

**KENDRIYA VIDYALAYA SANGATHAN (MUMBAI REGION)**

**I Pre- Board Examination (2019-20)**

**Class XII**

**Computer Science (Code 083)**

**Blue Print**

**Max Marks: 70**

**Time Duration: 3 Hrs.**

**General Instructions:**

- All questions are compulsory.
- Question paper is divided into 4 sections A, B, C and D.
  - Section A: Unit-1
  - Section B: Unit-2
  - Section C: Unit-3
  - Section D: Unit-4

**SECTION-A**

- Q1. (a) Which of the following is valid logical operator in Python: 1  
(i) % (ii) : (iii) == (iv) or
- (b) Write the type of tokens from the following : 1  
(i) for (ii) Num
- (c) Name the Python Library modules which need to be imported to invoke the 1  
following functions: (i) exp( ) (ii) randint ( )
- (d) Rewrite the following code in python after removing all syntax error(s). 2

Underline each correction done in the code.

```
Num = input("Number:")
Sum = 0
for i in range(10,Num,3)
Sum+=i
    if i%2=0:
print ( i*2)
    Else:
print ( i*3 print Sum)
```

(e) Find and write the output of the following python code:

2

```
def ChangeList():
    L=[]
    L1=[]
    L2=[]
    for i in range(1,10):
        L.append(i)
    for i in range(10,1,-2):
        L1.append(i)
    for i in range(len(L1)):
        L2.append(L1[i]+L[i])
    L2.append(len(L)-len(L1))
    print(L2)

ChangeList()
```

(f) Find and write the output of the following python code:

3

```
def makenew(mystr):
    newstr = ""
    count = 0
    for i in mystr:
        if count%2 != 0:
            newstr = newstr + str(count)
        else:
            if i.islower():
                newstr = newstr + i.upper()
            else:
                newstr = newstr + i
            count += 1
    newstr = newstr + mystr[1]
    print("The new string is:", newstr)
makenew("sTUdeNT")
```

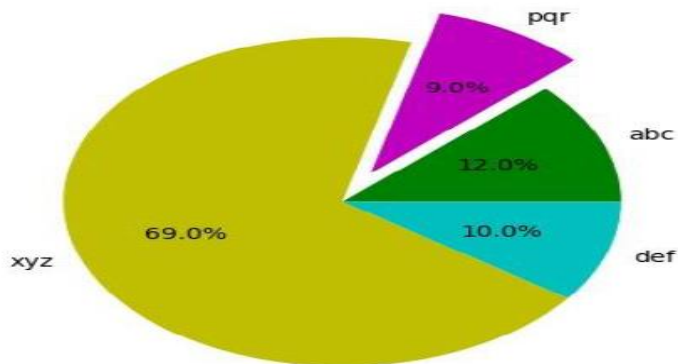
(g) Study the following program and select the possible output(s) from the options (i) to (iv) following it. Also, write the maximum and the minimum values that can be assigned to the variable Y. 2

```
Import random
X= random.random()
Y= random.randint(0,4)
print int (X), ":", Y+ int(X)
```

i) 0 : 0    ii) 1 : 6    iii) 2 : 4    iv) 0 : 3

2

- Q2. (a) What is the use of else in a loop? 1
- (b) Which of the following statements create a dictionary? 1
- d = {}
  - d = {"john":40, "peter":45}
  - d = {40:"john", 45:"peter"}
  - d = (40:"john", 45:"peter")
- (c) Suppose list1 is [2, 33, 222, 14, 25], What is list1[-1]? 1
- (d) Find and write the output of the following python code: 1
- ```
def sum(a,b,c):
    return a+5, b+4, c+7
s1, s2, s3=sum(2, 3, 4)
print(s1, s2, s3)
```
- (e) Find and write the output of the following python code: 1
- ```
x=5
def funct2():
    x=3
    global x x=x+1
print x
```
- (f) Write the specific purpose of functions used in plotting: 2
- plot()
  - Legend()
- (g) Write a python code to draw the following pie chart 2



