

**INFORMATICS PRACTICES (065)****ANNUAL EXAMINATION**

Session: 2023-24

Class: XI

Time: 3 HOURS

M.M.: 70

**General Instructions:**

- Please check this question paper contains 35 questions.
- The paper is divided into 4 Sections- A, B, C, D and E.
- Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.
- Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.
- Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.
- Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.
- Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.
- All programming questions are to be answered using Python Language only.

SECTION A		
1	_____ is the process of retrieving deleted, corrupted and lost data from the secondary storage devices.	1
2	Arrange TB, KB, GB, MB in descending order of the memory units. (i) TB>MB>GB>KB (ii) MB>GB>TB>KB (iii) TB>GB>MB>KB (iv) GB>MB>KB>TB	1
3	Which smaller unit of the CPU directs and coordinates all activities within it and determines the sequence in which instructions are executed. Also, sends instruction sequence to other smaller units. (i) CU (ii) ALU (iii) Processor (iv) Input Unit	1
4	Identify the type of software in the situation given below: "Ms. Reeta wants to computerize or automate the library, she requires a set of programs on a computer to handle the system of the library and serve the purpose of issuing book, returning a book, adding a new book, etc. " (i) Application Software (ii) System Software (iii) Generic Software (iv) Specific Purpose Software	1
5	Identify the correct data type of x, if x= False: (i) Dictionary (ii) String (iii) Boolean (iv) List	1
6	Choose the correct option:  2nd_digit = 14  Statement 1: Above statement is correct Statement 2: An identifier cannot have any special characters other than the underscore (_), digits, uppercase, or lowercase characters. And, it should start with an alphabet or an underscore.	1

	<p>(i) Only statement 1 is true  (ii) Only statement 2 is true  (iii) Both statement 1 and 2 are true, but statement 2 is not the correct explanation of statement 1.  (iv) Both statement 1 and 2 are true, but statement 2 is the correct explanation of statement 1.</p>	
7	<p>Which of the following statement will create the list:  (i) list1 = list()  (ii) list1=[]  (iii) list1=list([1,2,3])  (iv) All of the mentioned</p>	1
8	<p>Which of the following is a correct SQL query syntax to delete all rows in a table along with the table structure?  (i) Delete from table_name;  (ii) Delete table table_name;  (iii) Drop table table_name;  (iv) Delete * from table_name;</p>	1
9	<p>The value 'DAV' is assigned to an attribute A of type varchar(20). The value 'School' is assigned to the attribute B of datatypechar(20). So, the attribute A has _____ spaces and attribute B has _____ spaces reserved in the memory.  (i) 3,20  (ii) 20,3  (iii) 3, 6  (iv) 20,6</p>	1
10	<p>State True or False:  The IS NULL operator returns true if a NOT NULL value is found, otherwise, it returns false.</p>	1
11	<p>Identify the category of MySql for the following commands:  Insert, Update, Delete</p> <p>(i) DDL                      (ii) DML                      (iii) DQL                      (iv) TCL</p>	1
12	<p>In a table Student, following are the attributes of the table:  (Stu_Id, Stu_Name, Stu_Marks)</p> <p>Where, Stu_Id is the primary key of the table.  How many rows will be deleted from the table Student, when the following command is executed?</p> <p style="text-align: center;">Delete from Student where Stu_id=108;</p> <p>(i) 1 row  (ii) All the rows where Stu_Id is equal to 109  (iii) No rows  (iv) 2 rows</p>	1
13	<p>Which of the following are the synonyms for Column and Row of a table?  1.Row = [Tuple, Record]  2.Column = [Field, Attribute]  3. Row = [Tuple, Attribute]  4. Column = [Field, Record]</p> <p>(i) 1 and 2                      (ii) 3 and 4                      (iii) Only 1                      (iv) Only 2</p>	1

