

Sample Question Paper-Term-II
Computer Science-083
 Set-2 (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.

<u>Section-A</u>																																																																										
<u>(Each question carries 2 marks from question no. 1 to 7)</u>																																																																										
Q. NO.	QUESTION	MARKS																																																																								
1	What is stack? What basic operations can be performed on them?	2																																																																								
2	Expand the following terms: OSI, SMS, URL, ARPANET	2																																																																								
3	Account on the following situations: a) Deepika wants to remove all rows from the table BANK. But he needs to maintain the structure of the table. Which command is used to implement the same? b) While creating table 'customer', Rahul forgot to add column 'price'. Which command is used to add new column in the table? Write the command to implement the same.	2																																																																								
4	Differentiate between fetchmany() and fetchall() methods with suitable examples for each.	2																																																																								
5	Consider the tables STAFF and SALARY given below: - <div style="text-align: center; margin: 10px 0;"> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="5">STAFF</th> </tr> <tr> <th>StaffID</th> <th>Name</th> <th>Department</th> <th>Gender</th> <th>Experience</th> </tr> </thead> <tbody> <tr> <td>1125</td> <td>Nihara</td> <td>Sales</td> <td>F</td> <td>12</td> </tr> <tr> <td>1263</td> <td>Kartik</td> <td>Finance</td> <td>M</td> <td>6</td> </tr> <tr> <td>1452</td> <td>Payal</td> <td>Research</td> <td>F</td> <td>3</td> </tr> <tr> <td>236</td> <td>Aryan</td> <td>Sales</td> <td>M</td> <td>8</td> </tr> <tr> <td>366</td> <td>Laxman</td> <td>Finance</td> <td>M</td> <td>10</td> </tr> <tr> <td>321</td> <td>Krishna</td> <td>Sales</td> <td>M</td> <td>7</td> </tr> </tbody> </table> </div> <div style="text-align: center; margin: 10px 0;"> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="4">SALARY</th> </tr> <tr> <th>StaffID</th> <th>Basic</th> <th>Allowance</th> <th>Comm</th> </tr> </thead> <tbody> <tr> <td>1452</td> <td>12000</td> <td>1000</td> <td>200</td> </tr> <tr> <td>321</td> <td>23000</td> <td>2300</td> <td>900</td> </tr> <tr> <td>1125</td> <td>32000</td> <td>4000</td> <td>100</td> </tr> <tr> <td>236</td> <td>12000</td> <td>52000</td> <td>800</td> </tr> <tr> <td>336</td> <td>42000</td> <td>1700</td> <td>700</td> </tr> <tr> <td>1263</td> <td>18900</td> <td>1690</td> <td>150</td> </tr> </tbody> </table> </div> Give Output of the following: a) SELECT NAME FROM STAFF ST, SALARY SA WHERE COMM <=700 AND ST.STAFFID = SA.STAFFID;	STAFF					StaffID	Name	Department	Gender	Experience	1125	Nihara	Sales	F	12	1263	Kartik	Finance	M	6	1452	Payal	Research	F	3	236	Aryan	Sales	M	8	366	Laxman	Finance	M	10	321	Krishna	Sales	M	7	SALARY				StaffID	Basic	Allowance	Comm	1452	12000	1000	200	321	23000	2300	900	1125	32000	4000	100	236	12000	52000	800	336	42000	1700	700	1263	18900	1690	150	2
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	<p>b) SELECT NAME, BASIC FROM STAFF, SALARY WHERE DEPT="SALES" AND STAFF.STAFFID= SALARY.STAFFID;</p> <p>c) SELECT COUNT(DEPARTMENT),DEPARTMENT FROM STAFF GROUP BY DEPARTMENT;</p> <p>d) INSERT INTO SALARY VALUE(1111, 23000, 1000, 400);</p>	
6	<p>a) SELECT _____ FROM instructor WHERE dept name= 'Comp. Sci.';</p> <p>Fill the proper aggregate function that should be used to find the mean of the salary? What is wrong with the following statement? <i>Select * from employee where grade = NULL;</i></p> <p>b) What is natural join?</p>	<p>1</p> <p>1</p>
7	<p>a) How many primary keys and unique keys can be there in a table?</p> <p>b) What is the count of tuples in a relation known as?</p> <p style="text-align: center;">OR</p> <p>c) What is the count of attributes in a table known as?</p> <p>d) Give some example integrity constraints.</p>	<p>1</p> <p>1</p>

Section-B

(Each question carries 3 marks from question no. 8 to 10)

