



مدرسة دلهي الخاصة ذ.م.م.

DELHI PRIVATE SCHOOL L.L.C.

Affiliated to C.B.S.E., DELHI

(Approved & Recognized By Ministry of Education - United Arab Emirates)

PB-T2/EEE-IP(C)AK/1221/A

14-MAR-2022

**EEE CONSORTIUM
PRE BOARD EXAMINATION (2021-22)**

GRADE 12

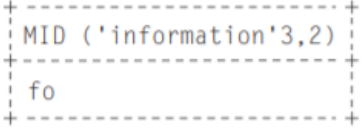
INFORMATICS PRACTICES (Code: 065)

SET 2 (Answer Key)

**Maximum Marks: 35
hours**

Time: 2

		SECTION – A Each question carries 2 marks	
1.		<p>Ms. Vineeta Singh, General Manager of Sugar cosmetics recently discovered that the communication between her company's accounts office and HR office is extremely slow and signals drop quite frequently. These offices are 125 meters away from each other and connected by an Ethernet cable. What kind of network is formed and also explain by clearly differentiating between LAN and MAN on at least on two points?</p> <p>OR</p> <p>What is meant by Topology? What are the factors that must be considered before making a choice for the Topology?</p> <p>Ans: LAN</p> <p>A LAN (local area network) is a group of computers and network devices connected together, usually within the same building. ... A MAN (metropolitan area network) is a larger network that usually spans several buildings in the same city or town.</p> <p><i>(1 mark for correct identification ,1 mark for differentiation point)</i></p> <p>OR</p> <p>Topology defines the structure of the network of how all the components are interconnected to each other. There are two types of topologies: physical and logical topology.</p> <p>Physical topology is the geometric representation of all the nodes in a network.</p> <p>When you select a topology pattern, consider the following factors: Available hardware resources. Application invocation patterns. Types of business processes that you plan to implement (interruptible versus non-interruptible) Individual scalability requirements. Administrative effort involved.</p> <p><i>(1 mark for explanation of topology, 1 mark for at least 2 factors)</i></p>	2

2.	i)	<p>Which protocol is used to upload files to webserver for creating websites.</p> <p>Ans: In order to put your web pages online, we'll use the File Transfer Protocol, more commonly known as FTP. There are many different applications that use FTP to transfer files.</p>	1
	ii)	<p>Explain the purpose of a router.</p> <p>Ans: A router establishes connection between two networks and it can handle network with different protocols. Using a routing table, routers make sure that the data packets are travelling through the best possible paths to reach their destination. <i>(1 mark for correct explanation or Router purpose)</i></p>	1
3.		<p>Help Mr.Rao in Predicting the output of the following: (i) mysql> SELECT LENGTH(instr('Republic Day',' ')); (ii) mysql>SELECT MID('information',3,2);</p> <p>Ans: i) LENGTH(instr('Republic Day',' ')); 1</p> <p>(ii) </p> <p>OR Briefly explain the purpose of the given function (ii) Upper() or UCASE() (iii) LEFT()</p> <p>Ans: i)UPPER()/UCASE() This function converts the characters of a string into the uppercase characters. Syntax UPPER(str/column_name) or UCASE(str/column_name) e.g. mysql> SELECT UPPER('mystring'); ii)This function returns a specified number of characters from the left of the string. This function returns NULL, if any argument is NULL. Syntax LEFT(string,length) e.g. mysql> SELECT LEFT('India',3);</p>	2
4.		<p>Briefly explain about Modem and Gateway.</p> <p>Ans: Modems are used for data transfer from one computer network to another computer network through telephone lines. The computer network works in digital mode, while analog technology is used for carrying messages across phone lines. The main purpose of Gateway is that in case if two systems do not share routing protocols, it takes a gateway to get them together. The purpose of Gateways is to translate all protocols on one network into the protocols on another <i>(1 mark for the correct explanation of each)</i></p>	2
5.		<p>Give the output of following commands a)SELECT ROUND(3234.343,1); b) SELECT ROUND(654.67152) +ROUND(152.4146,2) ;</p>	2