OR

Give the output from the given python code:

```
import matplotlib.pyplot as pl
import numpy as np
boy=[28,45,10,30]
girl=[14,20,36,50]
X=np.arange(4) # creates a list of 4 values [0,1,2,3]
pl.bar(X, boy, width=0.2, color='r', label="boys")
pl.bar(X+0.2, girl, width=0.2,color='b',label="girls")
```

```
pl.legend(loc="upper left")
pl.title("Admissions per week")
pl.xlabel("week")
pl.ylabel("admissions")
pl.show()
```

- (h) Write a Python program to find the number of words in a text file. 2

**OR**

Write a Python program to count all the line having 'a' as last character

- (i) Write a Recursive function SearchBinary(A,l,R,X) in python to search the given element X to be searched from the List A having R elements, where l represents lower bound and R represents the upper bound. 3

**OR**

Write a Recursive function recurfibonacci(n) in python to print the Fibonacci series upto n terms (Ex. 0 1 1 2 3 5 8 13)

- (j) Write a program in Python to arrange the elements using Bubble sort technique. Also show the passes. The elements are 4,13,1,7 4

**OR**

Write a function in python, PushEl(element) and MakeEl(element) to add a new element and delete a element from a List of element Description, considering them to act as push and pop operations of the Stack data structure .

### SECTION-B

Q3. Questions 3 (a) to 3 (d) : Fill in the blanks

- (a) \_\_\_\_\_ command is used to get the registration records about the domain such as who registered, when it was registered, expiry data etc. 1
- (b) \_\_\_\_\_ is the example of MAC address 1
- (c) \_\_\_\_\_ a device that amplifies a signal being transmitted on the network 1
- (d) \_\_\_\_\_ is used to connect Ethernet cable to a computer or a laptop 1
- (e) Give the full forms of the following 2  
i) POP3 ii) TCP/IP iii) VoIP iv) GSM
- (f) Look at the image given below and answer questions that follow : 2

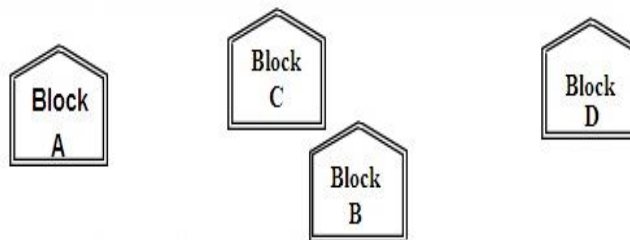
```
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
```

- (i) Name the command which gives such type of result.  
(ii) Why is this command used?

(g) A producer has made a movie whose story line is completely based on a previous Hollywood movie. This producer did not take permission to make the movie based on this story. The writer of the story has now filed a case against this producer in court? 3

- (a) Which kind of offence is this?
- (b) What are the consequences?
- (c) Writer also claim that somebody has created a fake profile on social networking site and defaming his character with abusive comments and pictures. Identify the type of cyber crime.

(h) Knowledge Allaround Organization has set up its new centre at Mumbai for its office and web based activities. It has 4 blocks of building as shown in the diagram below 4



Centre to centre distances between various blocks

Block A to Block B	50 m
Block B to Block C	150 m
Block C to Block D	25 m
Block A to Block D	170 m
Block B to Block D	125 m
Block A to Block C	90 m

Number of Computers

Block A	25
Block B	50
Block C	125
Block D	10

- (a) Suggest a layout of connections between the blocks.
- (b) Suggest the most suitable place (i.e. block) to house the server of this organization with a suitable reason
- (c) Suggest the placement of the following devices with justification
  - i) Repeater ii) Hub Switch
- (d) The organization is planning to link its front office situated in the city in the hilly region where cable connection is not feasible , suggest an economic way to connect it with reasonably high speed.

