KENDRIYA VIDYALAYA SANGATHAN DELHI REGION

MARKING SCHEME

FIRST PRE-BOARD EXAMINATION 2019-20

COMPUTER SCIENCE NEW (Code: 083)

CLASS:-XII

SET 1

Time: 3 Hrs.
M.M.:70

General Instructions:

(a)All questions are compulsory,

(b)Question paper is divided into 4 sections A, B, C & D.

SECTION A-UNIT 1
B-UNIT 2
C-UNIT 3
D-UNIT 4

(c)Give examples where required.

SECTION A

Q. No.	Part	Question Description	Marks
Q1.	(a)	Which of the following is/are **not** a valid operator in python: (i) += (ii) import (iii) None (iv) or	1
		(ii) import	
	(b)	Write the type of tokens of the following: (i) _Var (ii) in	1
		(i) Identifier (ii) Keyword	
	(c)	Write the name(s) of the modules which are required to use these built-in functions:- (a) randrange() (b) abs()	1
		(a) random (b) math	
	(d)	Rewrite the following program after removing the syntactical errors	2

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SECTION A

Q. No.	Part	Question Description	Marks
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		(a) random (b) math	
	(d)	Rewrite the following program after removing the syntactical errors	2

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(if any). Underline each correction.

```
X=10
For I in range(0, X):
        if I<=5:
                Print(I%10)
        else
        print(I/10)
```

```
X=10
for I in range(0, X):
        if I<=5:
                print(I%10)
        else:
                print(I/10)
```

(e) Write the output of the following python program code(assume all necessary modules are included in program): 2

```
def Show(STR, KEY):
   X=0
   L=len(STR)
   while X < (L//2):
      if X%2 is not 1:
         print( STR[X] * KEY )
      else:
         print( STR[X] * (KEY+1) )
      X += 1
      KEY += 2

Show("PYTHON",1)  #Calling function Show()
```

Output:

```
P
YYYY
```

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		TTTTT	
	(f)	Write the output of the following python program code(assume all necessary modules are included in program): **Old_Msg="PasS@2019"** **New_Msg=""** **for M in Old_Msg:** **if M.isupper():** **New_Msg += M.lower()** **elif M.islower():** **New_Msg += M.upper()** **elif M.isdigit():** **New_Msg += "*"** **else:** **New_Msg += "#"** ***print("New message is :", New_Msg)***	3
		Output: New message is : pASs#****	
	(g)	Consider the following PYTHON program code and choose the option(s) which are possible as output. Also, print the **minimum** & **maximum** value of variable **Temp** during complete execution of the program.(assume all necessary modules are included in program): **import random** **Series=[0,2,4,6]** **for Count in range(0,4):** ***Temp = random.randint(Series[Count], Count*3)*** ***print(Temp,":",end=" ")*** ***(a)0: 0: 4: 6:*** ***(b) 0: 2: 5: 7:***	2

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		(c) 0: 3: 7: 8: **(d) 0: 4: 6: 9:**	
		Option (b) may be correct. Max value of Temp: 9 Min value of Temp: 0	
Q2.	(a)	What is the use of "continue" keyword in python?	1

		continue is keyword used to shift the execution control of the loop to the next iteration by bypassing all statements below it.
		for i in range(1,10):
		  if i==4:
		  continue
		  print(i)	

	(b)	*Write the statement in python to declare the dictionary named GRADE with the following specification:*	1

Key	Value
A	Outstanding
B	Excellent
C	Very Good
D	Good

GRADE={"A":"Outstanding", "B":"Excellent", "C":"Very Good", "D":"Good"}

(c) Identify the type of argument **M,** in the given below python code from the following options:

```
def Greater(A, M=0):
    if A>M:
        return A
    elif A<M:
        return M
```

(a) Sequential argument (b) Keyword argument

(c) Default argument (d) None of the above.