		<p>Ans:</p> <p>a)</p> <div><div>ROUND (3234.343,1)</div><div>3234.3</div></div> <p>b)</p> <div><div>ROUND(654.67152)+ ROUND(152.4146,2)</div><div>807.41</div></div>																																					
6.		<p>Differentiate between group by and order by clause in sql</p> <p>Ans:</p> <p>Order by is an SQL clause specified with a SELECT statement to return a result set with the rows being sorted according to a specific order, whereas Group by is an SQL clause specified with the SELECT statement to retrieve data, grouped according to one or more columns.</p> <p>(1 mark each for each correct differentiation mentioned above or any other relevant point of differentiation.)</p>	2																																				
7.		<p>Mr. Kunal, a HR Manager in a multinational company “Star-X world” has created the following table.</p> <p>Relation: INSURANCE</p> <table><tr><th>Company</th><th>Type</th><th>Years</th><th>Name</th><th>Coverage</th><th>Dt_of_Policy</th></tr><tr><td>CUF</td><td>Car</td><td>15</td><td>Care safe</td><td>80000</td><td>2008-08-09</td></tr><tr><td>LIT</td><td>Life</td><td>40</td><td>Insured Life policy</td><td>200000</td><td>2010-04-12</td></tr><tr><td>HC</td><td>House</td><td>25</td><td>House Secure policy</td><td>550000</td><td>2015-03-10</td></tr><tr><td>URFree</td><td>Life</td><td>35</td><td>Life Insurance</td><td>750000</td><td>2018-03-12</td></tr><tr><td>Care</td><td>Child</td><td>25</td><td>Future Child</td><td>500000</td><td>2020-12-12</td></tr></table> <p>Predict the output for the following queries.</p> <p>i) Select min (year (Dt_of_Policy)) from INSURANCE;</p> <p>ii) Select Company, Name from INSURANCE where month(Dt_of_Policy)=03;</p> <p style="text-align: center;">OR</p> <p>Based on the table given above, help Mr. Kunal writing queries for the following task:</p> <p>i) To display the name of oldest Company and its date of policy.</p> <p>ii) To display the name and date of policy of the August month.</p>	Company	Type	Years	Name	Coverage	Dt_of_Policy	CUF	Car	15	Care safe	80000	2008-08-09	LIT	Life	40	Insured Life policy	200000	2010-04-12	HC	House	25	House Secure policy	550000	2015-03-10	URFree	Life	35	Life Insurance	750000	2018-03-12	Care	Child	25	Future Child	500000	2020-12-12	2
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URFree	Life	35	Life Insurance	750000	2018-03-12																																		
Care	Child	25	Future Child	500000	2020-12-12																																		

Ans:

i)2008

ii)

Company	Name
HC	HC
URFree	URFree

OR

- i. SELECT NAME FROM INSURANCE WHERE
DT_OF_POLICY=(SELECT MIN(DT_OF_POLICY) FROM
INSURANCE);**
- ii. SELECT NAME,DT_OF_POLICY FROM INSURANCE WHERE
MONTH(ST_OF_POLICY)=8;**

(1 mark for each correct query)

SECTION – B

Each question carries 3 marks

8.

Consider a string “AS YOU know MORE”

Write the queries for the following tasks.

(i) Write a command to display “Know”.

(ii) Write a command to display number of characters in the string.