### SECTION-C

- Q.4 (a) Which key word is used to Viewing Structure of a Table? 1
- (b) Which operator is used to impose Condition Based on a list 1
- (c) Write a query to Search NULL in a table 1

- (d) Identify the key which is a set of one or more attributes that can uniquely identify tuples within the relation 1
- (e) Differentiate between DDL and DML Commands. 2

**OR**

Find out the Degree and Cardinality of the following table SALARY.

ID	Name	DEPT	EXPERIENC E
101	Siddharat	Sales	12
104	Raghav	Finance	6
107	Naman	Research	10
114	Nupur	Sales	3
109	Janvi	Finance	9
105	Rama	Research	10
117	James	Sales	3
111	Binoy	finance	12
130	Samuel	Sales	15

- (f) Differentiate between Django GET and POST method. 2
- (g) Write a output for SQL queries (i) to (iii), which are based on the table: ACTIVITY given below: 3
- Table: ACTIVITY

ACod e	ActivityNam e	Participa ntsNum	PrizeMon ey	ScheduleDa te
1001	Relay 100x4	16	10000	23-Jan-
1002	High jump	10	12000	12-Dec-
1003	Shot Put	12	8000	14-Feb-
1005	Long Jump	12	9000	01-Jan-
1008	Discuss	10	15000	19-Mar-

- (i) select count(distinct participantsnum) from activity;
- (ii) select max(scheduledate),min(scheduledate) from activity;
- (iii) select sum(prizemoney) from activity;
- (h) Write SQL queries for (i) to (iv), which are based on the table : ACTIVITY given in the question 4(g): 4
- (i) To display the name of all activities with their Acodes in descending order.
- (ii) To display sum of PrizeMoney for each of the Number of participants groupings (as shown in column ParticipantsNum 10,12,16).
- (iii) To display the Schedule Date and Participants Number for the activity Relay 100x4
- (iv) To increase PrizeMoney by 500 for High jump activity

## SECTION-D

- Q.5
- (a) It is an electronic discovery technique used to determine and reveal technical criminal evidence. Write the name. 1
  - (b) What is Identity Theft? 1
  - (c) What are Intellectual Property Rights (IPR)? Give one Example. 2
  - (d) What steps should be taken to prevent Phishing attack? 2
  - (e) Suggest a way for disposal of used electronic gadgets 2
  - (f) Enumerate any two gender issues while teaching and using computers 2

**KENDRIYA VIDYALAYA SANGATHAN (MUMBAI REGION)**  
**I- Board Examination (2019-20)**  
**Class XII**  
**Computer Science (Code 083)**  
**Marking scheme**

**Max Marks: 70**

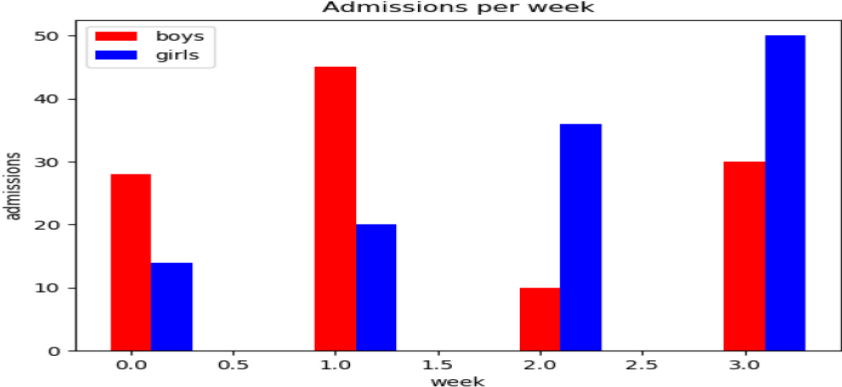
**Time Duration: 3 Hrs.**

**General Instructions:**

- All questions are compulsory.
- Question paper is divided into 4 sections A, B, C and D.
  - Section A: Unit-1
  - Section B: Unit-2
  - Section C: Unit-3
  - Section D: Unit-4