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		(b)Default argument	
	(d)	Identify the data type of X in the given below statement from the following options: X = (20, 3.14, "OK", 100) (a)List (b) Dictionary (c) Array (d) Tuple	1
		(d) Tuple	
	(e)	Write the output of the following python code: **def CALLER(A, B=100):** **A = A+B** **B = B%A** **return B** **print(CALLER(70))**	1
		Output: 100	
	(f)	Write any two ways/statements through which a *method/function of* a module may be imported in a python program. Give an example *for each.*	2
		1. import <module-name> will import all methods of the given module. E.g. import random 2. from <module-name> import <method-name> will import only the given method from the module. E.g. from random import randrange()	
	(g)	Write a python program to draw a bar chart for the year-wise growth of MNC Pvt. Ltd. Company whose details are given below: → Year : [2001,2002,2003,2004,2005] → Growth% : [50,20,40,55,60] → Title: GROWTH OF MNC PVT LTD **OR** Give the output of the following Python code: import matplotlib.pyplot as plt	2

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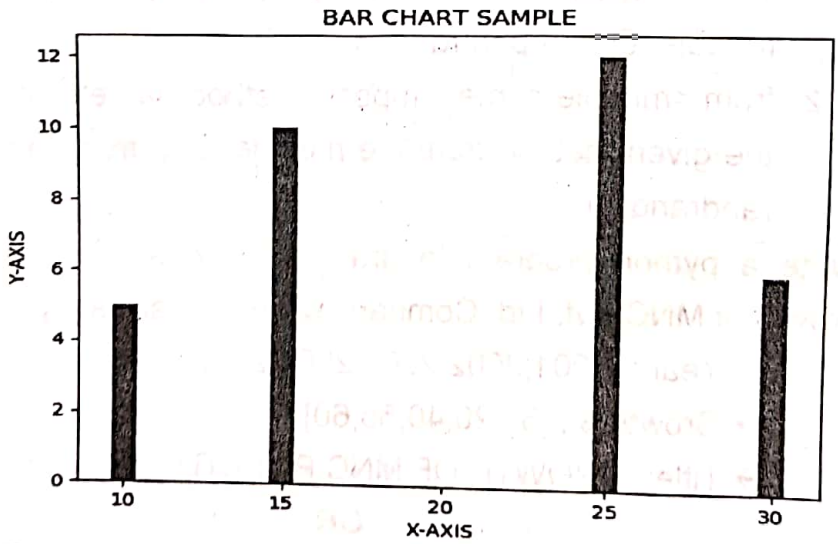
```
x1= [10,15,25,30]
y1= [5,10,12,6]
plt.bar(x1, y1)
plt.xlabel("X-AXIS")
plt.ylabel("Y-AXIS")
plt.title("BAR CHART SAMPLE")
plt.show()
```

```
import matplotlib.pyplot as plt

Year= [2001,2002,2003,2004,2005]
Growth= [50,20,40,55,60]
plt.bar(Year, Growth)
plt.xlabel("YEAR")
plt.ylabel("Growth%")
plt.title("GROWTH OF MNC PVT LTD")
plt.show()
```

OR



(h) Write a user-defined function named **Count_the()** in python that will read the contents of text file named **"Report.txt"** and count the — 2

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		number of times "the" or "The" words that exists in it. E.g. In the following paragraph, word "the" comes 2 times. **ISRO is expanding in the Aerospace. Chandrayan-2 is India's latest achievement for the same. World is looking at India for tomorrow's technology in space.** **OR** Write a function in python named **Count_R()** to count the number of lines in text file '**Report.txt**' which starts with an alphabet '**R**'.	

		def Count_the():
		C=0
		F=open("Report.txt","r")
		X=F.read()
		Word=X.split()
		for i in Word:
		if i=="the" or i=="The":
		C+=1
		print(C)
		F.close()
		OR
		def Count_T():
		file=open('Report.txt','r')
		lines = file.readlines()
		count=0
		for w in lines:
		if w[0]=="R":
		count=count+1
		print("Total lines starting from R are:",count)
		file.close()	

	(i)	Write the definition of a **recursive** function in Python named **Recur_SumSeries(N)** that will accept number of terms of the	3

