CBSE Board Examination – 2024
COMPUTER SCIENCE
Solved Paper
Class– 12th

Maximum Marks: 70 *Time allowed: 3 hours*

GENERAL INSTRUCTIONS:

i. Please check this question paper contain 35 questions.
ii. The Paper is divided into 5 Sections - A,B,C,D and E.
iii. Section A, consists of 18 questions (1 to 18). Each question carries 1 mark.
iv. Section B, consists of 7 questions (19 to 25). Each question carries 2 marks.
v. Section C, consists of 5 questions (26 to 30). Each question carries 3 marks.
vi. Section D, consists of 2 questions (31 to 32). Each question carries 4 marks.
vii. Section E, consists of 3 questions (33 to 35). Each question carries 5 marks.
viii. All programming questions are to be answered using Python Language only.

SECTION– A

1. State True or False:
While defining a function in Python, the positional parameters in the function header must always be written after the default parameters. **1**

2. The **SELECT** statement when combined with _____ clause, returns records without repetition. **1**
(A) DISTINCT **(B)** DESCRIBE
(C) UNIQUE **(D)** NULL

3. What will be the output of the following statement:
print (16*5/4*2/5-8) **1**
(A) -3 .33 **(B)** 6. 0
(C) 0. 0 **(D)** -13 .33

4. What possible output from the given options is expected to be displayed when the following Python code is executed ? **1**
```
import random
Signal =['RED' , 'YELLOW ', 'GREEN ']
for K in range (2, 0, -1):
R = random. randrange (K)
print (Signal [R] , end = '#')
```
(A) YELLOW # RED #
(B) RED # GREEN #
(C) GREEN # RED #
(D) YELLOW # GREEN #

5. In SQL, the aggregate function which will display the cardinality of the table is _____. **1**
(A) sum ( ) **(B)** count (*)
(C) avg ( ) **(D)** sum (*)

6. Which protocol out of the following is used to send and receive emails over a computer network ? **1**
(A) PPP **(B)** HTTP
(C) FTP **(D)** SMTP

7. Identify the invalid Python statement from the following. **1**
(A) d = dict ( ) **(B)** e = { }
(C) f = [] **(D)** g = dict{}

8. Consider the statements given below and then choose the correct output from the given options: **1**
myStr= "MISSISSIPPI"
print (myStr [: 4] +" # " + myStr [-5:])
(A) MISSI#SIPPI **(B)** MISS#SIPPI
(C) MISS#IPPIS **(D)** MISSI#IPPIS

9. Identify the statement from the following which will raise an error: **1**
(A) print ("A" *3) **(B)** print (5*3)
(C) print ("15" + 3) **(D)** print ("15" + "13")

10. Select the correct output of the following code: **1**
```
event= " G20 Presidency@2023"
L=event . split (' ')
(print (L[:: - 2] )
```
(A) 'G20'
(B) ['Presidency@2023']
(C) ['G20']
(D) 'Presidency@2023'

11. Which of the following options is the correct unit of measurement for network bandwidth ? **1**
(A) KB **(B)** Bit
(C) Hz **(D)** Km

12. Observe the given Python code carefully: **1**
```
a=20
def convert (a):
    b=20
    a=a+b
convert (10)
print (a)
```
Select the correct output from the given options:
(A) 10 **(B)** 20
(C) 30 **(D)** Error

13. State whether the following statement is True or False: **1**
While handling exceptions in Python, name of the

exception has to be compulsorily added with except clause.

14. Which of the following is not a DDL command in SQL ? **1**

(A) DROP **(B)** CREATE
(C) UPDATE **(D)** ALTER

15. Fill in the blank: **1**

_____ is a set of rules that needs to be followed by the communicating parties in order to have a successful and reliable data communication over a network.

16. Consider the following Python statement: **1**

F=open ('CONTENT . TXT ')

Which of the following is an invalid statement in Python ?

(A) F. seek (1 , 0) **(B)** F. seek (0, 1)
(C) F. seek (0, -1) **(D)** F. seek (0 , 2)

Q. 17 and 18 are ASSERTION (A) and REASONING (R) based questions.

Mark the correct choice as

(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.