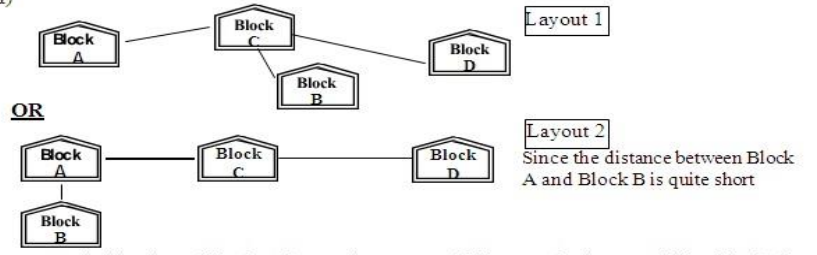
<b>SECTION-A</b>			
Q1.	(a)	or	1
	(b)	(i) Key word (ii) Identifier	1
	(c)	(i) math (ii) random	1
	(d)	Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code. <pre style="margin-left: 40px;"> Num = <u>int</u>("Number:") Sum = 0 for i in range(10,Num,3):     Sum+=i     if i%2=0:         print i*2     <u>else:</u>         <u>print (i*3)</u>         <u>print (Sum)</u> </pre>	2
	(e)	[11,10,9,8,7,4]	2
	(f)	S1U3E5Ts	3
	(g)	i) and iv) are the possible output(s) Minimum value that can be assigned to Y = 0 Maximum value assigned to Y = 3 ( ½ mark for each correct possible output) ( ½ mark for each correct possible minimum and maximum value)	2
Q2.	(a)	Correct use of else in loop	1
	(b)	a, b and c	1
	(c)	25	1



(d)	7 7 11	1															
(e)	5	1															
(f)	<p>i) plot(): A line chart or line graph can be created using the plot() function available in pyplot library. For example, the basic syntax for creating line plots is plt.plot(x,y), where x and y are the points or specify the (x, y) pairs that form the line.</p> <p>ii) Legend(): legend is the text or string that “has to be read” to understand the graph. Legends are used in line graphs to explain the function or the values underlying the different lines of the graph.</p>	2															
(g)	<pre>import matplotlib.pyplot as plt part=[12,9,69,10] clr=['g','m','y','c'] ex=[0, 0.2, 0, 0] plt.pie(part, colors=clr, labels=['abc','pqr','xyz','def'], autopct='%1.1f%%', explode=ex) plt.show( )</pre> <p style="text-align: center;">OR</p>  <table border="1" data-bbox="277 829 1114 1213"> <caption>Admissions per week</caption> <thead> <tr> <th>Week</th> <th>Boys</th> <th>Girls</th> </tr> </thead> <tbody> <tr> <td>1.0</td> <td>28</td> <td>14</td> </tr> <tr> <td>2.0</td> <td>45</td> <td>20</td> </tr> <tr> <td>3.0</td> <td>10</td> <td>36</td> </tr> <tr> <td>4.0</td> <td>30</td> <td>50</td> </tr> </tbody> </table>	Week	Boys	Girls	1.0	28	14	2.0	45	20	3.0	10	36	4.0	30	50	2
Week	Boys	Girls															
1.0	28	14															
2.0	45	20															
3.0	10	36															
4.0	30	50															
(h)	<pre>f=open("abc.txt","r") linesList=f.readlines() count=0 for line in linesList: wordsList=line.split() print(wordsList) count = count+ len(wordsList) print("The number of words in this file are : ",count) f.close()</pre> <p style="text-align: center;">OR</p> <pre>count =0 f=open("abc.txt","r") data=f.readlines() print(data) for line in data: if line[-2] == 'a': count=count+1 print("Number of lines having 'a' as last character is/are : " ,count) f.close()</pre>	2															