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		series as argument and the function will return the sum of squares of natural numbers upto the **N** number. E.g. if function call is **Recur_SumSeries(4),** then output will be **$1 + 2^2 + 3^2 + 4^2 = 30$** **OR** Write definition of a **recursive** function named **Recur_Power(X,N)** in python to calculate and return the power of X upto number N passed as arguments. E.g. if function call is **Recur_Power(4,3),** then output will be **$4^3=64$**	

		def Recur_SumSeries(N):
		if N==1:
		return 1
		else:
		return (N*N)+Recur_SumSeries(N-1)
		
		print(Recur_SumSeries(3))
		OR
		def Recur_Power(X,N):
		if N==0:
		return 1
		else:
		return X*(Recur_Power(X,N-1))
		
		print(Recur_Power(3,3))	

	(j)	Write the definition of the **PUSHNAME()** & **POPNAME()** methods in Python to add a name and remove a name respectively from a given stack of names of countries. **OR** Write a function in Python QINSERT(Appl, No) and	4

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QDELETE(Appl) for performing insertion and deletion operations in a Queue of Applications. **Appl** is the list used for implementing queue and **No** is the value of a new application to be inserted in the queue.

```
Names=[]
def PUSHNAME():
    N=input("Enter a new name in the stack")
    Names.append(N)
    print("New named added in stack")

def POPNAME():
    if Names==[]:
        print("Stack is empty")
    else:
        print(Names[-1],"Top name deleted from stack")
        Names.pop(-1)
```

OR

```
Appl=[]
def QINSERT(Appl):
        No=int(input("Enter a new APPLICATION No.: "))
        Appl.append(No)

def QDELETE(Appl):
        if (Appl==[]):
                print( "Queue empty")
        else:
                print ("Deleted Application is: ",Appl[0])
                del(Arr[0])
```

SECTION B

Q3. (a) _____ is a network device used to divide a single computer 1

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		network into various sub-networks.	
		Switch	
	(b)	_____ is a data security technique in which the original form of a message changed into a form which is not meaningful in nature.	1
		Date encryption	
	(c)	_____ is the process of accessing a network from a remote place without being at the actual place of working.	1
		Telnet/Remote Login	
	(d)	_____ is a Command Prompt command which is used to test the ability of the source computer to reach a specified destination computer.	1
		ping	
	(e)	*What is Routing Table in Computer Network?*	2
		In computer networking a routing table, or routing information base, is a data table stored in a router or a network host that lists the routes to particular network destinations, and in some cases, metrics associated with those routes.	
	(f)	Expand the following:- 1. ICMP 2. Mbps 3. HTTPS 4. SCP	2
		1. Internet Control Message Protocol 2. Mega bits per second 3. Hyper Text Transfer Protocol Secured 4. Session Control protocol	
	(g)	Define & explain all parts of a URL of a website.	3
		URL stands for Uniform Resource Locator and it is the complete address of a website or web server. E.g. https://www.google.co.in It has various parts: 1. Name of Protocol: https 2. Web service: www	

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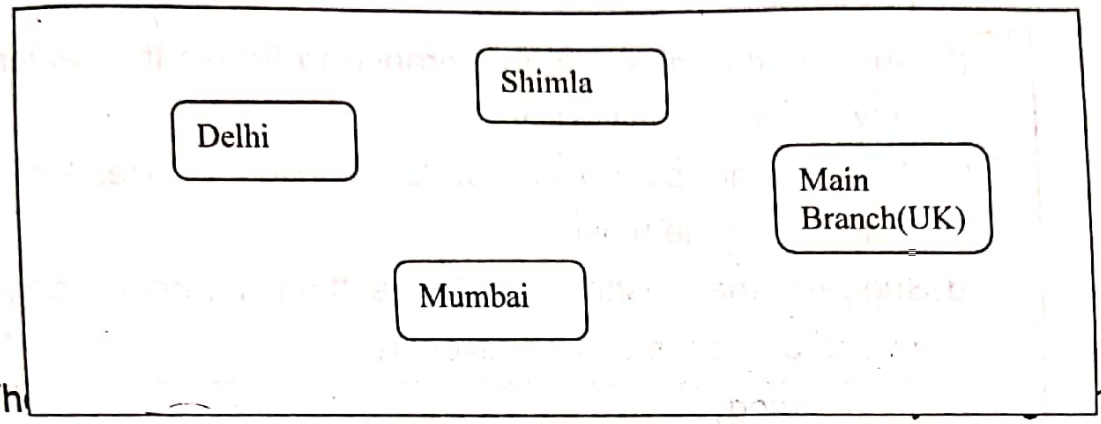
3. Name of server: google
4. DNS Name: co/com/org/gov, etc.
5. Name of country to which that site belongs: in/usa/aur/uk etc.