17. Assertion (A): CSV file is a human readable text file where each line has a number of fields, separated by comma or some other delimiter.

Reason (R): writerow ( ) method is used to write a single row in a CSV file. **1**

18. Assertion (A): The expression "HELLO" . sort() in Python will give an error. **1**

Reason (R): sort ( ) does not exist as a method/function for strings in Python.

SECTION– B

19.(A) (i) Expand the following terms: 1+1 = 2
XML , PPP

(ii) Give one difference between circuit switching and packet switching.

OR

(B) (i) Define the term web hosting.
(ii) Name any two web browsers.

20. The code given below accepts five numbers and displays whether they are even or odd: **2**

Observe the following code carefully and rewrite it after removing all syntax and logical errors:

Underline all the corrections made.

```
def EvenOdd ( )
for i in range (5):
    num = int (input ("Enter a number")
    if num/ 2 = 0:
            print ("Even")
    else:
    print (" Odd" )
EvenOdd ()
```

21. (A) Write a user defined function in Python named showGrades (S) which takes the dictionary S as an argument. The dictionary, S contains **Name: [Eng ,Math, Science] as key: value** pairs. The function displays the corresponding grade obtained by the students according to the following grading rules: **2**

Average of Eng ,Math , Science	Grade
>=90	A
<90 but >=60	B
<60	C

For example: Consider the following dictionary

S={"AMIT": [92, 86, 64], "NAGMA": [65, 42, 43], "DAVID": [92, 90, 88]}

The output should be:

AMIT – B

NAGMA – C

DAVID – A

OR

(B) Write a user defined function in Python named **Puzzle (W, N)** which takes the argument **W** as an English word and **N** as an integer and returns the string where every N^{th} alphabet of the word **W** is replaced with an underscore ("_").

For example: if **W** contains the word "TELEVISION" and **N** is 3, then the function should return the string **"TE_EV_SI_N".** Likewise for the word **"TELEVISION"** if **N** is 4, then the function should return **"TEL_VIS_ON".**

22. Write the output displayed on execution of the following Python code: **2**

```
LS=["HIMALAYA", "NILGIRI", "ALASKA", "ALPS"]
D={}
for S in LS:
        if  len(S) % 4 == 0:
                D[S] = len(S)
for K in D:
        print (K,D[K] , sep = "#")
```

23. Write the Python statement for each of the following tasks using built-in functions/methods only: **1+1=2**

(i) To remove the item whose key is "NISHA" from a dictionary named Students.

For example, if the dictionary Students contains {"ANITA": 90, "NISHA":.76, "ASHA": 92}, then after removal the dictionary should contain {"ANITA": 90, "ASHA": 92}

(ii) To display the number of occurrences of the substring " is" in a string named message .

For example if the string message contains "This is his book" , then the output will be 3.

OR

(B) A tuple named **subject** stores the names of different subjects. Write the Python commands to convert the given tuple to a list and thereafter delete the last element of the list.

24. (A) Ms. Veda created a table named **Sports in a MySQL database**, containing columns **Game_id,** P_Age and G_name. **2**

After creating the table, she realized that the attribute, **Category** has to be added. Help her to write a command to add the **Category** column. Thereafter, write the command to insert the following record in the table:

Game_id: G42
P_Age: Above 18
G_name: Chess
Category: Senior

OR

(B) Write the SQL commands to perform the following tasks:

(i) View the list of tables in the database, **Exam.**

(ii) View the structure of the table, **Terml.**

25. Predict the output of the following code: **2**

```
def callon (b=20, a=10):
    b=b+a
    a=b-a
    print (b, "#",a)
    return b
x=100
y=200
x=callon (x , y)
print (x, "@",y)
y=callon (y)
print (x, "@",y)
```