14	<p>Observe the following table:</p> <p><b>Table: Product</b></p> <table border="1" data-bbox="316 247 1201 510"> <thead> <tr> <th>Pno</th> <th>Name</th> <th>Qty</th> <th>PurchaseDate</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Pen</td> <td>102</td> <td>12-12-2011</td> </tr> <tr> <td>102</td> <td>Pencil</td> <td>201</td> <td>21-02-2013</td> </tr> <tr> <td>103</td> <td>Eraser</td> <td>90</td> <td>09-08-2010</td> </tr> <tr> <td>109</td> <td>Sharpener</td> <td>90</td> <td>31-08-2012</td> </tr> <tr> <td>113</td> <td>Clips</td> <td>900</td> <td>12-12-2011</td> </tr> </tbody> </table> <p>What is the degree and cardinality of the above table?</p>	Pno	Name	Qty	PurchaseDate	101	Pen	102	12-12-2011	102	Pencil	201	21-02-2013	103	Eraser	90	09-08-2010	109	Sharpener	90	31-08-2012	113	Clips	900	12-12-2011	1
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15	<p>An organization interested in cloud computing is searching for a provider who provides a set of fundamental services, such as creating virtual servers and on-demand storage, that can be bundled into a platform for deploying and running customized applications. Which cloud computing model best meets these requirements?</p> <p>(i) Platform as a service  (ii) Software as a service  (iii) Infrastructure as a service  (iv) Cloud as a service</p>	1																								
16	<p>_____ is a subset of AI that enables the computers to self-learn from the information and experiences gathered from their environment and apply that learning without human intervention.</p> <p>(i) Augmented Reality  (ii) NLP  (iii) Machine Learning  (iv) Cloud Computing</p>	1																								
<p><b>Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as :</b></p> <p>i) Both A and R are true and R is the correct explanation for A  ii) Both A and R are true and R is not the correct explanation for A  iii) A is true but R is False  iv) A is false but R is true</p>																										
17	<p><b>Assertion:</b>Keys are unique in dictionary.  <b>Reasoning:</b> Dictionary entries or values can be accessed by their keys. You cannot have two entries with the same key.</p>	1																								
18	<p><b>Assertion:</b> Candidate keys that are not primary key are alternate keys.  <b>Reasoning:</b> A table can have many primary keys, but you can only use one of them as the candidate key. As a result, all the other keys that not become the primary key are referred to as the alternate keys.</p>	1																								
<p><b>SECTION B</b></p>																										
19	<p>a) Name one external storage device.  b) "Many a times we discard our old, broken or malfunctioning storage devices without taking care to delete data."  Suggest any one method to remove the data so that it cannot be recovered from the storage device.</p> <p style="text-align: center;"><b>OR</b></p> <p>Identify the odd one out:  a) Vacuum tubes, Transistor, Capacitors, Integrated Circuits  b) Nibble, KB, HB, MB, GB</p>	2																								