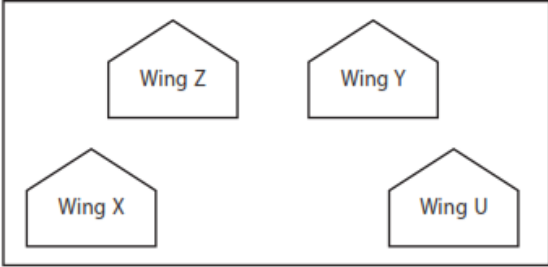
Q. NO.	QUESTION	MARKS
8	<p>Write PUSH(book_name) and POP(book_name) methods in python to add book name and remove book name considering them to act as PUSH and POP operations in Stack.</p> <p style="text-align: center;">OR</p> <p>Astha wants to create a program that accepts a string and display the character in the reverse order in the same line using stack. She has created the following code, help her by completing the definitions on the basis of requirements given below:</p> <pre> class mystack: def init (self): self.mystr= # Accept a string self.mylist = # Convert mystr to a list # Write code to display while removing element from the stack. def display(self): : : </pre>	<p>3</p>
9	<p>(a) Write down the command to extract some data from the table Members present in the database 'Society' using Python and MYSQL interface.</p>	<p>2</p>

	(b) What is the use of GROUP BY clause? How are they useful?	1																									
10	Observe the table 'Club' given below:																										
	<table border="1"> <thead> <tr> <th>Member_id</th> <th>Member_Name</th> <th>Address</th> <th>Age</th> <th>Fee</th> </tr> </thead> <tbody> <tr> <td>M001</td> <td>Sumit</td> <td>New Delhi</td> <td>20</td> <td>2000</td> </tr> <tr> <td>M002</td> <td>Amit</td> <td>Punjab</td> <td>23</td> <td>2100</td> </tr> <tr> <td>M003</td> <td>Sachin</td> <td>Mumbai</td> <td>23</td> <td>2000</td> </tr> <tr> <td>M004</td> <td>Ayushi</td> <td>Faridabad</td> <td>22</td> <td>2200</td> </tr> </tbody> </table>	Member_id	Member_Name	Address	Age	Fee	M001	Sumit	New Delhi	20	2000	M002	Amit	Punjab	23	2100	M003	Sachin	Mumbai	23	2000	M004	Ayushi	Faridabad	22	2200	
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(a) Identify the attribute best suitable to be declared as a primary key as well as foreign key.	1																										
(b) What is the cardinality and degree of the above given table?	1																										
(c) If a new column contact_no has been added and three more members have joined the club then how these changes will affect the degree and cardinality of the above given table.	1																										