(h) PATIT University of Uttrakhand wants to set-up three new branches at Delhi, Mumbai & Shimla and getting them networked. 4



Th h as:-

Branch1	Branch2	Distance(in kms)
Main Branch(UK)	Delhi	550
Main Branch(UK)	Mumbai	2000
Main Branch(UK)	Shimla	2500
Delhi	Mumbai	1400
Mumbai	Shimla	4500
Delhi	Shimla	3500

The number of computers in various branches of the university are as:-

Branch	No. of Computers
Main Branch(UK)	150
Delhi	75

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Mumbai	50
Shimla	60

As a network expert, you are required to give best possible solutions for the given queries of the university administration:-

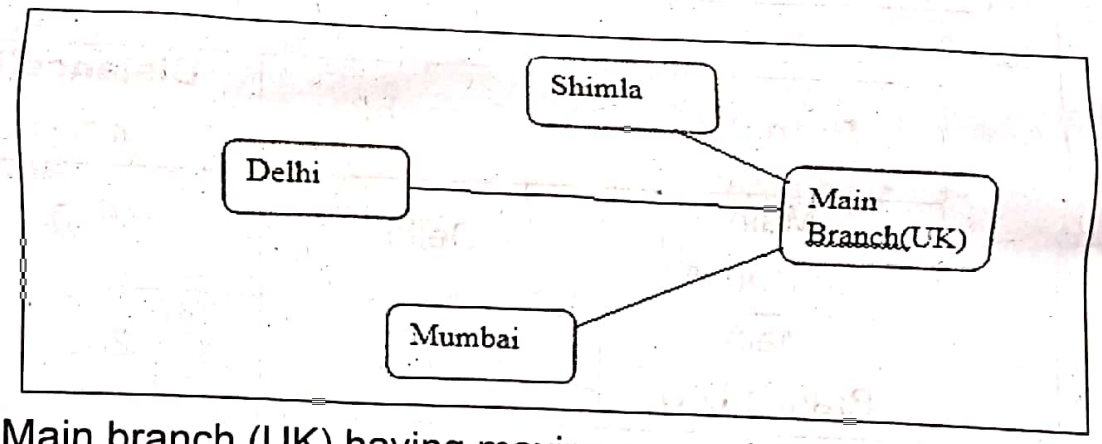
(a) Suggest cable layout for the connections between the branches,

(b) Suggest the most suitable branch to house the server of the network of the university,

(c) Suggest the placement of Switch/Hub or Repeater in all branches of the university,

(d) Suggest the technology for setting Internet connectivity among branches of the university.

(a) Star topology



(b) Main branch (UK) having maximum number of computers.

(c) Switch/Hub/Repeater will be used in every branch

(d) Satellite

SECTION C

Q4. (a) Which keyword in SQL is used to find unique values from various duplicate values in a column.

DISTINCT

(b) _____ command in SQL is used to change/modify data of a table.

