SUPERNOVA-LEARNPYTHON4CBSE

INFORMATICS PRACTICES (065)
SAMPLE PAPER

Time: 3 HOURS   Class: XI   M.M.: 70
General Instructions:

1. **This question paper contains five sections, Section A to E.**
2. **All questions are compulsory.**
3. **Section A has 18 questions carrying 01 mark each.**
4. **Section B has 07 Very Short Answer type questions carrying 02 marks each.**
5. **Section C has 05 Short Answer type questions carrying 03 marks each.**
6. **Section D has 03 Long Answer type questions carrying 05 marks each.**
7. **Section E has 02 questions carrying 04 marks each. One internal choice is given in Q35 against part c only.**
8. **All programming questions are to be answered using Python Language only.**

	SECTION A	
1	Identify the interface that allows user to run program or give instructions to the computer in the form of icons, menus and other visual options. (i)　　Graphical User Interface (ii)　　Character User Interface (iii)　　Touch Based Interface (iv)　　Voice Based Interface	1
2	1074 ZB = _____? (i) 1 YB 50ZB　　(ii) 1EB 50ZB　　(iii) 1YB 50 PB　　(iv)1PB 50 TB	1
3	_____ involves fetching data from storage devices for its processing. (i) Data Storage　(ii) Data capturing (iii) Data Retrieval (iv) Data Deletion	1
4	Nimish has joined an organization which uses only Open Source Software. Help him to identify which software he cannot use in his organization. (i) Python　　(ii) Libre Office　(iii) JAVA　　(iv) Tally	1
5	Identify the incorrect identifier from the following: (i) none　　(ii) None　　(iii) nan　　(iv) NaN	1
6	Shilpi is teaching Arithmetic operators in Python. One of her student wrote the following statement: '7'+5 Predict the output of the above mentioned statement: (i) 75　　(ii)12　　(iii) TypeError　　(iv) 77777	1
7	Identify the correct command which will produce the output given below: [0,-2,-4,-6,-8] (i) list(range(-2,-8,-2)) (ii) list(range(0,-8,-2)) (iii) list(range(-2,-10,-2)) (iv) list(range(0,-10,-2))	1
8	Consider the attributes (RollNumber, SName, SDateofBirth, GUID) of the table Student. According to you, which of the following option is the correct representation of the table after executing the following query:	1

Insert into student (RollNumber, SName, SDateofBirth) values (2, 'Sudha','2002-02-28');
(i)

RollNumber	SName	SDateofBirth	GUID
1	Atharv	2003-05-15	12354899
2	Sudha	2002-02-28	NULL

(ii)

RollNumber	SName	SDateofBirth	GUID
1	Atharv	2003-05-15	12354899
2	Sudha	2002-02-28	00000000

(iii)

RollNumber	SName	SDateofBirth	GUID
1	Atharv	2003-05-15	12354899
2	Sudha	2002-02-28	0

(iv)

RollNumber	SName	SDateofBirth	GUID
1	Atharv	2003-05-15	12354899
2	Sudha	2002-02-28	

9	Mr. Malhotra is working on MySql table named Student with the following table schema: Which of the following command is used to get the above output: (i) Create (ii) Describe (iii) Show (iv) Alter	1
10	In SQL, determine the command that is used to SELECT only one copy of each set of duplicable rows: (i) Select Distinct (ii) Select Unique (iii) Select Different (iv) Select All	1
11	Choose the incorrect statement related to Where clause: (i) It is used to filter records (ii) It is used to retrieve data that meet some specified conditions (iii) It is used with SELECT statements as well as with INSERT statements (iv) It is used with arithmetical as well as logical operators.	1

12	Consider a table Student having two fields as mentioned below:
	                              FName varchar(20)
	                              LName char(20)
	If in a record , value stored in Fname is 'Anuj' and LName is 'Batra',then FName and LName will consume _____ and _____ characters space respectively.
	(i) 4,5 (ii) 4,20 (iii) 20,4 (iv) 20,20
		1