(iii)What will be the output of the following queries

Select pow(instr(‘informatics practices’,’atic’),2);

Ans:

i. Select substr(‘AS YOU know MORE’,8,4);

ii. Select length(‘AS YOU know MORE’);

iii. 49

OR

Table: CLUB

COACH_ID	COACH NAME	AGE	SPORTS	DATA OF APP	PAY	SEX
1	KUKREJA	35	KARATE	1996-03-27	1000	M
2	RAVINA	34	KARATE	1998-01-20	1200	F
3	KARAN	34	SQUASH	1998-02-19	2000	M
4	TARUN	33	BASKETBALL	1998-01-01	1500	M
5	ZUBIN	36	SWIMMING	1998-01-12	750	M
6	KETAKI	36	SWIMMING	1998-02-24	800	F
7	ANKITA	36	SQUASH	1998-02-20	2200	F
8	ZAREEN	37	KARATE	1998-02-22	1100	F
9	KUSH	41	SWIMMING	1998-01-13	900	M
10	SHAILYA	37	BASKETBALL	1998-02-19	1700	M

Give the output of the following SQL statements:

(i) select lcase(SPORTS) from CLUB;

3

		<p>(ii) select mod(age,5) from CLUB where SEX='F'; (iii) select pow(3,2) from CLUB where SPORTS='KARATE'; Ans:</p> <p>(i) lcase(SPORTS)</p> <table><tr><td>karate</td></tr><tr><td>karate</td></tr><tr><td>squash</td></tr><tr><td>basketball</td></tr><tr><td>swimming</td></tr><tr><td>swimming</td></tr><tr><td>squash</td></tr><tr><td>karate</td></tr><tr><td>swimming</td></tr><tr><td>basketball</td></tr></table> <p>mod(age,5)</p> <p>4 1 1 2</p> <p>iii)pow(3,2)</p> <p>9 9</p>	karate	karate	squash	basketball	swimming	swimming	squash	karate	swimming	basketball	
karate													
karate													
squash													
basketball													
swimming													
swimming													
squash													
karate													
swimming													
basketball													
9.		<p>Lehar is working using MySQL functions of MySQL. Explain her following:</p> <p>i. What is the purpose of dayname () function? ii. How it is different from dayofweek () function? iii. What is the general format of its return type?</p> <p>Ans:</p> <p>i. The DAYNAME function returns the name of the weekday (Sunday, Monday, Tuesday, etc.) given a date value. ii. The DAYOFWEEK function returns an integer, in the range of 1 to 7, that represents the day of the week, where 1 is Sunday and 7 is Saturday. iii. It will return text value.</p> <p><i>(1mark for each correct response)</i></p>	3										
10.		<p>Consider an EMP table(Empid, Firstname, lastname). Write the query for each of the following.</p> <p>i. Display LastName and Firstname from emp table who have "in" in the second or third position in their first names</p>	3										