SECTION– C

26. Write the output on execution of the following Python code: **3**

```
S="Racecar Car Radar"
L=S. split ( )
for W in L:
    x=W. upper ( )
    if x==x [::-1]:
            for I in x:
                print (I , end="*" )
else:
    for I in W:
            print (I , end="#" )
print ( )
```

29. Consider the table **Projects** given below: **1×3=3**

Table: Projects

P_id	Pname	Language	Startdate	Enddate
P001	School Management System	Python	2023-01-12	2023-04-03
P002	Hotel Management System	C++	2022-12-01	2023-02-02
P003	Blood Bank	Python	2023-02-11	2023-03-02
P004	Payroll Management System	Python	2023-03-12	2023-06-02

Based on the given table, write SQL queries for the following:

(i) Add the constraint, **primary key** to column **P_id** in the existing table **Projects.**

(ii) To change the language to **Python** of the project whose id is **P002.**

(iii) To delete the table **Projects** from MySQL database along with its data.

30. Consider a list named **Nums** which contains random integers. **3**

27. Consider the table ORDERS given below and write the output of the SQL queries that follow: **1×3=3**

ORDNO	ITEM	QTY	RATE	ORDATE
1001	RICE	23	120	2023-09-10
1002	PULSES	13	120	2023-10-18
1003	RICE	25	110	2023-11-17
1004	WHEAT	28	65	2023-12-25
1005	PULSES	16	110	2024-01-15
1006	WHEAT	27	55	2024-04-15
1007	WHEAT	25	60	2024-04-30

(i) SELECT ITEM, SUM (QTY) FROM ORDERS GROUP BY ITEM;

(ii) SELECT ITEM, QTY FROM ORDERS WHERE ORDATE BETWEEN

'2023-11-01 ' AND '2023-12-31 ' ;

(iii) SELECT ORDNO, ORDATE FROM ORDERS WHERE ITEM = ' WHEAT' AND RATE>=60;.

28. (A) Write a user defined function in Python named **showInLines ( )** which reads contents of a text file named STORY. TXT and displays 3 every sentence in a separate line. **3**

Assume that a sentence ends with a full stop (.), a question mark (?), or an exclamation mark (!).

For example, if the content of file STORY . TXT is as follows:

Our parents told us that we must eat vegetables to be healthy. And it turns out, our parents were right! So, what else did our parents tell?

Then the function should display the file's content as follows:

Our parents told us that we must eat vegetables to be healthy.

And it turns out, our parents were right!

So, what else did our parents tell?

OR

(B) Write a function, **c_words** ( ) in Python that separately counts and displays the number of uppercase and lowercase alphabets in a text file, **Words . txt.**

Write the following user defined functions in Python and perform the specified operations on a stack named BigNums.

(i) PushBig(): It checks every number from the list Nums and pushes all such numbers which have **5 or more digits** into the stack, **BigNums**.

(ii) PopBig ( ): It pops the numbers from the stack, **BigNums** and displays them. The function should also display "**Stack Empty**" when there are no more numbers left in the stack.

For example: If the list **Nums** contains the following data:

Nums = [213, 10025, 167, 254923, 14, 1297653, 31498, 386, 92765]

Then on execution of **PushBig ( )**, the stack **BigNums** should store:

[10025, 254923, 1297653, 31498, 92765]

And on execution of **PopBig ( ),** the following output should be displayed:

92765

31498

1297653

254923

10025

Stack Empty

SECTION– D

31. Consider the tables Admin and Transport given below: 1 X 4 = 4

Table: Admin

S_id	S_name	Address	S_type
S001	Sandhya	Rohini	Day Boarder
S002	Vedanshi	Rohtak	Day Scholar
S003	Vibhu	Raj Nagar	NULL
S004	Atharva	Rampur	Day Boarder

Table: Transport

S_id	Bus_no	Stop_name
S002	TSS10	Sarai Kale Khan
S004	TSS12	Sainik Vihar
S005	TSS10	Kamla Nagar

Write SQL queries for the following:

(i) Display the student name and their stop name from the tables

Admin and Transport .

(ii) Display the number of students whose S_type is not known.

