

BHARATIYA VIDYA BHAVAN, KOCHI
FINAL EXAMINATION 2023 - 2024
INFORMATICS PRACTICES (065)

STD : XI

MARKS : 70

TIME : 3 Hrs.

Instructions:

General Instructions:

- This question paper contains 5 sections, Section A to E.
- All questions are compulsory.
- All programming questions are to be answered using Python Language only.

Section A - MCQ			
1	Given a list C=[10,7,34,5,45,23,11,3,89,12]. What will be the output of the statement print(C[:2:1])	a. [34, 7] b. [12] c. [10, 7] d. []	1
2	Which of the following is the correct form of using dict()?	a. dict([('A', 65), ('a', 97)]) b. dict(['A' : 65, 'a' :97]) c. dict('A'=65, 'a'=97) d. All of these	1
3.	What is the data type of the data accepted through an input() function?	a. int b. float c. str d. None	1
4.	What will be the output for the code fragment given below? L1=[1,2,3] L2=[1,2,4] print (L1>L2)	a. True b. False c. Error d. No Output	1
5.	Find the valid identifier from the following	a. False b. Ist&2nd c. 2ndName d. My_Name	1
6.	Given Price = -1921.9 print(type(Price)) will produce the output	a. <class 'float'> b. <class 'int'> c.<class 'bool'> d. <class 'str'>	1
7	A relation has 10 rows and 5 columns. What is the Degree and Cardinality of this relation?	a. Degree - 5, Cardinality - 10 b. Degree - 10, Cardinality - 5 c. Degree - 10, Cardinality - 15 d. Degree - 15, Cardinality - 5	1

8.	<p>Statement1 : Values in a list cannot be modified. Statement 2: List is an immutable data type. Choose the correct option from the following</p> <p>a. Only statement 1 is correct b. Only statement 2 is correct c. Both the statements are correct d. Both the statements are incorrect</p>	1																														
9.	<p>Which of the following is/ are DML command(s)?</p> <p>a. ALTER b. UPDATE c. DROP d. All of these</p>	1																														
10.	<p>Observe the structure of the table EMP given below:</p> <table border="1" data-bbox="266 653 980 848"> <thead> <tr> <th>Field</th><th>Type</th><th>Null</th><th>Key</th><th>Default</th><th>Extra</th></tr> </thead> <tbody> <tr> <td>empno</td><td>int(11)</td><td>NO</td><td>PRI</td><td></td><td></td></tr> <tr> <td>ename</td><td>varchar(20)</td><td>YES</td><td></td><td>NULL</td><td></td></tr> <tr> <td>deptno</td><td>int(11)</td><td>YES</td><td></td><td>NULL</td><td></td></tr> <tr> <td>job</td><td>varchar(20)</td><td>YES</td><td></td><td>NULL</td><td></td></tr> </tbody> </table> <p>Identify the valid tuple that can be inserted to the EMP relation.</p> <p>a. 101, Null, 'Manager' b. 101, 'Akash', Null, 'Manager' c. Null, 'Akash', Null, 'Manager' d. 101, 'Akash', 'Projects Dept', 'Manager'</p>	Field	Type	Null	Key	Default	Extra	empno	int(11)	NO	PRI			ename	varchar(20)	YES		NULL		deptno	int(11)	YES		NULL		job	varchar(20)	YES		NULL		1
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ename	varchar(20)	YES		NULL																												
deptno	int(11)	YES		NULL																												
job	varchar(20)	YES		NULL																												
11.	<p>Choose the correct output for the following statement.</p> <pre>print("Stay","Positive","Better Days","are on their way",sep="&",end="!!!")</pre> <p>a .Stay&Positive&Better&Days&are&on&their&way!!! b. Stay&Positive&Better Days&are on their way!!! c. Stay!!!Positive!!!Better Days!!!are on their way& d. Stay Positive&Better Days are on their way!!!</p>	1																														
12.	<p>Which among the following is not a characteristic of BigData?</p> <p>a. Volume b. Veracity c. Variation d. Value</p>	1																														
13.	<p>Choose the correct output obtained after executing the following code.</p> <pre>rating=[5,3,4,1] print(rating*3)</pre> <p>a. [5, 3, 4, 1][5, 3, 4, 1][5, 3, 4, 1] b. [[5, 3, 4, 1][5, 3, 4, 1][5, 3, 4, 1]] c. [5, 3, 4, 1, 5, 3, 4, 1, 5, 3, 4, 1] d. 5, 3, 4, 1, 5, 3, 4, 1, 5, 3, 4, 1</p>	1																														
14.	<p>IoT stands for</p> <p>a. Industry of Things b. Internet of Things c. Intelligence of Things d. Interconnection of Things</p>	1																														