20	<p>Predict the output of the following code:</p> <pre>x=99 y=88 z=90 print( x&gt;y, y!=z) x=z%y z=x**2 print(x,z)</pre>	2																				
21	<p>Find errors in the following code fragment.(Rewrite the program underlining the corrections)</p> <pre>m,n=85;range(100) if m in n :     print("Equal) print("May be") else:     print("Not Equal"):</pre>	2																				
22	<p>Consider a list: l=[10, 5, 5, 10] Write the command which will produce the following output:</p> <p>a) [5,5] b) 30</p> <p style="text-align: center;"><b>OR</b></p> <p>Consider the following code fragment and answer the following:</p> <pre>if x&lt;5:     y=1 elif x==5:     y=2 else:     y=3</pre> <p>a) For what value of the variable <b>x</b> should the variable <b>y</b> comes out to be 2? b) Consider the initial value of the variable <b>x</b> as6, than what should be the value of the variable <b>y</b>?</p>	2																				
23	<p>Rewrite the following queries underlining the corrections made:</p> <p>a) Alter table empdelete column gender; b) Select name from table student where name="%an%";</p> <p style="text-align: center;"><b>OR</b></p> <p>a) Arrange the following terms in the order of their creation at the time of storing data in RDBMS : Data, Database, RDBMS, Table b) Give one example of open source RDBMS.</p>	2																				
24	<p>Ms. Riya has created the following table Employee in MySQL:</p> <p><b>Table: Employee</b></p> <table border="1" data-bbox="521 1724 1104 1894"> <thead> <tr> <th>Emp_Id</th> <th>Emp_Name</th> <th>Emp_Dept</th> <th>Emp_Salary</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Harish</td> <td>Sales</td> <td>50000</td> </tr> <tr> <td>102</td> <td>Sarita</td> <td>Manager</td> <td>80000</td> </tr> <tr> <td>103</td> <td>Pushpa</td> <td>Sales</td> <td>60000</td> </tr> <tr> <td>104</td> <td>Anuj</td> <td>Engineer</td> <td>70000</td> </tr> </tbody> </table>	Emp_Id	Emp_Name	Emp_Dept	Emp_Salary	101	Harish	Sales	50000	102	Sarita	Manager	80000	103	Pushpa	Sales	60000	104	Anuj	Engineer	70000	2
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28	<p>Consider the following table Trees:</p> <table border="1" data-bbox="630 247 951 457"> <thead> <tr> <th>State_Id</th> <th>No_Of_Trees</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>2000</td> </tr> <tr> <td>102</td> <td>4000</td> </tr> <tr> <td>103</td> <td>3000</td> </tr> <tr> <td>104</td> <td>1000</td> </tr> <tr> <td>105</td> <td>5000</td> </tr> </tbody> </table> <p>Select No_Of_Trees*5 from Trees where No_Of_Trees between 3000 and 5000;</p> <p>a) Give the output of the above command.  b) Write the alternate query which will give the same output.  c) Modify the above SQL statement that will actually change the values in the attribute <b>No_Of_Trees</b>.</p> <p style="text-align: center;"><b>OR</b></p> <p>a) Consider the attributes (Aadhar_No, Mobile_No) with the following data:</p> <table border="1" data-bbox="488 758 1135 898"> <thead> <tr> <th>Aadhar_No</th> <th>Mobile_No</th> </tr> </thead> <tbody> <tr> <td>708056544968</td> <td>9891234567</td> </tr> <tr> <td>656344495521</td> <td>NULL</td> </tr> <tr> <td>476998816340</td> <td>9911123400</td> </tr> </tbody> </table> <p>Suggest an attribute that should serve as the primary key as per the data given above in both the attributes. Justify your answer.  b)When a column's value is skipped in an Insert command, which value is inserted in that column of the table?</p>	State_Id	No_Of_Trees	101	2000	102	4000	103	3000	104	1000	105	5000	Aadhar_No	Mobile_No	708056544968	9891234567	656344495521	NULL	476998816340	9911123400	3
State_Id	No_Of_Trees																					
101	2000																					
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476998816340	9911123400																					
29	<p>Rohan has created a database named "Housing_Societies" in MySQL. He has also made a table for each housing society present in his state. Answer the following questions:</p> <p>a) Write a command to display all tables present in the database.  b) Write SQL query to create a new table by the name "Green_Society" containing fields OwnerId, OwnerName, HouseNo, MaintenanceCharges, DateOfPurchase. Choose appropriate datatypes for the same.</p>	3																				
30	<p>Identify the Field of the Term/Application in the table given below:  Choose from: AI, ML, NLP, IOT, Cloud Computing, Blockchain.</p> <table border="1" data-bbox="475 1335 1149 1509"> <thead> <tr> <th>Term/Application</th> <th>Field</th> </tr> </thead> <tbody> <tr> <td>Chatbot</td> <td>a)</td> </tr> <tr> <td>Refrigerator automatically connected to Internet</td> <td>b)</td> </tr> <tr> <td>Paying through crypto currency</td> <td>c)</td> </tr> </tbody> </table>	Term/Application	Field	Chatbot	a)	Refrigerator automatically connected to Internet	b)	Paying through crypto currency	c)	3												
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<b>SECTION D</b>																						
31	<p>a) Match the following:</p> <table border="1" data-bbox="313 1667 1200 1877"> <tbody> <tr> <td>a) Compiler</td> <td>i) Output Device</td> </tr> <tr> <td>b) MS Office</td> <td>ii) Input Device</td> </tr> <tr> <td>c) Microphone</td> <td>iii) Application Software</td> </tr> <tr> <td>d) Plotter</td> <td>iv) System Software</td> </tr> </tbody> </table>	a) Compiler	i) Output Device	b) MS Office	ii) Input Device	c) Microphone	iii) Application Software	d) Plotter	iv) System Software	2												
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2

	b) Give any two differences between Primary and Secondary memory.	
32	<p>a) What would be the output of the following code:</p> <pre>days={1:'Mon', 2:'Tue', 3:'Wed',4:'Thurs', 5:'Fri'} print('Tue' in days) print(10+ len(days))</pre> <p>b) Ms. Anaya has been given a task to analyze the class result. She has given data in the form of dictionary where keys are roll numbers and values are its corresponding grades. Consider the items of dictionary Grade as given below:  Grade={1: 'A', 2: 'B', 3: 'A', 4: 'A', 5: 'C', 6:'D'}  Help her to count the number of students who have scored 'A' grade.</p>	<p>2</p> <p>2</p>