13	Candidate Key - Primary Key= _____ (i) Primary Key (ii) Alternate Key (iii) Foreign Key (iv) Composite Key	1
14	A student wants to delete a tuple from a table in MYSQL, which of the following	1

	categories of MYSQL helps him in doing the same: (i) DML (Data Manipulation Language) (ii) DDL (Data Definition Language) (iii) DCL (Data Control Language) (iv) TCL (Transaction Control Language)	
15	Ms. Ruchi has developed a web application using MySQL and Python. To run this application online, she availed a pre-configured Apache server from cloud having MySQL and Python pre-installed. Which type of cloud computing model she has used: (i) IaaS (ii) PaaS (iii) SaaS (iv) DaaS	1
16	"Imagine what if our bulbs, fans and refrigerator also become a part of LAN or Internet. Think about of the advantages and tasks that can be accomplished if all these devices with smart connectivity features are able to communicate amongst themselves and we are also able to communicate with them using computers or smart phones." In your opinion, which feature are we talking about in the above context? (i) AR (ii) VR (iii) WoT (iv) IoT	1

	Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as :
	    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	

17	Assertion: Comments are executed by interpreter. Reasoning: Comments are used to add a remark or a note in the source code.	1
18	Assertion: A database can have only one table in MySql. Reasoning: If a piece of data is stored in two places in the databases, then storage space is wasted.	1
	SECTION B	

19	Deleting digitally stored data means changing the details of data at bit level, which can be very time consuming. Therefore, when any data is simply deleted, its address entry is marked as free, and that much space is shown as empty to the user, without actually deleting the data.
	In case data gets deleted accidentally or corrupted, there arises a need to recover the data. Recovery of the data is possible only if the contents/memory space marked as deleted have not been overwritten by some other data.
	    i) Can you recover the data once deleted? Justify
	    ii) Give any one security threat involved when we throw away electronic gadgets that are non-functional.
	 Or Write down the type of memory needed to do the following:
	    i) To execute the program
	    ii) To store the instructions which cannot be overwritten
		2

20	Predict the output of the following:
	    w,x,y,z = 5,6,7,8
	    w,x,y,z = w*w, w*x, x*y, y*z
	    print(w, x, y, z)
		2

21	Find errors in the following code fragment.(Rewrite the program underlining the correction)
	x= int(input("Enter value of x:")
	for in range [0,10]:
	       if x=y:
	           print(x + y)
	           else:
		2

	print(x-y)	

22	Suggest the corresponding Python Statement of the following:
	    i) Assign 30 to a variable length and 40 to a variable breadth.
	    ii) Assign multiplication of length and breadth to a variable area
		2

23	Consider the following table ITEM : <table><tr><td>Item_no</td><td>Item_name</td><td>Price</td></tr><tr><td>1</td><td>Pen</td><td>10</td></tr><tr><td>2</td><td>Pencil</td><td>5</td></tr><tr><td>3</td><td>Rubber</td><td>7</td></tr><tr><td>4</td><td>Sharpener</td><td>8</td></tr></table> What is the degree and cardinality of the above mentioned table? **Or** Write any two advantages of using MySql?	2

24	DAV Sports Management Committee has decided to conduct cricket matches between students of class XI and Class XII. Students of each class are asked to join any one of the four teams — Team Titan, Team Rockers, Team Magnet and Team Hurricane. During summer vacations, various matches will be conducted between these teams. Help your sports teacher to do the following:
	Create a table "TEAM" in MySQL with following considerations:
	  i) It should have a column TeamID for storing an integer value between 1 to 9, which refers to unique identification of a team.
	  ii) Each TeamID should have its associated name (TeamName), which should be a string of length not more than 10 characters.
	  iii) It should have a column MatchDate.
	  iv) It should have a column of number of participants namely, TeamParticipants.
		2