		<p>Ans: Select Firstname, lastname from emp where instr(firstname,'in')=2 or instr(firstname,'in')=3; ii. Display the Firstname from emp table that are 5 chars long.</p> <p>Ans: Select firstname from emp where length(firstname)=5; iii. Display the 2 letters of firstname starting from third character.</p> <p>Ans: Select mid(firstname,3,2) from emp;</p>																																																									
		<p style="text-align: center;">SECTION – C Each question carries 4 marks</p>																																																									
11.		<p>Consider the following records in ‘Garment’ table and answer the given questions: Table: GARMENT</p> <table><tr><th>GCODE</th><th>GNAME</th><th>SIZE</th><th>COLOUR</th><th>PRICE</th></tr><tr><td>111</td><td>Tshirt</td><td>XL</td><td>Red</td><td>1400.00</td></tr><tr><td>112</td><td>Jeans</td><td>L</td><td>Blue</td><td>1600.00</td></tr><tr><td>113</td><td>Skirt</td><td>M</td><td>Black</td><td>1100.00</td></tr><tr><td>114</td><td>Jacket</td><td>XL</td><td>Blue</td><td>4000.00</td></tr><tr><td>115</td><td>Trousers</td><td>M</td><td>Brown</td><td>1500.00</td></tr><tr><td>116</td><td>LadiesTop</td><td>L</td><td>Red</td><td>1200.00</td></tr></table> <p>i)Display total price of all the garments color wise. SELECT SUM(PRICE) FROM GARMENT GROUP BY COLOUR; (½ mark for SELECT and ½ mark for GROUP BY part) ii)Display highest price size wise and colorwise. SELECT MAX(PRICE) FROM GARMENT GROUP BY SIZE, COLOR; (½ mark for SELECT and ½ mark for GROUP BY part) iii)Display color and average price of each color whose average price is more than 1400. SELECT COLOR, AVG(PRICE) FROM GARMENT GROUP BY COLOR HAVING AVG(PRICE) >1400; iv)Display Gname, Size and Price in decreasing order of Price. SELECT GNAME, SIZE, PRICE FROM GARMENT ORDER BY PRICE DESC; (½ mark for SELECT and ½ mark for ORDER BY part)</p>	GCODE	GNAME	SIZE	COLOUR	PRICE	111	Tshirt	XL	Red	1400.00	112	Jeans	L	Blue	1600.00	113	Skirt	M	Black	1100.00	114	Jacket	XL	Blue	4000.00	115	Trousers	M	Brown	1500.00	116	LadiesTop	L	Red	1200.00	4																					
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12.		<p>Kaashvi, a database analyst has created the following table:</p> <p>PERSONS</p> <table><tr><th>PID</th><th>SurName</th><th>FirstName</th><th>Gender</th><th>City</th><th>PinCode</th><th>BasicSalary</th></tr><tr><td>1</td><td>Sharma</td><td>Geeta</td><td>F</td><td>Udhamwara</td><td>182141</td><td>50000</td></tr><tr><td>2</td><td>Singh</td><td>Surinder</td><td>M</td><td>Kupwara Nagar</td><td>193222</td><td>75000</td></tr><tr><td>3</td><td>Jacob</td><td>Peter</td><td>M</td><td>Bhawani</td><td>185155</td><td>45000</td></tr><tr><td>4</td><td>Alvis</td><td>Thomas</td><td>M</td><td>Ahmed Nagar</td><td>380025</td><td>50000</td></tr><tr><td>5</td><td>Mohan</td><td>Garima</td><td>M</td><td>Nagar Coolangatta</td><td>390026</td><td>33000</td></tr><tr><td>6</td><td>Azmi</td><td>Simi</td><td>F</td><td>New Delhi</td><td>110021</td><td>40000</td></tr><tr><td>7</td><td>Kaur</td><td>Manpreet</td><td>F</td><td>Udhamwara</td><td>182141</td><td>42000</td></tr></table> <p>Write output for the following SQL statements. i)SELECT SurName FROM PERSONS WHERE BasicSalary>= 50000;</p>	PID	SurName	FirstName	Gender	City	PinCode	BasicSalary	1	Sharma	Geeta	F	Udhamwara	182141	50000	2	Singh	Surinder	M	Kupwara Nagar	193222	75000	3	Jacob	Peter	M	Bhawani	185155	45000	4	Alvis	Thomas	M	Ahmed Nagar	380025	50000	5	Mohan	Garima	M	Nagar Coolangatta	390026	33000	6	Azmi	Simi	F	New Delhi	110021	40000	7	Kaur	Manpreet	F	Udhamwara	182141	42000	4
PID	SurName	FirstName	Gender	City	PinCode	BasicSalary																																																					
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5	Mohan	Garima	M	Nagar Coolangatta	390026	33000																																																					
6	Azmi	Simi	F	New Delhi	110021	40000																																																					
7	Kaur	Manpreet	F	Udhamwara	182141	42000																																																					

ii) SELECT SUM (BasicSalary) FROM PERSONS WHERE Gender = „F“;
 iii) SELECT Gender, MIN (BasicSalary) FROM PERSONS GROUP BY Gender;
 iv) SELECT Gender, COUNT (*) FROM PERSONS GROUP BY Gender;

Ans:

i)

SurName
Sharma
Singh
Alvis

(1 Mark for each correct output)

ii)

SUM (BasicSalary)
132000

(1 Mark for each correct output)

iii)

Gender	MIN (BasicSalary)
F	40000
M	33000

1 Mark for each correct output

iv)

Gender	Count (*)
F	3
M	4

(1 Mark for each correct output)

OR

How is HAVING clause similar and different from WHERE clause? Explain with the help of examples of each.

