

Sample Question Paper-Term-II

Computer Science-083

Set-1 (Theory)

Class-XII

Total Marks- 35

Total Time- 2 Hours

General Instructions:

1. This question paper contains three sections – A, B and C. Each part is compulsory.
2. Section A, consists of 7 questions (1-7). Each question carries 2 marks.
3. Section B, consists of 3 questions (8-10). Each question carries 3 marks.
4. Section C, consists of 3 questions (11-13). Each question carries 4 marks.
5. Internal choices have been given for question numbers 7, 8 and 12.

Section-A

(Each question carries 2 marks from question no. 1 to 7)

Q. NO.	QUESTION	MARKS																																																																		
1	a) Enlist two operations performed on stacks. b) Why is stack called a LIFO data structure?	1 1																																																																		
2	Expand the following terms: a) IMAP b) MBPS c) WLL d) DHTML	2																																																																		
3	What do you understand by Degree and Cardinality of a table?	2																																																																		
4	Differentiate between fetchone() and fetchall() methods with suitable examples for each.	2																																																																		
5	<p>Consider the following dept and worker tables. Find outputs for sql queries (i) to (iv):</p> <p align="center">Table : DEPT</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>DCODE</th> <th>DEPARTMENT</th> <th>CITY</th> </tr> </thead> <tbody> <tr><td>D01</td><td>MEDIA</td><td>DELHI</td></tr> <tr><td>D02</td><td>MARKETING</td><td>DELHI</td></tr> <tr><td>D03</td><td>INFRASTRUCTURE</td><td>MUMBAI</td></tr> <tr><td>D05</td><td>FINANCE</td><td>KOLKATA</td></tr> <tr><td>D04</td><td>HUMAN RESOURCE</td><td>MUMBAI</td></tr> </tbody> </table> <p align="center">Table : WORKER</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>WNO</th> <th>NAME</th> <th>DOJ</th> <th>DOB</th> <th>GENDER</th> <th>DCODE</th> </tr> </thead> <tbody> <tr><td>1001</td><td>George K</td><td>2013-09-02</td><td>1991-09-01</td><td>MALE</td><td>D01</td></tr> <tr><td>1002</td><td>Ryma Sen</td><td>2012-12-11</td><td>1990-12-15</td><td>FEMALE</td><td>D03</td></tr> <tr><td>1003</td><td>Mohitsh</td><td>2013-02-03</td><td>1987-09-04</td><td>MALE</td><td>D05</td></tr> <tr><td>1007</td><td>Anil Jha</td><td>2014-01-17</td><td>1984-10-19</td><td>MALE</td><td>D04</td></tr> <tr><td>1004</td><td>Manila Sahal</td><td>2012-12-09</td><td>1986-11-14</td><td>FEMALE</td><td>D01</td></tr> <tr><td>1005</td><td>R SAHAY</td><td>2013-11-18</td><td>1987-03-31</td><td>MALE</td><td>D02</td></tr> <tr><td>1006</td><td>Jaya Priya</td><td>2014-06-09</td><td>1985-06-23</td><td>FEMALE</td><td>D05</td></tr> </tbody> </table> <p>i) select count(*), dcode from worker group by dcode having count(*)>1;</p>	DCODE	DEPARTMENT	CITY	D01	MEDIA	DELHI	D02	MARKETING	DELHI	D03	INFRASTRUCTURE	MUMBAI	D05	FINANCE	KOLKATA	D04	HUMAN RESOURCE	MUMBAI	WNO	NAME	DOJ	DOB	GENDER	DCODE	1001	George K	2013-09-02	1991-09-01	MALE	D01	1002	Ryma Sen	2012-12-11	1990-12-15	FEMALE	D03	1003	Mohitsh	2013-02-03	1987-09-04	MALE	D05	1007	Anil Jha	2014-01-17	1984-10-19	MALE	D04	1004	Manila Sahal	2012-12-09	1986-11-14	FEMALE	D01	1005	R SAHAY	2013-11-18	1987-03-31	MALE	D02	1006	Jaya Priya	2014-06-09	1985-06-23	FEMALE	D05	2
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	<p>ii) select distinct department from dept;</p> <p>iii) select name, department, city from worker w, dept d where w.dcode=d.dcode and wno<1003;</p> <p>iv) select max(doj), min(dob) from worker;</p>	
6	<p>a) What are constraints?</p> <p>b) What is wrong with the following statement? <i>Select * from employee where grade = NULL;</i> Write the corrected form of above SQL statement.</p>	<p>1</p> <p>1</p>
7	<p>Which subdivision of SQL is used to put values in tables and which one to create tables?</p> <p style="text-align: center;">OR</p> <p>Differentiate between Candidate Key and Alternate Key in context of RDMS.</p>	2
<p><u>Section-B</u></p> <p><u>(Each question carries 3 marks from question no. 8 to 10)</u></p>		
Q. NO.	QUESTION	MARKS
8	<p>Write a program to implement a stack for these book-details (book no, book name). That is, now each item node of the stack contains two types of information – a bookno and its name. Just implement Push and display operations.</p> <p style="text-align: center;">OR</p> <p>Write AddCustomer(Customer) and DeleteCustomer(Customer) methods in Python to add a new customer and delete a Customer from a List of Customer Names, considering them to act as push and pop operations of the stack data structure.</p>	3
9	<p>(a) Which functions can be used as the group functions?</p> <p>(b) What is the use of GROUP BY clause? How are they useful?</p>	<p>1</p> <p>2</p>
10	<p>A Multinational Company XYZ is considering to maintain the records of their employee using SQL to store the data. As a database administrator, Abhinay has decided that :</p> <ul style="list-style-type: none"> • Name of the database - db • Name of the table - EMPLOYEE 	