15.	Which one of these is not an area of AI? a. Computer Vision/Image recognition b. Robotics c. Voice Recognition d. Web Design	1
Section B - Competency based questions		
16.	Write the Python statement using the most appropriate list method to perform the following tasks on the given list. lang=['JavaScript','C++','Python','Swift','Scala','Go'] a. Delete the 4th element from the list lang (specify the index only) b. Add a new language ‘Ruby’ between ‘JavaScript’ and ‘C++’	2
17.	Rithika wrote the python program given below to check the divisibility of all the numbers below the limit (input by the user) by 3. But the code snippet has some errors. Rewrite the code by underlining the corrections made. x=input('Enter the limit') for i in x: if i%3=0: print(i , '@', end=',') else print('#', i, end=',')	2
18.	Write the output for the following code. d1=['Apple','Samsung','Motorola','Nokia','Xiaomi','Acer'] d1.remove('Nokia') print(d1) d1.sort() print(d1)	2
19.	Ravi wants to create the database ‘Hospital’ and make it active. Write the SQL commands for it.	2
20.	Consider the dictionary Strength that stores class names and their students’ strength as key value pairs. Strength= {'XII A': 35,"XII B":37,"XII C":40,"XII D":29} a. Name the function that will delete all the items in the dictionary Strength . b. Which method returns a list of keys from the dictionary Strength . c. Name the operator that checks whether “XII A” is present in the dictionary Strength and returns the boolean value. d. Which method creates a dictionary from a sequence of key-value pairs?	2
21.	Given a dictionary d={1:'Apple' , 2:'Grapes' , 3:'Mango' , 4:'Kiwi'}. Write Python statements using the most appropriate dictionary methods to a. Display only the fruit names b. Remove the last item from dictionary c. Add a fruit Guava into the dictionary, d with key 5.	1 1 1

22.	<p>Consider the table Schedule.</p> <p>Table SCHEDULE</p> <table border="1" data-bbox="418 242 1160 473"> <thead> <tr> <th>SLOTID</th><th>MOVIEID</th><th>TIMESLOT</th></tr> </thead> <tbody> <tr> <td>S001</td><td>M010</td><td>10 AM TO 12 PM</td></tr> <tr> <td>S002</td><td>M020</td><td>2 PM TO 5 PM</td></tr> <tr> <td>S003</td><td>M010</td><td>6 PM TO 8 PM</td></tr> <tr> <td>S004</td><td>M011</td><td>9 PM TO 11 PM</td></tr> </tbody> </table> <p>a. Write the SQL command to display the structure of the table Schedule. 1 b. Write the SQL command to add a new column “Revenue” of datatype INT(5) to the table Schedule. 1 c. Write the SQL command to delete the table Schedule. 1</p>	SLOTID	MOVIEID	TIMESLOT	S001	M010	10 AM TO 12 PM	S002	M020	2 PM TO 5 PM	S003	M010	6 PM TO 8 PM	S004	M011	9 PM TO 11 PM						
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23.	<p>Consider the table ‘Person’ given below:</p> <p style="text-align: center;">Table: Person</p> <table border="1" data-bbox="466 772 1117 983"> <thead> <tr> <th>PersonId</th><th>FirstName</th><th>LastName</th><th>Age</th></tr> </thead> <tbody> <tr> <td>101</td><td>Harry</td><td>John</td><td>30</td></tr> <tr> <td>102</td><td>Peter</td><td>Helson</td><td>25</td></tr> <tr> <td>103</td><td>Daniel</td><td>Gaba</td><td>20</td></tr> <tr> <td>104</td><td>Lava</td><td>Sen</td><td>40</td></tr> </tbody> </table> <p>Write the output for the following SQL queries.</p> <p>a. Select PersonId from Person where Age between 30 and 40; 1 b. Select PersonId, Age from Person where LastName=‘John’ OR LastName=‘Gaba’; 1 c. Select FirstName, Age from Person where Age <> 25; 1</p>	PersonId	FirstName	LastName	Age	101	Harry	John	30	102	Peter	Helson	25	103	Daniel	Gaba	20	104	Lava	Sen	40	
PersonId	FirstName	LastName	Age																			
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103	Daniel	Gaba	20																			
104	Lava	Sen	40																			
	Section C-Short Answers																					
24.	List any 2 characteristics of dictionaries. 2																					
25.	Explain any two types of errors in Python. 2																					
26.	Differentiate between append() and extend() methods of List. 2																					
27.	<p>Give the terms for each of the following:</p> <p>a. Collection of logically related records. b. An attribute which can uniquely identify tuples of the table but is not defined as the primary key of the table. c. Vertical subset of a table. d. A pool of values from which the actual values for a column are drawn.</p>	2																				
28.	<p>a. Write any one difference between Cloud computing and Grid computing. 1 b. What is Augmented Reality? 1</p>																					
	Section D -Programs																					
29.	Write a program to display the number of occurrences of a given number (accepted from the user) in a given list. 2																					