**SECTION E**

33	<p>Consider the table 'Voter' given below and write suitable SQL queries for the following:</p> <p align="center"><b>Table: Voter</b></p> <table border="1"> <thead> <tr> <th>Voter_Id</th> <th>Name_Of_Voter</th> <th>DOB</th> <th>City</th> <th>Income</th> </tr> </thead> <tbody> <tr> <td>V2383</td> <td>Amit Trehan</td> <td>1975-15-03</td> <td>New Delhi</td> <td>20000</td> </tr> <tr> <td>V1527</td> <td>Gurbani Sharma</td> <td>2003-08-07</td> <td>Faridabad</td> <td>30000</td> </tr> <tr> <td>V3780</td> <td>Aman</td> <td>1976-01-19</td> <td>Gurgaon</td> <td>40000</td> </tr> <tr> <td>V4447</td> <td>Karan Yadav</td> <td>1975-02-22</td> <td>Old Delhi</td> <td>60000</td> </tr> </tbody> </table> <p>a) Display the Voter_Id and Name_Of_Voter from the table Voter.  b) Add a column Aadhar in the table Voter.  c) Display the details of all the voters who lives in Delhi.  d) Change the name of the Voter having Voter ID 'V3780' to Aman Gupta.  e) Display DOB of all the voters whose income is less than 30000;</p>	Voter_Id	Name_Of_Voter	DOB	City	Income	V2383	Amit Trehan	1975-15-03	New Delhi	20000	V1527	Gurbani Sharma	2003-08-07	Faridabad	30000	V3780	Aman	1976-01-19	Gurgaon	40000	V4447	Karan Yadav	1975-02-22	Old Delhi	60000	5
Voter_Id	Name_Of_Voter	DOB	City	Income																							
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V4447	Karan Yadav	1975-02-22	Old Delhi	60000																							

34	<p>Consider a table 'G20_Schedule' given below:</p> <table border="1"> <thead> <tr> <th>Start_Date</th> <th>End_Date</th> <th>Meeting_On</th> <th>Venue</th> <th>Days</th> </tr> </thead> <tbody> <tr> <td>2023-08-09</td> <td>2023-08-12</td> <td>Environment &amp; Climate Sustainability</td> <td>Chennai</td> <td>4</td> </tr> <tr> <td>2023-08-09</td> <td>2023-08-11</td> <td>Anti Corruption</td> <td>Kolkata</td> <td>3</td> </tr> <tr> <td>2023-08-10</td> <td>NULL</td> <td>Women Empowerment</td> <td>Gandhinagar</td> <td>1</td> </tr> <tr> <td>2023-08-16</td> <td>2023-08-17</td> <td>Joint Health Finance</td> <td>Gandhinagar</td> <td>2</td> </tr> <tr> <td>2023-08-17</td> <td>NULL</td> <td>Fourth Digital Economy</td> <td>Bengaluru</td> <td>1</td> </tr> </tbody> </table> <p>Write the output of the following SQL commands:</p> <p>a) Select Start_Date from G20_Schedule where End_Date is Null;  b) Select Days from G20_Schedule where Venue in ('Bengaluru', 'Chennai');  c) Select Meeting_On from G20_Schedule where Days between 2 and 3;  d) Select distinct Venue from G20_Schedule;  e) Select End_Date from G20_Schedule where Start_Date &gt; '2023-08-10';</p> <p align="center"><b>OR</b></p> <p>a) Consider the table Marks containing data of 50 students and answer the following question:  Table: Marks  Fields: (Roll_No, Name, Class, Percentage)</p>	Start_Date	End_Date	Meeting_On	Venue	Days	2023-08-09	2023-08-12	Environment & Climate Sustainability	Chennai	4	2023-08-09	2023-08-11	Anti Corruption	Kolkata	3	2023-08-10	NULL	Women Empowerment	Gandhinagar	1	2023-08-16	2023-08-17	Joint Health Finance	Gandhinagar	2	2023-08-17	NULL	Fourth Digital Economy	Bengaluru	1	5
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	<p>i) Identify the data type of the attribute Percentage.  ii) Write SQL command to insert a row in a table with suitable data.  iii) Remove the column Percentage from the above table.  iv) Identify the suitable domain of the attribute Roll_No.</p> <p>b) Find and correct the error(s) in the following query:  Delete * from Table Marks;</p>	
35	<p>Consider the following dictionary:</p> <pre>d={"lion": "wild", "tiger": "wild", "cat": "domestic", "dog": "domestic"}</pre> <p>Write the python statements to perform the following operations:</p> <ol style="list-style-type: none"> <li>Delete key_value pair for the key "tiger" in the dictionary</li> <li>Display the length of the dictionary</li> <li>Change the value of the key 'cat' to 'Pet animal'</li> <li>Display all the keys present in the dictionary</li> <li>Add a new item 'Goat': 'Farm Animal'</li> </ol> <p style="text-align: center;"><b>OR</b></p> <p>Consider the following list:</p> <pre>Satellites=['Aryabhata', 'Apple', 'Bhaskar-II', 'INSAT', 'GSAT']</pre> <p>Write python statements to perform the following operations:</p> <ol style="list-style-type: none"> <li>Add a new satellite – "Chandrayaan" in the beginning of the list.</li> <li>Find the index of the element – "Apple"</li> <li>Reverse the list.</li> <li>Delete the last element of the list</li> <li>Display elements of the list present at the index numbers from 3 to 5.</li> </ol>	5