

8	<p>Which of the following functions will return the key, value pairs of a dictionary?</p> <p>a) keys b)values c)items() d) All of these</p>	1
9	<p>Name the protocol that is used to transfer data over the internet.</p>	1
10	<p>After practicals, Atharv left the computer laboratory but forgot to sign off from his email account. Later, his classmate Revaan started using the same computer. He is now logged in as Atharv. He sends inflammatory email messages to few of his classmates using Atharv's email account. Revaan's activity is an example of which of the following cyber crime?</p> <p>a. Hacking b. Identity theft c. Cyber bullying d. Plagiarism</p>	1
11	<p>In SQL, name the clause that is used to sort the records in Ascending / descending order of an attribute.</p>	1
12	<p>Consider the table with structure as : Student (Id,name,dept_name,dob) In the above table which attribute will form the primary key?</p>	
13	<p>Name the aggregate function to find the average value in SQL.</p>	1
14	<p>Which of the following is not a DDL command?</p> <p>a) UPDATE b)ALTER TABLE c)CREATE TABLE d)DROP TABLE</p>	1
15	<p>Name the transmission media best suitable for difficult terrain like hilly areas.</p>	1
16	<p>Write the output of the following.</p> <pre>d = {"john":40, "peter":45} "john" in d</pre>	
17	<p>Assertion (A):- If the arguments in function call statement match the number and order of arguments as defined in the function definition, such arguments are called positional arguments.</p> <p>Reasoning (R):- During a function call, the argument list first contains default argument(s) followed by positional argument(s).</p> <p>Mark the correct choice as</p> <p>(a) Both A and R are true and R is the correct explanation for A (b) Both A and R are true and R is not the correct explanation for A (c) A is True but R is False (d) A is false but R is True</p>	1
18	<p>Assertion (A) – Protocol is a set of rules and guidelines for data communication over the internet</p> <p>Reasoning (R) – This determines the data communication among various devices connected on a network</p> <p>(a) Both A and R are true and R is the correct explanation for A (b) Both A and R are true and R is not the correct explanation for A</p>	1

	(c) A is True but R is False (d) A is false but R is True	
SECTION B (2 marks each)		
19	Evaluate the following expressions: a) $16 // 3 + 3 ** 3 + 15 / 4 - 9$ b) $x > y$ or $y < z$ and not $x != z$ If $x, y, z = 25, 16, 9$	2
20	Write any two differences between twisted pair and co-axial pair cable. OR Differentiate between LAN and WAN.	2
21	Expand the following terms: a. GPRS b. GSM c. WLL d. PPP	2
22	Differentiate between parameters and arguments. OR How can a function return multiple values? Illustrate with an example program.	2
23	Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code. Num = int(input("Number:")) s=0 for i in range(1,Num,3) s+=1 if i%2=0: print(i*2) Else print(i*3) print (S)	2
24	Give the output def Display(str): m="" for i in range(0,len(str)): if(str[i].isupper()): m=m+str[i].lower() elif str[i].islower(): m=m+str[i].upper() else: if i%2==0: m=m+str[i-1] else: m=m+"#" print(m) Display('Fun@Python3.0')	2
25	What do you understand by Alternate Keys in a table? Give a suitable example of Alternate Keys from a table containing some meaningful data.	2
Section – C		

(3 marks each)

26

Write a function Interchange (num) in Python, which accepts a list **num** of integers, and interchange the adjacent elements of the list and print the modified list as shown below: (Number of elements in the list is assumed as even)

Original List:

num = [5,7,9,11,13,15]

After Rearrangement num = [7,5,11,9,15,13]

3

27

Write a function in Python that displays the **words**, starting with uppercase letter in a file 'legend.txt'.

Example: If the "legend.txt" contents are as follows:

Diego Maradona, Argentinian soccer legend and celebrated Hand of Godscorer dies at 60.

The output of the function should be:

Diego Maradona, ArgentinianHand God

OR

Write a function countdigits() in Python, which should read each character of a text file "marks.txt", count the number of digits and display the file content and the number of digits.

