

5. What will be the output of the following code snippet?

```
text = "Data Science"  
print(text[-3::-3])
```

6. a = 6

```
b = 5.5  
sum = a+b  
print(sum)  
print(type (sum))
```

(a) 11.5

(b) 10.5

<class 'float'>

<class 'float'>

(c) None

(d) None of these

<class 'int'>

7. Which constraint is used to specify a condition for a field to accept only certain values?

(a) NULL

(b) PRIMARY KEY

(c) CHECK

(d) NOT NULL

8. Which of the following are random number generators ?

(a) randint()

(b) randrange()

(c) random()

(d) All of these

9. Which device is used to connect two different types of networks?

(a) modem

(b) repeater

(c) bridge

(d) gateway

10. Write the missing statement to complete the following code:

```
logfile = open("log.txt", "r")  
content = logfile.read(200)  
first_line = logfile.readline()  
logfile.close()
```

11. State whether the following statement is True or False:

The else block in Python is executed only if no exception occurs in the try block.

12. In which file, no delimiters are used for line and no translations occur?

(a) Text file

(b) Binary file

(c) CSV file

(d) None of these

13. What is the purpose of logical operators in programming?

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14. In files, there is a key associated with each record which is used to differentiate among different records. For every file, there is atleast one set of keys that is unique. Such a key is called
- (a) primary key (b) prime attribute
(c) index key (d) unique key
15. Which of the following is a correct syntax to add a column in SQL command?
- (a) ALTER TABLE table_name ADD column_name data_type;
(b) ALTER TABLE ADD column_name data_type;
(c) ALTER table_name ADD column_name data_type;
(d) None of the above
16. In complex number $a + ib$, a represents as
- (a) real part (b) imaginary part
(c) special part (d) None of these
17. A column storing Name of a department in a table Emp will be of type
- (a) int (b) date
(c) float (d) varchar
18. The.....keyword sorts the records in ascending order by default.
- (a) LIKE (b) UPDATE
(c) ORDER (d) ORDER BY
19. What is the purpose of the write() method in Python, and what type of data does it take as an argument to perform its function?

Directions : (Q.Nos.-20 and 21) are Assertion and Reason based Questions.

20. **Assertion (A)** : Built-in functions are predefined in the system and can be directly used in any program.
Reason (R) : id() and type() are built-in functions in Python.
- (a) Both A and R are true and R is the correct explanation for A.
(b) Both A and R are true but R is not the correct explanation for A.
(c) A is true but R is false.
(d) A is false but R is true.
21. **Assertion (A)** : The CSV files are like TEXT files and are comma separated value files.
Reason (R) : The data stored in CSV files are separated by comma by default. Although the delimiter can be changed.
- (a) Both A and R are true and R is the correct explanation for A.
(b) Both A and R are true but R is not the correct explanation for A.
(c) A is true but R is false.
(d) A is false but R is true.

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SECTION - B

22. Seema was asked to accept a list of even numbers ,but she did not put the relevant condition while accepting the list of numbers. She wrote a user defined function odd to even (L) that accepts the list L as an argument and converts all the odd numbers into even by multiplying them by 2.

```
def oddtoeven (L)
for i in range (size(L)):
    if (L[i]%2! == 0)
        L[i]= L[i] ** 2
    print (L)
```

There are some errors in the code . Rewrite the correct code.

23. Observe the code and write the output

```
(a) ``Nodia publication' .
    count('hant', 0, 10)
(b) dic = {}
dic[(1, 2, 4)] = 8
dic[(4, 2, 1)] = 10
dic[(1, 2)] = 24
sum = 0
for i in dic:
    sum = sum + dic[i]
print(sum)
```

24. How are E-mail and chat applications different?

or

How are LAN and MAN different?

25. Write about the terms degree and cardinality of a table.

26. (a) Write the full forms of

- (i) URL
- (ii) VoIP

- (b) Write the use of SMTP.