EMPLOYEE

EMPID	FIRSTNAME	LASTNAME	Hire Date	ADDRESS	CITY
1001	George	Smith	11-May-06	83 first street	Paris
1002	Mary	Jones	25-Feb-08	842 Vine Ave	Losantiville
1012	Sam	Tones	12-Sep-05	33 Elm St.	Paris
1015	Peter	Thompson	19-Dec-06	11 Red Road	Paris
1016	Sarath	Sharma	22-Aug-07	440 MG Road	New Delhi
1020	Monika	Gupta	07-Jun-08	9 Bandra	Mumbai

(a) Identify the attribute best suitable to be declared as a primary key as well as foreign key.

1

(b) Write the degree and cardinality of the table EMPLOYEE.

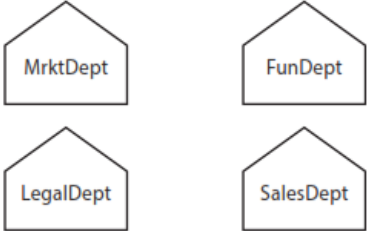
1

(c) Insert the following data into the attributes EMPID, FIRSTNAME, LASTNAME, Hire_Date ADDRESS and CITY respectively in the given table EMPLOYEE.
EMPID=1201, FIRSTNAME=Amit, LASTNAME=Singh, Hire_Date=01-Aug-2020
ADDRESS=222E South City and CITY= Kolkata.

1**Section-C**

(Each question carries 4 marks from question no. 11 to 13)