(iii) Display all details of the students whose name starts with 'V'

(iv) Display student id and address in alphabetical order of student name, from the table **Admin**.

32. Sangeeta is a Python programmer working in a computer hardware company. She has to maintain the records of the peripheral devices. She created a csv file named **Peripheral . csv,** to store the details. The structure of **Peripheral . csv** is: **4**

[P_id , P_name , Price]

where

P_id is Peripheral device ID (integer)

P_name is Peripheral device name (String)

Price is Peripheral device price (integer)

Sangeeta wants to write the following user defined functions:

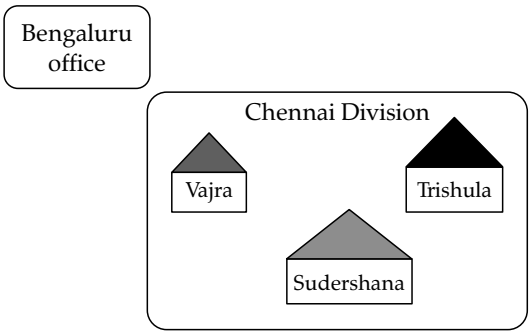
Add_Device ( ): to accept a record from the user and add it to a csv file, **Peripheral . csv**.

Count_Device ( ): To count and display number of peripheral devices whose price is less than 1000.

SECTION– E

33. Infotainment Ltd. is an event management company with its prime office located in Bengaluru. The company is planning to open its new division at three different locations in Chennai named as - Vajra, Trishula and Sudershana. **1 × 5 = 5**

You, as a networking expert need to suggest solutions to the questions m part (i) to (v), keeping in mind the distances and other given parameters.



Distances between various locations:

Vajra to Trishula	350 m
Trishula to Sudershana	415 m
Sudershana to Vajra	300m
Bengaluru Office to Chennai	2000 km

Number of computers installed at various locations:

Vajra	120
Sudershana	75
Trishula	65
Bengaluru Office	250

(i) Suggest and draw the cable layout to efficiently connect various locations in Chennai division for connecting the digital devices.

(ii) Which block in Chennai division should host the server ? Justify your answer.

(iii) Which fast and effective wired transmission medium should be used to connect the prime office at Bengaluru with the Chennai division ?

(iv) Which network device will be used to connect the digital devices within each location of Chennai

division so that they may communicate with each other ?

(v) A considerable amount of data loss is noticed between different locations of the Chennai division, which are connected in the network. Suggest a networking device that should be installed to refresh the data and reduce the data loss during transmission to and from different locations of Chennai division.

34. (A)(i) Differentiate between **'w'** and **'a'** file modes in Python. **2+3=5**

(ii) Consider a binary file, **items . dat,** containing records stored in the given format:

{**item_id:** [item_name , amount] }

Write a function, Copy_new() , that copies all records whose amount is greater than 1000 from **items. dat to** new_items.dat.

OR

(B) (i) What is the advantage of using **with** clause while opening a data file in Python ? Also give syntax of **with** clause..

(ii) A binary file, EMP. DAT has the following structure:

[Emp Id, Name, Salary]

where

Emp_Id: Employee id

Name: Employee Name

Salary: Employee Salary

Write a user defined function, disp_Detail(), that would read the contents of the file **EMP. DAT** and display the details of those employees whose salary is below 25000.

35. (A) (i) Define cartesian product with respect to RDBMS. **1+4=5**

(ii) Sunil wants to write a program in Python to update the quantity to **20** of the records whose item code is 111 in the table named shop in MySQL database named **Keeper**.

The table shop in MySQL contains the following attributes:

- Item_code: Item code (Integer)
- Item_name: Name of item (String)
- **Qty:** Quantity of item (Integer)
- **Price:** Price of item (Integer)

Consider the following to establish connectivity between Python and MySQL**:**

- Username: **admin**
- Password: **Shopping**
- Host: **localhost**

OR

(B) (i) Give any two features of SQL.

