>What will be the output of the following queries on the basis of EMPLOYEE table?
Table : EMPLOYEE
<table><tr><th>Emp_Id</th><th>Name</th><th>Salary</th></tr><tr><td>E01</td><td>Siya</td><td>54000</td></tr><tr><td>E02</td><td>Joy</td><td>NULL</td></tr><tr><td>E03</td><td>Allen</td><td>32000</td></tr><tr><td>E04</td><td>Neev</td><td>42000</td></tr></table>
(i) SELECT Salary + 100 FROM EMPLOYEE
WHERE Emp_Id = 'E02';
(ii) SELECT Name FROM EMPLOYEE
WHERE Emp Id = 'E04';</td>
<td>1
1</td>
</tr>
<tr>
<td></td>
<td>ii</td>
<td>Difference between CHAR and VARCHAR datatypes.</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Given the following family relation. Write SQL commands for questions (i) to (v) based on the table FAMILY
Table : FAMILY
<table><tr><th>No.</th><th>Name</th><th>Female Members</th><th>Male Members</th><th>Income</th><th>Occupation</th></tr><tr><td>1</td><td>Mishra</td><td>3</td><td>2</td><td>7000</td><td>Service</td></tr><tr><td>2</td><td>Gupta</td><td>4</td><td>1</td><td>50000</td><td>Business</td></tr><tr><td>3</td><td>Khan</td><td>6</td><td>3</td><td>8000</td><td>Mixed</td></tr><tr><td>4</td><td>Chaddha</td><td>2</td><td>2</td><td>25000</td><td>Business</td></tr><tr><td>5</td><td>Yadav</td><td>7</td><td>2</td><td>20000</td><td>Mixed</td></tr><tr><td>6</td><td>Joshi</td><td>3</td><td>2</td><td>14000</td><td>Service</td></tr><tr><td>7</td><td>Maurya</td><td>6</td><td>3</td><td>5000</td><td>Farming</td></tr><tr><td>8</td><td>Rao</td><td>5</td><td>2</td><td>10000</td><td>Service</td></tr></table>
(i) To select all the information of family, whose Occupation is Service.
(ii) To list the name of family, where female members are more than 3.
(iii) To list all names of family with income in ascending order.
(iv) To display the detail of family whose income is more than 10000 and occupation is mixed type.</td>
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1</td>
</tr>
</table>

*****All the Best..!*****

ANSWERKEY

SECTION-A Each question carries 2 marks			
Q. No	**Part No.**	**Question**	**Marks**
1		What are the aggregate functions in SQL? **(CBSE-2019)** ***Ans.*** Aggregate function is a function where the values of multiple-rows are grouped together as input on certain criteria to form a single value of more significant meaning. Some aggregate functions used in SQL are SUM ( ), AVG( ), MIN(), etc.	**2**
2		Write the queries for the following questions using the table Product with the following fields. (P_ Code, P_Name, Qty, Price) (i) Display the price of product having code as P06. (ii) Display the name of all products with quantity greater than 50 and price less than 500. ***Ans.*** (i) SELECT Price FROM Product WHERE P_Code="P06"; The criteria of the records that are to be displayed can be specified with WHERE clause of SQL. (ii) SELECT P_Name FROM Product WHERE Qty>50 AND Price<500; The criteria of the records that are to be displayed can be specified with WHERE clause of SQL. Here, the condition is quantity > 50 and price<500 .	**2**
3		If the value in the column is repeatable, how doyou find out the unique values? (Write a query) **(NCERT)** ***Ans.*** The DISTINCT clause in SQL is used to display only distinct values in a column of a table. Hence, if the column allows duplicate values the unique values can be extracted using the DISTINCT clause. **SELECT DISTINCT CLASS FROM Student ;** This displays only the unique classes.	**2**
4		Explain the use of ORDER BY clause. Write sample Query. **(KVS)** ***Ans.*** The ORDER BY clause is used to arrange the records in ascending or descending order. Data present in a table can be arranged as per requirement on a specific field in ascending or descending order. The default is ascending order. To arrange in descending order the DESC clause is to be used. To arrange in ascending order ASC may be used. e.g. **SELECT * FROM Employee ORDER BY EMP_SALARY DESC;** The above command arranges the records in descending order of salary.	**2**
5	i	Amit wrote the command to create a table "Student" as : **CREATE TABLE Student(RollNo integer, Name varchar(20), Marks float(8,2));** What does (8,2) mean here? **(Delhi-2019)** ***Ans.*** While specifying float columns in a table the width and the number of decimals have to be specified. Here 8 is the total width and 2 is the number of decimal places for the Marks column.	**1**

	ii	In the following query how many rows will be deleted? **(NCERT)** **DELETE Student** **WHERE Student_ID=109;** (Assuming a Student table with primary key Student_ID) ***Ans.*** **DELETE FROM Student WHERE Student_ID=109;** Here, the "FROM" clause is missing , so the command will produce an error.	**1**
6		What do you mean by an operator? Name any four operators used in queries. **(CBSE-2018)** ***Ans.***An operator is a component of an expression that represents the action that should be taken over a set of values. **Four operators used in queries are** (i) Arithmetic operators (ii) Comparison operators (iii) Boolean/Logical operators iv) Between operator	**2**
7	i	Write a Query to display all the records (All the columns) from table Employee. ***Ans.*** **SELECT * FROM Employee;**	**1**
	ii	What are the different types of datatypes in MySQL?(categories) ***Ans.*** ***Three Types:*** **Numeric, String, Date & Time**	**1**
SECTION – B **Each question carries 3 marks**			
8		Write the use of LIKE clause and a short explanation on the two characters used with it. Give Example. **(CBSE-2019)** ***Ans.***This operator is used to search a specified pattern in a column. It is useful when you want to search rows to match a specific pattern or when you do not know the entire value.The SQL LIKE clause is used to compare a value to similar values using wildcard characters. We describe patterns by using two special wildcard characters, given below: (i) The per cent sign (%) is used to match any substring. (ii) The underscore (_) is used to match any single character. The symbols can also be used in combinations.	**3**