25	The Doc_name column of a table HOSPITAL is given below: <table><tr><td>Doc_Name</td></tr><tr><td>Avinash</td></tr><tr><td>Hariharan</td></tr><tr><td>Vinayak</td></tr><tr><td>Deepak</td></tr><tr><td>Sanjeev</td></tr></table> Write the output of the following queries: (i) SELECT Doc_name FROM HOSPITAL WHERE Doc_name LIKE '%v';. (ii) SELECT Doc_name FROM HOSPITAL WHERE Doc_name LIKE '_e%'	2
	SECTION C	

26	Evaluate the following:
	    i) print("ab">"ac" and "bc"<"ad")
	    ii) print(20-5%10>10 and 7+8<=15)
	    iii) print(True and True and not True)
		3

27	(i) Himank has written the following statement in Python, but it is showing an error:
	                          X = 021
	       According to you what could be the problem?
		1

	(ii) "Our heritage monuments are our assets. They are a reflection of our rich and glorious past and an inspiration for our future. UNESCO has identified some of Indian Heritage sites as World Heritage Sites." Identify at least two parameters from the above text that can be used as key	2

		value pair to set up a dictionary. Form a dictionary to create at least 5 records of World Heritage Sites.	
28	i) Give any two examples of RDBMS software. ii) Write MySQL command, which is used to open an already existing database "Alumni". iii) Ms. Mansi has created a database, a month ago, but he is not sure whether the database still exists or not. Write the command to help her.		3
29	Suppose there are five students in a class each having unique roll number. Students have been given an option to choose only one of the skill based subjects. The class representative has prepared a Relation 'Skill_Subjects_Preferences' with Roll_No as Primary Key as shown below: Table: Skill_Subjects_Preferences 	Roll_No	Preference
---	---
15	Artificial Intelligence
18	Beauty and Wellness
19	Handicrafts
19	Design and Thinking
20	Information Technology
21	Null
Null	Marketing | Answer the following: i) Roll number 21 is not interested in any of the skill based subject. Can a NULL value be assigned to that student's preference field? Justify. ii) Roll no 19 has given two preferences. Which property of RDBMS is violated here? iii) Marketing was not chosen by any student. Is it possible to have this tuple in the Skill_Subjects_Preferences relation? Justify. **Or** Solve the crossword given below: **Across** **3.** It is a collection of tables **5.** It is a row in a relation **Down** **1.** It is the number of attributes in a relation **2.** It is the number of rows in a relation **3.** It is a set of values from which an attribute can take a value in each row **4.** It is a column in a relation		3
30	What is Grid Computing? Explain its two types. **Or** i) Name any two areas where the concept of block chain technology can be useful. ii) Differentiate between Virtual Reality and Augmented Reality.		3 1 2
	SECTION D		