(ii) Sumit wants to write a code in Python to display all the details of the passengers from the table **flight in MySQL database, Travel**. The table contains the following attributes:

F_code: Flight code (String)

F_name: Name of flight (String)

Source: Departure city of flight (String)

Destination: Destination city of flight (String)

Consider the following to establish connectivity between Python and MySQL.

- Username: **root**
- Password: **airplane**
- Host: **localhost**

■■

ANSWERS

SECTION– A

1. True

Explanation: The default parameters must be specified first before the positional parameters in a function definition.

2. Option (A) is correct.

Explanation: The DISTINCT clause returns the unique values from a set of values in a field of a table.

3. Option (C) is correct.

Explanation: (16*5/4*2/5-8)
=(16*5/4*0.4 – 8)
=(16*1.25*0.4 – 8)
=8.0 – 8
=0.0

4. Option (A) is correct.

Explanation: The variable K can assume the values 2,1.
Possible values for R in 1st iteration are 0,1 , Therefore Signal[R] can have values "RED" or "YELLOW"
Possible values for R in 2nd iteration are 0 , Signal[R] can therefore have value of "RED".
Therefore, only Option (A) is possible.

5. Option (B) is correct.

Explanation: count(*) from <tablename> statement returns the number of rows in a table, which is the cardinality of a table.

6. Option (D) is correct.

Explanation: Simple Mail Transfer Protocol (SMTP) is an application protocol used to send and receive files between remote computers in a network.

7. Option (D) is correct.

Explanation: dict() function follows the following form <dictionary variable>=dict(). The g=dict{} is an invalid python syntax.

8. **Option (B) is correct.**
Explanation: The mystr[:4] returns characters from index 0 to 3 that is "MISS" which is concatenated with "#". In the next part the mystr[-5:] slice returns characters from index -5 to the end which is 'SIPPI'.
As we know in python indexes start from 0 to n-1 in forward direction and -1…-n in backward direction.
The final string formed is: 'MISS#SIPPI'

9. **Option (C) is correct.**
Explanation: There will be a type error with the statement: print("15" +3) , as "15" is a string and 3 is an integer which are added here.

10. **Option (B) is correct.**
Explanation: The split() function splits a string on a delimiter character and returns a list of the parts. event.split() returns a list storing ['G20', 'Presidency@2023'] splitting the string on ' '. print(L[::-2] returns values from the list backwards skipping by 2, giving ['Presidency@2023'].

11. **Option (C) is correct.**
Explanation: Network bandwidth is measured in Hertz.

12. **Option (B) is correct.**
Explanation: The convert function modifies the value of the local variable 'a' that is present as the function's formal parameter. The value printed is that of the global variable 'a' whose value is unchanged and is 20.

13. **False**
Explanation: The name of the exception may not be written with the except block.

14. **Option (C) is correct.**
Explanation: Update is a data manipulation command that makes changes to the data of a table.

15. Protocol
Explanation: Protocols are rules that must be followed by network devices in a communication. Other than the base protocol TCP/IP in windows networks there are many application protocols such as: FTP , IRCP ,POP , Telnet etc.

16. **Option (C) is correct.**
Explanation: F.seek(0, 1) means the reference parameter is 1.
0: sets the reference point at the beginning of the file
1: sets the reference point at the current file position
2: sets the reference point at the end of the file

17. **Option (B) is correct.**
Explanation: Comma separated values files are like text files that store data in record like pattern separated by comma or other delimiter.
The writerow() function writes a single row of data in a csv file. So both the statements are true but the reason is not valid for the assertion statement.

18. **Option (A) is correct.**
Explanation: sort() function does not work for strings, hence the statement will give error. Both the assertion and reason statements are true and match for each other.

SECTION– B

19. **(a) (i)** XML: Extensible Markup Language
(ii) PPP: Point to point protocol
(ii)

Circuit switching	Packet switching
Circuit switching establishes a dedicated path for communication.	Packet switching breaks data into smaller packets and sends them independently, making routing decisions based on network conditions.