9		**(MyCBSE)** Mr. Singh is responsible for setting up an inventory system in a supermarket. He creates a database table INVENTORY, to store the information on products for sale. Table: INVENTORY | CAT (Category)	CODE (Product Code)	NAME (Product Name)	PRICE (Price of Product)	QTY (Number of items in stock)
---	---	---	---	---
Beverage	B163	BEST juice	10.0	10
Snack	S968	YUMMY	12.2	40
Noodle	N042	WOW	20.2	20
Beverage	B482	FRESH tea	25.9	80
Noodle	N091	QQ noodle	8.4	50	 (a) *Which field, CAT, CODE, NAME, PRICE or QTY, should be used as a key field ?* (b) *The data type of QTY is integer. Judy, Mr. Singh's colleague, suggests changing it to real number or string. Mr. Singh disagrees with Judy's suggestion. Why ?* (c) *Mr. Singh write the following SQL command. Based on the five given records in INVENTORY above, what is the query result ?* `Select CODE, PRICE from INVENTORY where PRICE > 10 and QTY < 40` Solution. (a) CODE (b) QTY's data type should be integer only because : (i) QTY can never be in fractions hence real number not required. (ii) QTY must be a numeric datatype not a string type as it is required in calculations. (c) NO42 20.2	**3**
10		Explain about Differenttypes of Date and Time Functions. Date functions operate on values of the DATE datatype. 		Function	Description	Example
1.	CURDATE( ) / CURRENT_DATE( ) / CURRENT_DATE	Returns the current date	SELECT CURDATE( ) ;
2.	DATE( )	Extracts the date part of a date or date-time expression	SELECT DATE('2020-12-31 01:02:03') ;
3.	MONTH( )	Returns the month from the date passed	SELECT MONTH('2020-02-03') ;
4.	YEAR( )	Returns the year	SELECT YEAR('2020-02-03') ;
5.	NOW( )	Returns the time at which the function executes	SELECT NOW( ) ;
6.	SYSDATE( )	Returns the current date and time	SELECT NOW(), SLEEP(2), NOW();		**3**

SECTION-C
Each question carries 4 marks

11

Consider the following tables STORE and answer the questions:

(KVS)

Table: STORE

Id	ItemNo	Item	Scode	Qty	Rate	LastBuy
S01	2005	Sharpener Classic	23	60	8	31-JUN-09
	2003	Balls	22	50	25	01-FEB-10
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S02	2004	Eraser Big	22	110	8	02-DEC-09
	2009	Ball Pen 0.5	21	180	18	03-NOV-09
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Write SQL commands for the following statements:

(v) To display details of all the items in the STORE table in ascending order of LastBuy. **1**

(vi) To display ItemNo and Item name of those items from STORE table, whose Rate is more than ` 15. **1**

(vii) To display the details of those items whose Supplier code (Scode) is 22 or Quantity in Store (Qty) is more than 110 from the table STORE. **1**

(viii) To display the item with its quantity which include pen in their name. **1**

Ans.

(i) SELECT * FROM STORE ORDER BY LastBuy;

(ii) SELECT ItemNo, Item FROM STORE WHERE Rate>15;

(iii) SELECT * FROM STORE WHERE Scode = 22 OR Qty>110;

(iv) SELECT Item, Qty FROM STORE WHERE Item LIKE '%Pen%';

12 i

What will be the output of the following queries on the basis of EMPLOYEE table?

(CBSE-2018)

Table : EMPLOYEE

Emp_Id	Name	Salary
E01	Siya	54000
E02	Joy	NULL
E03	Allen	32000
E04	Neev	42000

(i) SELECT Salary + 100 FROM EMPLOYEE
WHERE Emp_Id = 'E02'; **1**

(ii) SELECT Name FROM EMPLOYEE
WHERE Emp Id = 'E04'; **1**

Ans. The output of the following queries

(i)

Salary+100
NULL

(ii)

Name
Neev

	ii	Difference between CHAR and VARCHAR datatypes.	**2**
13		Given the following family relation. Write SQL commands for questions (i) to (v) based on the table FAMILY **Table : FAMILY** | No.	Name	Female Members	Male Members	Income	Occupation
---	---	---	---	---	---
1	Mishra	3	2	7000	Service
2	Gupta	4	1	50000	Business
3	Khan	6	3	8000	Mixed
4	Chaddha	2	2	25000	Business
5	Yadav	7	2	20000	Mixed
6	Joshi	3	2	14000	Service
7	Maurya	6	3	5000	Farming
8	Rao	5	2	10000	Service	 (v) To select all the information of family, whose Occupation is Service. (vi) To list the name of family, where female members are more than 3. (vii) To list all names of family with income in ascending order. (viii) To display the detail of family whose income is more than 10000 and occupation is mixed type. ***Ans.*** **(i) SELECT * FROM FAMILY WHERE Occupation = 'Service';** **(ii) SELECT Name FROM FAMILY WHERE FemaleMembers > 3;** **(iii) SELECT Name, Income FROM FAMILY ORDER BY Income;** **(iv) SELECT *FROM FAMILY WHERE INCOME > 10000 AND Occupation = "Mixed";**	**1** **1** **1** **1** **1**