30.	Write a Python program to accept the cost price and selling price and calculate and display the profit/loss.	2																																																																								
31.	Write a program to accept a number and find the factorial of a number using python.	2																																																																								
32.	Write a program to find the sum of all elements in the given list using a while loop. List1= [33,45,12,15,20]	2																																																																								
33.	Given a number N, write a python program to create a dictionary that contains squares of all the numbers from 1 to N as keys and their cubes as values. Example: Input: N = 5 Output: {1: 1, 4: 8, 9: 27, 16: 64, 25: 125}	3																																																																								
Section E - MySQL Queries																																																																										
34.	<p>a. Rohit wants to create a table “Job” with the following structure. Help him to do it.</p> <p>Table: Job</p> <table border="1"> <thead> <tr> <th>Field name</th> <th>Datatype</th> <th>Size</th> <th>Constraint</th> </tr> </thead> <tbody> <tr> <td>Code</td> <td>Integer</td> <td>3</td> <td>Primary key</td> </tr> <tr> <td>Description</td> <td>Varchar</td> <td>25</td> <td>Not null</td> </tr> <tr> <td>Chg_Hr</td> <td>Integer</td> <td>3</td> <td></td> </tr> <tr> <td>Lastupdate</td> <td>Date</td> <td></td> <td></td> </tr> </tbody> </table> <p>b. Rohit wants to add one more field, Salary with datatype Decimal(5,2) into the table Job. What is the maximum value that can be stored in the Salary field?</p>	Field name	Datatype	Size	Constraint	Code	Integer	3	Primary key	Description	Varchar	25	Not null	Chg_Hr	Integer	3		Lastupdate	Date			2																																																				
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35.	Consider the table Books given below. Write SQL commands for the following.	12																																																																								
<p>Table : BOOK</p> <table border="1"> <thead> <tr> <th>Bookid</th> <th>Title</th> <th>Author</th> <th>Publisher</th> <th>Price</th> <th>Genre</th> <th>Qty</th> <th>Discount</th> </tr> </thead> <tbody> <tr> <td>F0001</td> <td>The Tears</td> <td>William Hopkins</td> <td>FIRST PUB</td> <td>750</td> <td>Fiction</td> <td>10</td> <td>50</td> </tr> <tr> <td>B0002</td> <td>Thunderbolts</td> <td>Martin Caiden</td> <td>FIRST PUB</td> <td>700</td> <td>Biography</td> <td>12</td> <td></td> </tr> <tr> <td>T0001</td> <td>My First C++</td> <td>Brain</td> <td>EPB</td> <td>450</td> <td>Text</td> <td>5</td> <td></td> </tr> <tr> <td>C0001</td> <td>Fast Cook</td> <td>Lata Kapoor</td> <td>TDH</td> <td>340</td> <td>Cookbook</td> <td>20</td> <td>25</td> </tr> <tr> <td>M0002</td> <td>Gone Girl</td> <td>Gillian</td> <td>BPB</td> <td>450</td> <td>Mystery</td> <td>7</td> <td>60</td> </tr> <tr> <td>B1234</td> <td>Becoming</td> <td>Michelle Obama</td> <td>Crown Publishing</td> <td>1500</td> <td>Autobiography</td> <td>100</td> <td>200</td> </tr> <tr> <td>T0345</td> <td>Wise & Otherwise</td> <td>Sudha Murthy</td> <td>HarperCollins India</td> <td>175</td> <td>Non-fiction</td> <td>200</td> <td></td> </tr> <tr> <td>V0098</td> <td>Indian Harvest</td> <td>Vikas Khanna</td> <td>Bloomsbury</td> <td>1500</td> <td>Cookbook</td> <td>70</td> <td></td> </tr> </tbody> </table>			Bookid	Title	Author	Publisher	Price	Genre	Qty	Discount	F0001	The Tears	William Hopkins	FIRST PUB	750	Fiction	10	50	B0002	Thunderbolts	Martin Caiden	FIRST PUB	700	Biography	12		T0001	My First C++	Brain	EPB	450	Text	5		C0001	Fast Cook	Lata Kapoor	TDH	340	Cookbook	20	25	M0002	Gone Girl	Gillian	BPB	450	Mystery	7	60	B1234	Becoming	Michelle Obama	Crown Publishing	1500	Autobiography	100	200	T0345	Wise & Otherwise	Sudha Murthy	HarperCollins India	175	Non-fiction	200		V0098	Indian Harvest	Vikas Khanna	Bloomsbury	1500	Cookbook	70	
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| | <ol style="list-style-type: none">1. Display the title, author and price of all Books.2. Display the title of all books with C++ in the Title.3. Display book titles coming under the genre fiction and non-fiction.4. Display the details of those books which don't have a discount.5. Display names of all cookbooks.6. Display the title and author of all books with price more than 700 and are given a discount.7. Display the title of all books whose quantity is in the range 100 and 200 including both.8. Display the names of publishers who provide books without discount.9. Insert the following details into the table.
Book Id: 'A1987' , Title: 'The Alchemist' , Author: 'Paulo Coelho' , Genre: 'Fiction'
10. Display the title, Price and Discounted Rate of the book 'Becoming'.
Discounted Rate is calculated as Price-Discount.
11. Remove the records of the books from the publisher <i>Bloomsbury</i>.
12. Increase the price of the fictions by 10%. | |
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