(b) (i) Web Hosting: The process of uploading the data and information to a publicly accessible web server, so that they can be accessed by users around the world, is called web hosting.
(ii) Two popular web browsers are: Internet Explorer and Mozilla Firefox

20. **Given code:**

```
def EvenOdd()
            #: is not present after function definition
    for i in range(5):
        num=int(input("Enter a number")
                #closing parenthesis is not present
        if num / 2==0:
            #% to be used in place of / for remainder
             print("Even")
        else:
             print("Odd")   #Indentation not correct
EvenOdd()
```

Corrected code

```
def EvenOdd():
    for  i  in range(5):
        num=int(input("Enter a number "))
            if num%2==0:
                print("Even")
            else:
                print("Odd")
EvenOdd()
```

21. **(a)**

```
def showGrades(S):
    for n, marks  in S.items():
        perc=sum(marks)/3
        if perc>=90:
            print(n + ": " + "A")
        elif perc>=60:
            print(n + ": " + "B")
        else:
            print(n + ": " + "C")
```

OR

(b)

```
def  puzzle(w,n):
    mystr=""
    for i in range(0,len(w)):
        if (i+1)%n==0:
            mystr += "_"
        else:
            mystr += w[i]
    print(mystr)
    return mystr
```

22. Output:
HIMALAYA#8
ALPS#4
Explanation: In the code 'S' picks each of the list values in the for loop. It then checks for the length of the string item picked in 'S'. If the length is divisible by 4, the string item and its length are added in a dictionary as key and value pairs.
The contents of the dictionary are then printed.

23. (a) del Students["NISHA"]
(i) message.count("is")
Explanation: The del function with the key of the dictionary can remove a key:value pair from a dictionary.
(ii) The count() function counts the number of occurrences of a substring in a string.

OR

(b) SubLst=list(subject)
SubLst.pop()
Explanation: The list() function converts the tuple to a list . The pop() function removes the last element from the list.

24. (a) Alter table Sports ADD Category varchar(20);
Insert into Sports values("G42","Above 18","Chess","Senior");

OR

(b) (i) Use Exam;
Show Tables;
(ii) Describe Term1;

25. Output:
300 # 100
300 @ 200
210 # 200
300 @ 210
Explanation: The 1st call to the callon() function uses the positional values of x=100 , y=200 passed . These values calculate the values of 'a' , 'b' .
In the 2nd call to the callon() function only one of the values of 'y' is passed into 'b' whereas for 'a' the default value is used for the calculations.

SECTION– C

26. Output:
R*A*C*E*C*A*R*
C#a#r#
R*A*D*A*R*
Explanation: The code splits the sentence into a list of words L. The loop picks each word of the list, converts it to upper case and compares the word with its reverse . If both are same the characters of the word are printed separated by '*' .
If the word picked is not a palindrome , the characters of the word are printed separated with '#'.

27. (i)

ITEM	SUM(QTY)
RICE	48
PULSES	29
WHEAT	80

(ii)

ITEM	QTY
RICE	25
WHEAT	28

(iii)

ORDNO	ORDATE
1004	2023-12-25
1007	2024-04-30

28. (a)
```
def showInLines():
    f=open("STORY.TXT")
    sentence=""
    filetext=f.read()
    for ch in filetext:
        if ch not in "?.!":
            sentence +=ch
        else:
            print(sentence)
        sentence =""
        print("NewLine:")
```

OR

(b)
```
def c_words():
    f=open("Words.txt")
        ucl=0
        lcl=0
        data=f.read()
        for ch in data:
            if ch.isalpha() and ch.isupper():
            ucl+=1
            elif ch.isalpha() and ch.islower():
            lc+=1
        print("No. of lowercase alphabets " ,':' , lcl)
        print("No. of uppercase alphabets " , ':' , ucl)
```

29. (i) Alter table Projects ADD Primary key(P_id);
(ii) Update Projects set Language="Python" where P_id="P002";
(iii) Drop table Projects;

30.
```
def PushBig():
    for n in Nums:
        s=str(n)
        if len(s)>=5:
            Nums.append(n)
    def PopBig():
        if Nums==[]:
            print("Stack empty")
        else:
            for n in range(len(Nums)-1,-1,-1):
            print(Nums[n])
        else:
        print("Stack empty")
```

