

Shri Ram Vidya Mandir, Shyampur Haridwar

Session: 2019-20

Annual Examination

Class: XI

Subject-Informatics Practices (065)

Time allowed: 03 Hours

Maximum Marks: 70

Instructions: All the questions are compulsory. Programming Language: Python

1.	Introduction to Computer System	5
a.	List the name of two components of the CPU	1
b.	What is the use of Light Pen?	1
c.	What is the function of memory? What are its measuring Unit?	2
d.	What is an operating system?	1
2.	Introduction to python programming	30
a.	Who developed python?	1
b.	Write any two features of python.	1
c.	What is the difference between interactive mode and script mode in python?	2
d.	What is the difference between a keyword and a variable?	2
e.	What will be the output produced by following code: i- name='neeru' age=21 print(name, "you are",21,"now but") print("you will be ",age+1,"next year") ii- x,y=2,6 x,y=y,x+2 print(x,y) iii- p=10 q=20 p*=q/2 q+=q/3 print(p,q)	6
f.	Identify invalid variable names from the following, giving reason for each: lf , s.i , tot_strength , 9tag	2
g.	Convert the following for loop into while loop: for k in range(10,20,5) print(k)	2
h.	Write a program to find the largest number among the three inputted numbers. Also draw the flow chart for it.	(2+1)
i.	Write a program along with a flow chart to display sum of even numbers up to number n entered by user.	(2+1)
j.	Write a program to accept a number from the user and print the table of that number.	2
k.	Write a program to print the following pattern: 1 2 3 4 1 2 3 1 2 1	2

l.	Consider the string str="Green Revolution". Write statements in python to implement the following: i- To display the last four characters ii- To repeat the string 3 times	2																																										
m.	Write a program to count the frequency of an element in a given list.	2																																										
3.	Data Handling(Numpy Array):	10																																										
a.	Explain the syntax and purpose of the following numpy functions: 1- arange() 2- empty()	3																																										
b.	Why are Numpy arrays used over list?	2																																										
c.	Write a program to create a 1D array holding numeric values from 0 to 9.	1																																										
d.	Write a program to create an 1D array of five ones.	1																																										
e.	Write a program to replace all odd numbers with -1 and copy this content into another array B without altering the original array A.	2																																										
f.	Write a program to create a numpy 1D array with all elements as Boolean values.	1																																										
4.	Data Management:	15																																										
a.	Define the following terms: 1- Primary Key 2- Foreign Key 3- Cardinality of a relation	3																																										
b.	What are DDL and DML statements?	1																																										
c.	What is the difference between Char and Varchar datatype?	1																																										
d.	Write SQL commands for (1) to (4) and write output for (5) on the basis of PRODUCTS relation given below: <p style="text-align: center;">Table: Product</p> <table border="1" data-bbox="180 1052 1357 1289"> <thead> <tr> <th>PCODE</th> <th>PNAME</th> <th>COMPANY</th> <th>PRICE</th> <th>STOCK</th> <th>MANUFACTURE</th> <th>WARRANTY</th> </tr> </thead> <tbody> <tr> <td>P001</td> <td>TV</td> <td>BPL</td> <td>10000</td> <td>200</td> <td>12-Jan-2018</td> <td>3</td> </tr> <tr> <td>P002</td> <td>TV</td> <td>SONY</td> <td>12000</td> <td>150</td> <td>23-Mar-2017</td> <td>4</td> </tr> <tr> <td>P003</td> <td>PC</td> <td>LENOVO</td> <td>39000</td> <td>100</td> <td>09-Apr-2018</td> <td>2</td> </tr> <tr> <td>P004</td> <td>PC</td> <td>COMPAQ</td> <td>38000</td> <td>120</td> <td>20-Jun-2019</td> <td>2</td> </tr> <tr> <td>P005</td> <td>HANDYCAM</td> <td>SONY</td> <td>18000</td> <td>250</td> <td>23-Mar-2017</td> <td>3</td> </tr> </tbody> </table> 1-To show details of all PCs with stock more than 110. 2-To list the company which gives warranty of more than 2 years. 3-Add a new record with the following data: (P006,'TV','SONY',35000,220,'15-Jan-2019',5) 4-To increase the price of all the product of SONY company by Rs. 2000. 5-Give the output of the following statements: i-Select MAX(Price) from PRODUCT where WARRANTY<=3; ii-Select SUM(Stock) from PRODUCT where COMPANY="SONY"; iii- Select COUNT(Distinct COMPANY) from PRODUCT; iv-Select Price*Stock from PRODUCT where warranty>2;	PCODE	PNAME	COMPANY	PRICE	STOCK	MANUFACTURE	WARRANTY	P001	TV	BPL	10000	200	12-Jan-2018	3	P002	TV	SONY	12000	150	23-Mar-2017	4	P003	PC	LENOVO	39000	100	09-Apr-2018	2	P004	PC	COMPAQ	38000	120	20-Jun-2019	2	P005	HANDYCAM	SONY	18000	250	23-Mar-2017	3	8
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e.	Create table Customer as per following Table Instance Chart. <table border="1" data-bbox="233 1797 1386 1950"> <thead> <tr> <th>Column name</th> <th>Cust_ID</th> <th>Cust_Name</th> <th>Cust_Address</th> <th>Pincode</th> <th>Cust_Phone</th> </tr> </thead> <tbody> <tr> <td>Data Type</td> <td>Varchar</td> <td>Varchar</td> <td>Varchar</td> <td>Varchar</td> <td>Varchar</td> </tr> <tr> <td>Length</td> <td>10</td> <td>40</td> <td>50</td> <td>6</td> <td>10</td> </tr> </tbody> </table>	Column name	Cust_ID	Cust_Name	Cust_Address	Pincode	Cust_Phone	Data Type	Varchar	Varchar	Varchar	Varchar	Varchar	Length	10	40	50	6	10	2																								
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	Constraint	Primary Key	Not Null			Unique	
5.	Society, Law and Ethics						10
a.	What is cyber trolling?						1
b.	What is the role of firewall?						1
c.	What is cyber Law?						1
d.	Differentiate between virus and Trojan Horse.						2
e.	What are the privacy and security features being provided by web browsers?						2
f.	Write any four demerits of social networking sites.						2
g.	What do you mean by a hacker?						1