Q. NO.	QUESTION	MARKS																																																														
11	<p>Write SQL commands for the following queries (i) to (iv) based on the relations Shoppe and Accessories given below:</p> <p style="text-align: center;">TABLE : SHOPPE</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>ID</th> <th>SName</th> <th>Area</th> </tr> </thead> <tbody> <tr> <td>S001</td> <td>ABC Computronics</td> <td>CP</td> </tr> <tr> <td>S002</td> <td>All Infotech Media</td> <td>GK II</td> </tr> <tr> <td>S003</td> <td>Tech Shoppe</td> <td>CP</td> </tr> <tr> <td>S004</td> <td>Geeks Tecno Soft</td> <td>Nehru Place</td> </tr> <tr> <td>S005</td> <td>Hitech Tech Store</td> <td>Nehru Place</td> </tr> </tbody> </table> <p style="text-align: center;">TABLE : ACCESSORIES</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>No</th> <th>Name</th> <th>Price</th> <th>ID</th> </tr> </thead> <tbody> <tr> <td>A01</td> <td>Mother Board</td> <td>12000</td> <td>S01</td> </tr> <tr> <td>A02</td> <td>Hard Disk</td> <td>5000</td> <td>S01</td> </tr> <tr> <td>A03</td> <td>Keyboard</td> <td>500</td> <td>S02</td> </tr> <tr> <td>A04</td> <td>Mouse</td> <td>300</td> <td>S01</td> </tr> <tr> <td>A05</td> <td>Mother Board</td> <td>13000</td> <td>S02</td> </tr> <tr> <td>A06</td> <td>Keyboard</td> <td>400</td> <td>S03</td> </tr> <tr> <td>A07</td> <td>LCD</td> <td>6000</td> <td>S04</td> </tr> <tr> <td>T08</td> <td>LCD</td> <td>5500</td> <td>S05</td> </tr> <tr> <td>T09</td> <td>Mouse</td> <td>350</td> <td>S05</td> </tr> <tr> <td>T10</td> <td>Hard Disk</td> <td>4500</td> <td>S03</td> </tr> </tbody> </table> <p>(i) to display name and price of all the accessories in ascending order of their price. (ii) to display id and sname of all shoppe located in nehru place. (iii) to display minimum and maximum price of each name of accessories.</p>	ID	SName	Area	S001	ABC Computronics	CP	S002	All Infotech Media	GK II	S003	Tech Shoppe	CP	S004	Geeks Tecno Soft	Nehru Place	S005	Hitech Tech Store	Nehru Place	No	Name	Price	ID	A01	Mother Board	12000	S01	A02	Hard Disk	5000	S01	A03	Keyboard	500	S02	A04	Mouse	300	S01	A05	Mother Board	13000	S02	A06	Keyboard	400	S03	A07	LCD	6000	S04	T08	LCD	5500	S05	T09	Mouse	350	S05	T10	Hard Disk	4500	S03	4
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	(iv) to display name, price of all accessories and their respective sname where they are available.																					
12	<p>(a) What do you mean by web browser and web server? Explain with examples.</p> <p>(b) What are the facilities provided by the SERVER in a network environment?</p> <p style="text-align: center;">OR</p> <p>(c) When would you opt for a router in a network?</p> <p>(d) When would you prefer (i) hubs over repeaters (ii) bridges over hubs?</p>	<p>2</p> <p>2</p>																				
13	<p>SunRise Pvt. Ltd. is setting up the network in Ahmedabad. There are four departments—MrktDept, FunDept, LegalDept, SalesDept.</p> <div style="text-align: center;">  </div> <p>Distance between various buildings is as under:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>MrktDept to FunDept</td><td>80 m</td></tr> <tr><td>MrktDept to LegalDept</td><td>180 m</td></tr> <tr><td>MrktDept to SalesDept</td><td>100 m</td></tr> <tr><td>LegalDept to SalesDept</td><td>150 m</td></tr> <tr><td>LegalDept to FunDept</td><td>100 m</td></tr> <tr><td>FunDept to SalesDept</td><td>50 m</td></tr> </table> <p>Number of computers in the buildings:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>MrktDept</td><td>20</td></tr> <tr><td>LegalDept</td><td>10</td></tr> <tr><td>FunDept</td><td>08</td></tr> <tr><td>SalesDept</td><td>42</td></tr> </table> <p>(i) Suggest the network type between the Departments and specify topology.</p> <p>(ii) Suggest the most suitable building to place the server with a suitable reason.</p> <p>(iii) Suggest the placement of (i) modem, (ii) Hub/Switch in the network.</p> <p>(iv) The organization is planning to link its sale counters situated in various parts of the same city. Which type of network out of LAN, WAN, MAN will be formed? Justify.</p>	MrktDept to FunDept	80 m	MrktDept to LegalDept	180 m	MrktDept to SalesDept	100 m	LegalDept to SalesDept	150 m	LegalDept to FunDept	100 m	FunDept to SalesDept	50 m	MrktDept	20	LegalDept	10	FunDept	08	SalesDept	42	4
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