Answer:

Similarity:

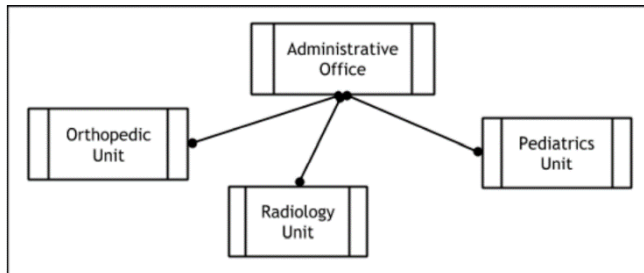
	<p>Having and Where both can be said to be as decision structures which are used in SQL to take an action to the data base or more specifically on any table of data base by matching a some sort of strings or values based on the values already present in the database.</p> <p>Difference: A WHERE clause is used is filter records from a result. The filter occurs before airy groupings are made. A HAVING clause is used to filter values from a group.</p> <p>SELECT Age, COUNT(Roll_No) AS No_of_Students FROM Student where Class=12 GROUP BY Age HAVING COUNT(Roll_No) > 1 <i>(1 mark for similarity,1 mark for difference,1 mark for example and 1 mark for explanation)</i></p>																					
13.	<p>Ayurveda Training Educational Institute is setting up its centre in Hyderabad with four specialised departments for Orthopedics, Neurology and Pediatrics along with an administrative office in separate buildings. The physical distances between these department buildings and the number of computers to be installed in these departments and administrative office as given as follows. You as a network expert have to answer the queries as raised by them in (i) to (v).</p> <p>Shortest distances between various locations in metres :</p> <table><tr><td>Administrative Office to Orthopedics Unit</td><td>55</td></tr><tr><td>Neurology Unit to Administrative Office</td><td>30</td></tr><tr><td>Orthopedics Unit to Neurology Unit</td><td>70</td></tr><tr><td>Pediatrics Unit to Neurology Unit</td><td>50</td></tr><tr><td>Pediatrics Unit to Administrative Office</td><td>40</td></tr><tr><td>Pediatrics Unit to Orthopedics Unit</td><td>110</td></tr></table> <p>Number of Computers installed at various locations are as follows :</p> <table><tr><td>Pediatrics Unit</td><td>40</td></tr><tr><td>Administrative Office</td><td>140</td></tr><tr><td>Neurology</td><td>50</td></tr><tr><td>Orthopedics Unit 80</td><td>80</td></tr></table> <div><div><div>Orthopedics Unit</div><div>Administrative Office</div><div>Neurology Unit</div><div>Pediatrics Unit</div></div></div> <p>i) Suggest a suitable layout for Networking the computer of all wings ii) Name the wing where the server is to be installed. Justify your answer.</p>	Administrative Office to Orthopedics Unit	55	Neurology Unit to Administrative Office	30	Orthopedics Unit to Neurology Unit	70	Pediatrics Unit to Neurology Unit	50	Pediatrics Unit to Administrative Office	40	Pediatrics Unit to Orthopedics Unit	110	Pediatrics Unit	40	Administrative Office	140	Neurology	50	Orthopedics Unit 80	80	4
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Orthopedics Unit 80	80																					

iii) Suggest the devices to be installed in each of these buildings for connecting computers installed within the building out of the following:

- Gateway
- Modem
- Switch

iv) Write the name of the type of network out of the following, which will be formed by connecting all the computer systems across the network .

Ans:



ii) Administrative Office

iii) Switch

iv) LAN