UPDATE

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	(c)	_____ command in SQL is used to save the transactions made by any of the DML commands.	1
		COMMIT	
	(d)	Write the use of giving NOT NULL keyword for a column while creating a table in SQL.	1
		NOT NULL is used to specify that the column will not accept any NULL value.	
	(e)	Differentiate between WHERE and HAVING clause. OR Differentiate between DROP and DELETE command in SQL.	2
		WHERE clause is used to give a condition on the resultset retrieved after SELECT command before GROUP BY clause. HAVING clause is used to give a condition on the resultset retrieved after use of GROUP BY clause. **OR** *DROP* is a DDL command used to delete the structure as well as data of a table permanently. DELETE is a DML command used to delete some or all rows from a table not the structure of the table.	
	(f)	Differentiate between Django GET(() & POST() methods.	2
		GET and POST. GET and POST are the only HTTP methods to use when dealing with forms. Django's login form is returned using the POST method, in which the browser bundles up the form data, encodes it for transmission, sends it to the server, and then receives back its response. Both of these are dictionary-like objects that give you access to GET and POST data. POST data generally is submitted from an HTML <form>, while GET data can come from a <form> or the	

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query string in the page's URL.

(g) Write the output for the SQL queries (i) to (iii) which are based on the table **PLAN** given below: 3

PLAN

ID	NAME	DATA	SPEED	RENTAL
I001	Airtel	150	24	800
I002	BSNL	200	12	700
I003	Idea	160	12	750
I004	Tenda	250	16	850
I005	Vodafone	NULL	12	800
I006	Tata	150	24	750

(i) SELECT name, data, rental FROM plan WHERE rental >750;

(ii) SELECT id, name FROM plan WHERE name LIKE '%a' AND speed BETWEEN 10 TO 20;

(iii) SELECT COUNT(DISTINCT speed) FROM plan;

(i)

NAME	DATA	RENTAL
Airtel	150	800
Tenda	160	850
Vodafone	NULL	800

(ii)

ID	NAME
I003	Idea
I004	Tenda

(iii) 3

(h) Write SQL queries for (i) to (iv) which are based on the table **PLAN** given above in question 4(g): 4

(i) To display the name and speed of all PLANs in ascending order of their rental.

(ii) To count & display the number of PLANs speed-wise.

(iii) To display the maximum & minimum data of the PLANs

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		having rental more than 800. (iv) To display a list of PLANs where data is not given.	
		(i) SELECT name, speed FROM plan ORDER BY rental; (ii) SELECT speed, COUNT(*) FROM plan GROUP BY speed; (iii) SELECT MAX(data), MIN(data) FROM plan WHERE rental>800; (iv) SELECT * FROM plan WHERE data IS NULL;	
		SECTION D	
Q5.	(a)	_____ is the fraudulent attempt to obtain sensitive information like usernames, passwords, credit/debit cards details, etc.	1
		Phishing	
	(b)	A person is using the social account of twitter of another person without his/her information & consent. What this is called and what will be your action when you know about this?	1
		This is called a cybercrime and a complaint is to be lodged in Cyber police under IT Act, 2000.	
	(c)	Explain briefly any two measures to recycle e-waste safely.	2
		1. Use a certified(BAN-Basel Action Network) e-waste recycler. 2. Visit civic instructions under your local govt, schools, where persons drop-off their electronics at a particular place. 3. Donate your electronics to the who don't have these equipment and are required by them. 4. Explore retail options. (Any two of above with explanation)	
	(d)	What do you mean by software licensing? Give a real time example of it.	2
		Software licensing is the legal right to run or the privilege given to you by a company to access their applications or softwares. E.g. purchasing the licence to use a proprietary software like	

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		Windows OS, etc.	
	(e)	Explain any two disability issues that may arise while teaching using ICT tools.	2
		There may be various disability issues like: 1. Less Attention 2. Low Visual comprehension 3. Memory loss 4. Blindness 5. Linguistic problem (Any two of above with explanation)	
	(f)	List any two ways to verify the authentication of a person.	2
		The methods which may be used for the authentication of a person are: 1. Password: User should know since they start their activity. 2. Token: User is provided with and should have to do a specific activity. 3. Biometrics: Biological characteristics registered for verification. 4. OTP: One time pin/password is sent to the user to identify user's indentity. (Any two of above with explanation)	

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