Section-C

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

Q. NO.	QUESTION	MARKS																																																																					
11	<p>Consider the following tables TRANSPORT and TRIP:</p> <p style="text-align: center;">TABLE: TRANSPORT</p> <table border="1"> <thead> <tr> <th>TCODE</th> <th>TTYPE</th> <th>PERKM</th> </tr> </thead> <tbody> <tr> <td>103</td> <td>ORDINARY BUS</td> <td>90</td> </tr> <tr> <td>105</td> <td>SUV</td> <td>40</td> </tr> <tr> <td>104</td> <td>CAR</td> <td>20</td> </tr> <tr> <td>103</td> <td>ORDINARY BUS</td> <td>90</td> </tr> <tr> <td>101</td> <td>VOLVO BUS</td> <td>160</td> </tr> <tr> <td>102</td> <td>AC DELUXE BUS</td> <td>140</td> </tr> </tbody> </table> <p>Note:</p> <ul style="list-style-type: none"> • PERKS is Freight Charges per kilometre • TTYPE is Transport Vehicle Type <p style="text-align: center;">TABLE: TRIP</p> <table border="1"> <thead> <tr> <th>NO</th> <th>NAME</th> <th>TDATE</th> <th>KM</th> <th>TCODE</th> <th>NOP</th> </tr> </thead> <tbody> <tr> <td>11</td> <td>Tanish Khan</td> <td>2015-12-13</td> <td>200</td> <td>101</td> <td>32</td> </tr> <tr> <td>13</td> <td>Danish Sahai</td> <td>2016-06-21</td> <td>100</td> <td>103</td> <td>45</td> </tr> <tr> <td>15</td> <td>Ram Kumar</td> <td>2016-02-23</td> <td>350</td> <td>102</td> <td>42</td> </tr> <tr> <td>12</td> <td>Fen Shen</td> <td>2016-01-13</td> <td>90</td> <td>102</td> <td>40</td> </tr> <tr> <td>17</td> <td>Aan Kumar</td> <td>2015-02-10</td> <td>75</td> <td>104</td> <td>2</td> </tr> <tr> <td>14</td> <td>Veena</td> <td>2016-06-28</td> <td>80</td> <td>105</td> <td>4</td> </tr> <tr> <td>16</td> <td>Rajpal Kirti</td> <td>2016-06-06</td> <td>200</td> <td>101</td> <td>25</td> </tr> </tbody> </table> <p>Note:</p> <ul style="list-style-type: none"> • NO is Driver Number • KM is Kilometre travelled 	TCODE	TTYPE	PERKM	103	ORDINARY BUS	90	105	SUV	40	104	CAR	20	103	ORDINARY BUS	90	101	VOLVO BUS	160	102	AC DELUXE BUS	140	NO	NAME	TDATE	KM	TCODE	NOP	11	Tanish Khan	2015-12-13	200	101	32	13	Danish Sahai	2016-06-21	100	103	45	15	Ram Kumar	2016-02-23	350	102	42	12	Fen Shen	2016-01-13	90	102	40	17	Aan Kumar	2015-02-10	75	104	2	14	Veena	2016-06-28	80	105	4	16	Rajpal Kirti	2016-06-06	200	101	25	4
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	<ul style="list-style-type: none"> • NOP is number of travellers travelled in vehicle • TDATE is Trip Date <p>Write down the SQL commands for the following:</p> <p>a) To display NO, NAME, TDATE from the table TRIP in descending order of NO.</p> <p>b) To display the NAME of the drivers from the table TRIP who are traveling by transport vehicle with code 101 or 103.</p> <p>c) To display the NO and NAME of those drivers from the table TRIP who travelled between '2015-02-10' and '2015-04-01'.</p> <p>d) To display all the details from table TRIP in which the distance travelled is more than 100 KM in ascending order of NOP</p>																					
<p>12</p>	<p>a) Name the network tools used in the given situations:</p> <ol style="list-style-type: none"> To troubleshoot internet connection problems To see the IP address associated with a domain name To look up registration record associated with a domain name. To test the speed of internet connection <p>b) What do you mean by IP address? How is it useful in Computer Security?</p> <p style="text-align: center;">OR</p> <p>c) What are bridges? How do they differ from repeaters?</p> <p>d) What is a communication channel? What choices do you have while choosing a communication channel for a network?</p>	<p>2</p> <p>2</p>																				
<p>13</p>	<p>ABC Pvt Ltd has set up its new Branch at Jammu for its office and web-based activities. It has 4 Wings of buildings as shown in the diagram:</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Center to center distance between various blocks:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Wing X to Wing Z</td> <td>50 m</td> </tr> <tr> <td>Wing Z to Wing Y</td> <td>70 m</td> </tr> <tr> <td>Wing & to Wing X</td> <td>125 m</td> </tr> <tr> <td>Wing & to Wing U</td> <td>80 m</td> </tr> <tr> <td>Wing X to Wing U</td> <td>175 m</td> </tr> <tr> <td>Wing Z to Wing U</td> <td>90 m</td> </tr> </table> <p style="text-align: center;">Number of computers:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Wing X</td> <td>50</td> </tr> <tr> <td>Wing Z</td> <td>30</td> </tr> <tr> <td>Wing Y</td> <td>150</td> </tr> <tr> <td>Wing U</td> <td>15</td> </tr> </table>	Wing X to Wing Z	50 m	Wing Z to Wing Y	70 m	Wing & to Wing X	125 m	Wing & to Wing U	80 m	Wing X to Wing U	175 m	Wing Z to Wing U	90 m	Wing X	50	Wing Z	30	Wing Y	150	Wing U	15	<p>4</p>
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<p>(i) Suggest the most suitable connection between the Wings and topology.</p> <p>(ii) Suggest the most suitable place (<i>i.e.</i>, Wing) to house the server of this organization with a suitable reason, with justification.</p> <p>(iii) Suggest the placement of the following devices with justification:</p> <ul style="list-style-type: none">(a) Repeater(b) Hub/Switch <p>(iv) The organization is planning to link its head office situated in Delhi with the offices at Jammu. Suggest an economic way to connect it; the company is ready to compromise on the speed of connectivity. Justify your answer.</p>	
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AMIT SINGH // PGT CS // MGM HSS B/R