31	The record of salesman (Name, Item Sold, sale of three quarters and Commission) is stored in the following list: Sale=['Amit', 'Laptop', [35000,42000,85000],20000] Write Python statements to retrieve the following information from the list Sale: i) Print the sale of 2nd Quarter. ii) Add 56000 as sale of 4th quarter. iii) Change value of product from Laptop to Tablet iv) Delete Commission from the list v) Print minimum sale **Or** Consider the following dictionary: states={'D': 'Delhi' , 'K' : 'Kerala' , 'T' : 'Tamil Nadu' , 'B' : 'Bihar'} Write Python statements for the following: i) To insert ('M' : 'Mumbai') in the dictionary states. ii) To return the value corresponding to the key 'T' iii) To return the length of the dictionary states. iv) To delete the item from the dictionary corresponding to the key 'K' v) To delete the dictionary 'states'	5
32	Consider the table 'Teacher_Details' given below and write suitable SQL queries of the following: Table: Teacher_Details <table><tr><td>T_ID</td><td>T_Name</td><td>T_DOJ</td><td>T_Subject</td><td>Num_of_Periods</td></tr><tr><td>1001</td><td>Bharti</td><td>2018-10-15</td><td>Hindi</td><td>27</td></tr><tr><td>1002</td><td>Pratima</td><td>NULL</td><td>NULL</td><td>32</td></tr><tr><td>1003</td><td>Savitri</td><td>2012-11-13</td><td>Hindi</td><td>29</td></tr><tr><td>1004</td><td>Aashna</td><td>2020-02-24</td><td>English</td><td>28</td></tr></table> i) Display the T_Name and Num_of_Periods by increasing the number of periods each by 1. ii) Display T_Name of all those teachers whose date of joining is after 1st Jan 2019. iii) Display T_ID and T_Name of all those teachers whose number of periods are in the range of 25 to 30. (both values included) iv) Display the details of all those teachers who have not assigned any subject. v) Display the details of all those teachers whose subject is either Hindi or Science	5
33	i) A relation 'Order' has the following attributes: (Order_No, Order_Name, Order_date, Order_Qty, Order_price) a) Write a command to insert a single row in the table mentioned above. (Assume appropriate values) b) Name the attribute which should be taken as the Primary Key? ii) Ms. Nia wants to retrieve non duplicate values from the attribute 'T_Subject' from the table 'Teacher_Details' mentioned in Q32. Which clause should she use to retrieve the same? iii) Is Null same as ' ' (a blank space in quotes) in MySql? Write reason to support your answer. iv) % and _ are used with _____ operator in MySQL. **Or** i) Ms. Riya has written the following Query: Select * from Item like 'Price>=50 and Price<=70'; but, she is not getting the desired result.	5

	a)	Help her in writing the correct query.	
	b)	Once corrected, suggest her the alternate way of writing the same query.	

ii) Consider a relation 'Person' given below:

Table: Person

PersonId	FirstName	LastName	Age
101	Harry	John	30
102	Peter	Helson	25
103	Daniel	Gaba	20
104	Lava	Sen	40

Write the output of the following SQL commands:
a) Select PersonId from Person where Age between 30 and 40;
b) Select Age+2 from Person where FirstName='Daniel';
c) Select PersonId, Age from Person where LastName in ('Helson', 'Gaba');
d) Select FirstName, Age from Person where LastName='John' or LastName='Sen';

iii) _____ is known as membership operator in MySQL.

SECTION E

34	i) Suppose there is a computer with RAM but no secondary storage. Why we are not able to install software on that computer? ii) Why cache memory is considered crucial for microprocessor performance? iii) Suman has discarded old, broken and malfunctioning Hard Disk without taking care to delete data. Is it harmful in respect of security concern? Justify your answer. **Or (option for part iii only)** Match the following:	1+1+2

(i)	The set of instructions, data or programs used to operate computers and execute specific tasks	(a)	Abacus
(ii)	It was a mechanical device capable of doing simple arithmetic calculations only	(b)	Software
(iii)	In second generation of computer vacuum tubes were replaced by _____.	(c)	Pascaline
(iv)	It's a mechanical calculator which does addition and subtraction of two numbers directly and multiplication and division through repeated addition or subtraction.	(d)	Transistors

35	i) What will be the output of following program:
	dict1 = {"Rollno":20, "Marks":65}
	dict2 = {"Rollno":20, "Marks":65}
	print(dict1 == dict2)
	ii) Name different types of comments in Python.
	iii) Predict the output of the following:
	quota = ["sports", " pwd", "ews", "gen"]
	Marks= [58,70,45,69]
	for k in range(len(quota)):
	   if quota[k]=="sports":
	      Marks[k]+=2
	   if quota[k]=="ews":
	      Marks[k]+=5
		1+1+2

print(Marks) **Or (option for part iii only)** **Name the function for the following:**	
Name the function for the following:	
i) To declare empty dictionary.	
ii) To append the key value pair of the dictionary passed as the argument to the key value pair of the given dictionary?	