Example: If the "marks.txt" contents are as follows:

Harikaran:40,Atheeswaran:35,Dahrshini:30,Jahnavi:48

The output of the function should be:

Harikaran:40,Atheeswaran:35,Dahrshini:30,Jahnavi:48

('Total number of digits in the file:', 8)

3

28

Write the outputs of the SQL queries (i) to (iii) based on the relations Car and Customer given below:

Car

Ccode	Cname	Make	Colour	Capacity	Charges
201	Triber	Renault	Yellow	7	1000
203	Altroz	Tata	Black	5	1500
208	Innova	Toyota	Silver	8	3000
209	Harrier	Tata	White	6	2000
212	Duster	Renault	Red	6	2500
217	Ertiga	Suzuki	Grey	7	2300

Customer

Custcode	Custname	Ccode
101	Gopinath	201
102	Ashok	203
103	Harshini	209
104	Vishnu	212

- i. Select make, count(*) from Car group by make having count(*)<2;
- ii. Select Cname, Make from Car order by charges desc;
- iii. Select Custname, Cname from Car R, Customer C where

3

	R.Ccode=C.Ccode:															
29	<p>Write a function in Python PUSH(Arr), where Arr is a list of numbers. From this list push all numbers divisible by 5 into a stack implemented by using a list. Display thestack if it has at least one element, otherwise display appropriate error message.</p> <p style="text-align: center;">Or</p> <p>Write a function in Python POP(Arr), where Arr is a stack implemented by a list of numbers. The function returns the value deleted from the stack.</p>	3														
30	<p>Find and write the output of the following Python code:</p> <pre>def Shuffle(str1): str2="" for i in range(0,len(str1)-1): if(str1[i].islower()): str2=str2+str1[i].upper() elif str1[i].isupper(): str2=str2+str1[i].lower()elif str1[i].isdigit(): str2=str2+'d' else: str2=str2+(str1[1-i]) print(str2) Shuffle('Pre-Board Exam@2023')</pre>	3														
SECTION D (5 marks each)																
31	<p>Global Education Services PVT Ltd. is an educational organization. It is planning to setup its India campus at Chennai with its head office at Delhi. The Chennai campus has 4 main buildings - ADMIN, ENGINEERING, BUSINESS and MEDIA.</p> <p>You as a network expert have to suggest the best network related solutions for their problems raised in (i) to (iv), keeping in mind the distances between the buildings and other given parameters.</p> <p>Shortest Distances between various building:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>ADMIN to ENGINEERING</td> <td>55m</td> </tr> <tr> <td>ADMIN to BUSINESS</td> <td>90m</td> </tr> <tr> <td>ADMIN to MEDIA</td> <td>50m</td> </tr> <tr> <td>ENGINEERING to BUSINESS</td> <td>55m</td> </tr> <tr> <td>ENGINEERING to MEDIA</td> <td>50m</td> </tr> <tr> <td>BUSINESS to MEDIA</td> <td>45m</td> </tr> <tr> <td>DELHI Head Office to CHENNAI Campus</td> <td>2175 km</td> </tr> </table>	ADMIN to ENGINEERING	55m	ADMIN to BUSINESS	90m	ADMIN to MEDIA	50m	ENGINEERING to BUSINESS	55m	ENGINEERING to MEDIA	50m	BUSINESS to MEDIA	45m	DELHI Head Office to CHENNAI Campus	2175 km	5
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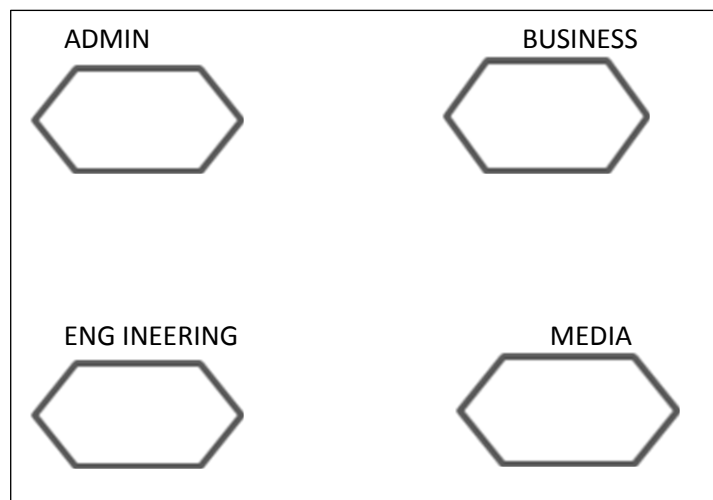
Number of Computers installed at various building are as follows:

ADMIN	110
ENGINEERING	75
BUSINESS	40
MEDIA	12
DELHI Head Office	20

Delhi Head Office



CHENNAI



(i) Suggest the most appropriate location of the server inside the CHENNAI campus (out of the 4 buildings), to get the best connectivity for maximum no. of computers. Justify your answer.

(ii) Suggest and draw the cable layout to efficiently connect various buildings within the CHENNAI campus for connecting the computers.

(iii) Which hardware device will you suggest to be procured by the company to be installed to protect and control the internet uses within the campus?