<p>(i)</p>	<pre>def SearchBinary (A,l,R,X):     if R &gt;= l:         mid = l + (R-l)//2         if Arr[mid] == X:             return mid         elif Arr[mid] &gt; X:             return SearchBinary (A,l,mid-1,X)         else:             return SearchBinary (A,mid+1,r,X)     else:         return -1 A = [ 2, 3, 4, 10, 40 ] X =int(input(' enter element to be searched')) result = SearchBinary (A,0,len(A)-1,X) if result != -1:     print ("Element is present at index ", result) else:     print ("Element is not present in array")  <b>(1/2 mark for mid)</b> <b>(1/2 mark for return mid)</b> <b>(1 mark each for returning function)</b> <b>(1 mark for invoking function)</b>  <p style="text-align: center;"><b>OR</b></p> <pre>def fibonacci(n):     if n&lt;=1:         return n     else:         return(fibonacci(n-1)+fibonacci(n-2))  num=int(input("How many terms you want to display: ")) for i in range(num):     print(fibonacci(i), " ", end=" ")</pre> </pre>	<p>3</p>																																																									
<p>(j)</p>	<pre>L=eval(input("Enter the elements:")) n=len(L) for p in range(0,n-1):     for i in range(0,n-1):         if L[i]&gt;L[i+1]:             L[i], L[i+1] = L[i+1],L[i]     print("The sorted list is : ", L)</pre> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>First Pass</p> <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">13</td><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">7</td></tr> <tr><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">13</td><td style="padding: 2px 10px;">7</td></tr> <tr><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">13</td><td style="padding: 2px 10px;">7</td></tr> <tr><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> </table> </div> <div style="text-align: center;"> <p>Second Pass</p> <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> </table> </div> <div style="text-align: center;"> <p>Third Pass</p> <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> <tr><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td></tr> </table> </div> </div> <div style="margin-top: 10px; text-align: center;"> <table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td> <td style="padding: 2px 10px;">1</td><td style="padding: 2px 10px;">4</td><td style="padding: 2px 10px;">7</td><td style="padding: 2px 10px;">13</td> <td style="padding: 2px 10px;">Finish</td> </tr> </table> </div>	4	13	1	7	4	1	13	7	4	1	13	7	4	1	7	13	4	1	7	13	1	4	7	13	1	4	7	13	1	4	7	13	1	4	7	13	1	4	7	13	1	4	7	13	1	4	7	13	4	1	7	13	1	4	7	13	Finish	<p>4</p>
4	13	1	7																																																								
4	1	13	7																																																								
4	1	13	7																																																								
4	1	7	13																																																								
4	1	7	13																																																								
1	4	7	13																																																								
1	4	7	13																																																								
1	4	7	13																																																								
1	4	7	13																																																								
1	4	7	13																																																								
1	4	7	13																																																								
1	4	7	13																																																								
4	1	7	13	1	4	7	13	Finish																																																			

	<p style="text-align: center;">OR</p> <pre> def PushEl(element): a=int(input("enter package title : ")) element.append(a) def PopEl(element): if (element==[]): print( "Stack empty") else: print ("Deleted element:", element.pop()) <i>(½ mark for PushEl() header)</i> <i>( ½ mark for accepting a value from user)</i> <i>( ½ mark for adding value in list)</i> <i>( ½ mark for PopEl() header)</i> <i>( ½ mark for checking empty list condition)</i> <i>( ½ mark for displaying “Stack empty”)</i> <i>( ½ mark for displaying the value to be deleted)</i> <i>( ½ mark for deleting value from list)</i> </pre>	
	SECTION-B	
3	Questions 3 (a) to 3 (c) : Fill in the blanks	
	(a) WHOIS	1
	(b) 10:B5:03:63:2E:FC or any example	1
	(c) Repeater.	1
	(d) Ethernet port	1
	(e) Give the full forms of the following <ul style="list-style-type: none"> <li>I. Post Office Protocol version3</li> <li>II. Transmission Control Protocol/Internet Protocol</li> <li>III. Voice over Internet Protocol</li> <li>IV. Global System Mobile Communication</li> </ul>	2
	(f) (i) The command is Ping. (ii) Ping is used to test connectivity between two hosts. It checks if there is a connection to the remote machine.	2
	(g) (a) This is a case of Plagiarism (Stealing) (b) The producer may have to face huge fine and penalties in this case. (c) Cyber Stalking	3