SECTION– D

31. (i) Select A.S_name, T.Stop_name from Admin A , Transport T where A.S_id=T.S_id ;

(ii) Select count(*) from Admin where S_type IS NULL;

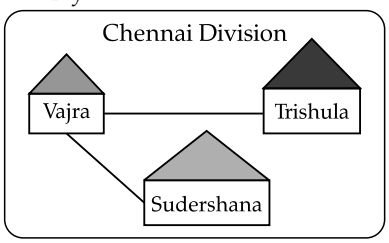
(iii) Select A.*, T.Bus_no, T.Stop_Name from Admin A , Transport T where A.S_id=T.S_id and A.S_name like "V%";

(iv) Select S_id , Address from Admin order by S_ name;

32.
```
import csv
def Add_Device():
    csvfile =open("Peripheral.csv","a")
    cwriter=csv.writer(csvfile)
    P_id=int(input("Input device id:"))
    P_name= input("Input device name:")
    P_Price=int(input("Input device price:"))
    devdata=[P_id,P_name,P_Price]
    cwriter.writerow(devdata)
    csvfile.close()
def Count_Device():
    c=0
    csvfile=open("Peripheral.csv","r")
    creader=csv.reader(csvfile)
    for rec in creader:
        if int(rec[2])<1000:
            c+=1
        print("Devices with price less than 1000:",c)
    csvfile.close()
```

SECTION– E

33. (i) Cable Layout



(ii) Vajra division should have the server as it carries the maximum number of computers.

(iii) Optical fibre cable should be used for connecting the Bengaluru office with the Chennai division. OFC offers fast and effective connectivity.

(iv) Switch is to be used for communication between devices in each division of Chennai.

(v) Repeater is needed to be installed in the Chennai division to reduce data and signal loss.

34. (a) (i) Following are the differences between 'w' and 'a' mode:

'w' mode or write mode . It opens the file for writing. If the file already exists the existing contents are erased

'a' mode or append mode. It opens the file for adding more data at the end, preserving the existing contents.

(ii)
```
import pickle
def Copy_new():
fr=open("items.dat","rb")
fw=open("new_items.dat","wb")
try:
    while True:
    irec=pickle.load(fr)
    for k in irec:
        if int(irec[k][1])>1000:
        pickle.dump(irec,fw)
    except EOFError:
    pass
    fr.close()
fw.close()
```

OR

(b) (i) If a file is opened by the with clause in python it ensures that open file descriptors are automatically closed after the flow of execution leaves the with code block.

Syntax:

```
with open(filename, opening-mode ) as fileobject:
    Operations on file….
```

(ii)
```
import pickle
def disp_Detail():
    f=open("EMP.dat","rb")
    try:
        while True:
            erec=pickle.load(f)
            if int(erec[2])<25000:
            print(erec)
    except EOFError:
        pass
    f.close()
```

35. (a) (i) Cartesian Product: Also known as cross join it is a kind of join where there is no joining condition and each record of one table is joined with all the records of the other table.

(ii)
```
import mysql.connector as m
try:
con=m.connect(host='localhost',user='Adm
in', passwd='Shopping',
database='keeper')
mycursor=con.cursor()
mycursor.execute("Update shop set Qty=20
where Item_Code=111")
con.commit()
except:
con.close()
```

OR

(b) (i) Features of SQL

(i) It is a non –procedural language

(ii) It is a 5th Generation language

(ii)
```
import mysql.connector as m
try:
con=m.connect(host='localhost',user='root',pa
sswd='airplane',database='travel')
mycursor=con.cursor()
mycursor.execute("Select * from flight")
data= mycursor.fetchall()
for fdata in data:
        print("Code of flight": , fdata [0])
        print("Flight Name ": , fdata [1])
        print("Source of flight": , fdata [2])
        print( "Flight destination ": , fdata[3])
except:
con.close()
```

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