(iv) Which of the following will you suggest to establish the online face-to-face communication between the people in the Admin Office of CHENNAI campus and DELHI Head Office?

- (a) Cable TV
- (b) Email
- (c) Video Conferencing
- (d) Text Chat

(v) Suggest the placement of the following devices with appropriate reasons:

- a. Switch / Hub
- b. Repeater

(a) Predict the output of the following code:

```
def Change(A):
    S=0
    for i in range(len(A)//2):
        S+=(A[i]*2)
    return S
B = [10,11,12,30,32,34,35,38,40,2]
C = Change(B)
print('Answer is',C)
```

(b) A Book store **Current Books** is planning to store their book details in a database using SQL. As a database administrator, Poorvekka has decided that:

- (a) Name of the database - CB
 (b) Name of the table - Collections
 (c) The attributes of Collections are as follows:

BookNo - Numeric
 BookName – Character of size 25
 Price – Numeric
 Quantity – Numeric

Collections

BookNo	BookName	Price	Quantity
1647	The Lowland	399	75
5241	The Inheritance Of Loss	555	44
3546	The Guide	641	60
4541	Untouchable	529	53
5025	Train to Pakistan	643	73
6783	Godan	341	97
7614	The God Of Small Things	555	48

- (i) Identify the attribute best suitable to be declared as a primary key,
 (ii) Write the degree and cardinality of the table **Collections**.
 (iii) Write SQL command to increment the quantity by 20 wherever quantity is below 50.

OR

(a) Write the output of the code given below

```
p=5
def sum(q,r=2):
    global p
    p=r+q**2
    print(p, end= '#')
```

```

a=10
b=5
sum(a,b)
sum(r=5,q=1)

```

(b) The code given below inserts the following record in the table
Student:RollNo – integer
Name – string
Class – integer
Marks – integer

Note the following to establish connectivity between Python and MYSQL:

- Username is root
- Password is tiger
- The table exists in a MYSQL database named school.
- The details (RollNo, Name, Class and Marks) are to be accepted from the user.

Write the following missing statements to complete the code: Statement 1 – to form the cursor object.

Statement 2 – to execute the command that inserts the record in the table Student.

Statement 3- to add the record permanently in the database

```

import mysql.connector as mysql
def sql_data():
    con1=mysql.connect(host="localhost",user="root",
                       password="tiger", database="school")
    mycursor=_____ #Statement 1
    rno=int(input("Enter Roll Number :: "))
    name=input("Enter name :: ")
    clas=int(input("Enter class :: "))
    marks=int(input("Enter Marks :: "))
    query="insert into student values ({},'{}',{},{}) " . format
          (rno,name,clas,marks)
    _____ #Statement 2
    _____ # Statement 3
    print("Data Added successfully")

```

33

A file sports.dat contains information in following format [event, participant]. Write a program that would read the contents from file and copy only those records from sports.dat where the event name is "Athletics" in new file named Athletics.dat

OR

A binary file "STUDENT.DAT" has structure [admission_number, Name, Percentage]. Write a function countrec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%.

5

SECTION E

(4 marks each)

34

a)What is the difference between 'a' mode and 'w' modes?
(b) Write a function CSVFILE() to read CSV file emp.csv containing empno, name, salary and search any empno and display name,salary and if not found appropriate message.

OR

a)Give any one point of difference between a binary file and a csv file.
Write a Program in Python that defines and calls the following user defined functions:

b) add() – To accept and add data of an employee to a CSV file 'furdata.csv'. Each record consists of a list with field elements as fid, fname and fprice to store furniture id, furniture name and furniture price respectively.

search()- To display the records of the furniture whose price is more than 10000.

4

35

Jannat has written a following piece of Code to create a CSV file which will contain Item Name, Description and Price for some items. As a programmer, help her to execute the following code.

```
import _____ # Line1
fh=open("Items.csv",_____) #Line 2
iwriter=csv._____ #Line 3
ans='y'
itemrec=[['Item_Name','Description','Price']]
print('Enter item Details')
while ans=='y':
    iname=input("Enter Item Code")
    desc=input("enter description")
    price=float(input("enter price"))
    itemrec.append([iname,desc,price])
    ans=input("Do you want to enter more records")
else:
    iwriter._____ #Line 4
    print("records written succesfully")
fh._____ #Line 5
```

4

(Attend any four questions)

- (a) Name the Module she should import in Line 1
- (b) In which mode should Jannat open the file to add data to file
- (c) Write the function to be called along with appropriate argument in Line 3 to create the object.
- (d) Fill in the blank in Line 4 to write all item details in one go.
- (e) Fill in the blank to close the file in Line 5.