(h)	<p>Ans : (a)</p>  <p>OR</p> <p>Layout 1</p> <p>Layout 2</p> <p>Since the distance between Block A and Block B is quite short</p> <p>(b) The most suitable place / block to house the server of this organisation would be Block C, as this block contains the maximum number of computers, thus decreasing the cabling cost for most of the computers as well as increasing the efficiency of the maximum computers in the network.</p> <p>(c) (i) For Layout 1, since the cabling distance between Blocks A and C, and that between B and C are quite large, so a repeater each, would ideally be needed along their path to avoid loss of signals during the course of data flow in these routes. For layout 2, since the distance between Blocks A and C is large so a repeater would ideally be placed in between this path (ii) A hub/switch each would be needed in all the blocks, to interconnect the group of cables from the different computers in each block.</p> <p>(d) The most economic way to connect it with a reasonable high speed would be to use radio wave transmission, as they are easy to install, can travel long distances, and penetrate buildings easily, so they are widely used for communication, both indoors and outdoors. Radio waves also have the advantage of being omni directional, which is they can travel in all the directions from the source, so that the transmitter and receiver do not have to be carefully aligned physically.</p>	4
SECTION-C		
Q.4	(a) DESCRIBE OR DESC	1
	(b) IN	1
	(c) SELECT <column-names> FROM <table-name> WHERE <column-name> IS NULL;	1
	(d) Primary Key	1
	<p>(e) (i) DDL (Data Definition Language): Commands that allow you to perform task related to data definition e.g.</p> <ul style="list-style-type: none"> <li>• Creating, Altering and Dropping</li> <li>• Granting and Revoking Privileges and Roles</li> <li>• Maintenance commands</li> </ul> <p>(ii) DML (Data Manipulation Language): Commands that allow you to perform data manipulation e.g.</p> <ul style="list-style-type: none"> <li>• Retrieving (selecting)</li> <li>• Insertion</li> <li>• Deletion</li> <li>• Modification</li> </ul> <p style="text-align: center;">OR</p> <p>Degree: 4 and Cardinality: 9.</p>	2
	<p>(f) GET Request: This HTTP request is made to request data from server. This request sends the URL to the webserver which in turn sends the requested web page HTML to the web client.</p> <p>POST Request: This HTTP request is made to submit data to be processed at the server. This request is issued when the client has data to be sent to the server for processing.</p>	2

	(g)	Write a output for SQL queries (i) to (iii), which are based on the table: STUDENT	3
		(i) 3 (ii) 19-Mar-2004 12-Dec-2003 (iii) 54000	
	(h)	(v) Select ActivityName, Acodes from ACTIVITY order by Acodes desc; (vi) SELECT SUM(PrizeMoney),ParticipantsNum FROM ACTIVITY GROUP BY ParticipantsNum; (vii) Select ScheduleDate, ParticipantsNum FROM ACTIVITY where ActivityName=' Relay 100x4' (viii)Update ACTIVITY set PrizeMoney = PrizeMoney + 500 where ActivityName=' High jump'	4
		SECTION-D	
Q.5	(a)	Cyber Forensics	1
	(b)	Identity Theft meaning	1
	(c)	IPR is a general term covering patents, copyright, trademark, industrial designs, geographical indications, layout design of integrated circuits, undisclosed information (trade secrets) and new plant varieties. Any example	2
	(d)	Two steps to prevent Phishing attack	2
	(e)	Any way for disposal of used electronic gadgets	2
	(f)	Two gender issues while teaching and using computers	2