27. Find the output of following code.

```
dic = {"Nitin": (21, "NIIT"), "Ankit": (15, "NIIT")}
print("The original dictionary :", str(dic))
result = [(key, i, j) for key, (i, j) in dic.items()]
print("The list after conversion :", str(result))
```

or

What output will be generate when the following Python code is executed?

```
def ChangeList ():
    l =[]
    l1=[]
```

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```

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()

```

28. Differentiate between DROP and DELETE commands of SQL.

or

Identify any two DML commands from the following and also explain.
ALTER , INSERT , UPDATE , DROP , CREATE

SECTION-C

29. Write a function countEU() in Python, which should read each character of a text file. IMP.TXT should count and display the occurrence of alphabets E and U (including small cases e and u too).

e.g. If the file content is as follows :

Pinaky has gone to his friend's house.

His friend's name is Ravya. Her house is 12 km from Pinaky's house.

The countEU() function should display the output as

E : 8

U : 3

or

Write a Python program to find the longest word in file "status.txt". If contents of status.txt are Welcome to your one-step solutions for all your study, practice and assessment need for various competitive and recruitment examinations and school segment. We have been working tirelessly for over a decade to make sure that you have best in class study resources because you deserve SUCCESS AND NOTHING LESS...

Output should be

Longest word : examinations

30. Priya has created a dictionary with names as keys and marks as values for 6 students. Write a program with separate user-defined functions to perform the following operations.

(a) Push the keys (name of the student) of the dictionary into a stack, where the corresponding value (marks) is greater than 75.

(b) Pop and display the content of the stack.

For example If the sample content of the dictionary is as follows

R={ "OM":76, "JAI":45, "BOB":89, "ALI":65, "ANU":90, "TOM":82 }

The output from the program should be

TOM ANU BOB OM

or

Rohit has a list of 10 integers. Write a program with separate user-defined functions to perform the specified operations on this list..

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- (a) Traverse the content of the list and push the even numbers into a stack.
 (b) Pop and display the content of the stack.

For example, If the sample content of the list is as follows

$N = [12, 13, 34, 56, 21, 79, 98, 22, 35, 38]$

Sample Output of the code should be:

38 22 98 56 34 12

31. Consider the following tables - STUDENT and STREAM :

TABLE: STUDENT

SCODE	NAME	AGE	STRCDE	POINTS	GRADE
101	Amit	16	1	6	NULL
102	Arjun	13	3	4	NULL
103	Zaheer	14	2	1	NULL

TABLE: STREAM

STRCDE	STRNAME
1	SCIENCE+COMP
2	SCIENCE+ BIO
3	SCIENCE+ECO
4	COMMERCE+MATHS

What will be the output of the following statement?

SELECT NAME, STRNAME FROM STUDENT S, STREAM ST WHERE S.STRCDE=ST.STRCDE;

or

Write the output for SQL queries (i) to (iii), which are based on the table ITEMS.

TABLE: ITEMS

Code	IName	Qty	Price	Company	TCode
1001	DIGITAL PAD 12i	120	11000	XENITA	T01
1006	LED SCREEN 40	70	38000	SANTORA	T02
1004	CAR GPS SYSTEM	50	2150	GEOKNOW	T01
1003	DIGITAL CAMERA 12X	160	8000	DIGICLICK	T02
1005	PEN DRIVE 32 GB	600	1200	STOREHOME	T03

(i) SELECT MAX(Price), MIN(Price) FROM ITEMS;

(ii) SELECT Price * Qty AS AMOUNT

FROM ITEMS WHERE Code=1004;

(iii) SELECT DISTINCT TCode FROM ITEMS;

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SECTION-D

32. (a) Find the output of the following Python program:

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

makenew("sTUDeNT")
```

(b) Consider the table Student whose fields are

Score	Name	Age	Strcde	Points	Grade
101	Amit	16	1	6	NULL
102	Arjun	13	3	4	NULL
103	Zaheer	14	2	1	NULL
104	Gegen	15	5	2	NULL
105	Kumar	13	6	8	NULL

Write the Python code to update grade to 'A' for all these students who are getting more than 8 as points.

The table structure is as follows :

Score : integer

Name : varchar

Age : integer

Strcde : integer

Points : integer

Grade : varchar

Note the following to establish the connection between Python and MySQL:

Host : localhost

Username : Admin

Password : Admin@123

The table exists in MySQL database as : Student

or

(a) Write a Python program to remove the characters of odd index values in a string.

(b) Consider the table MobileStock with following fields

M_Id, M_Name, M_Oty, M_Supplier

Write the Python code to fetch all records with fields M_Id, M_Name and M_Supplier from database Mobile.

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Consider:

host : localhost

UserName : root

Password : system

Database : Mobile

33. Consider the following tables GARMENT and FABRIC. Write SQL commands for the statements (i) to (iv).

TABLE: GARMENT				
GCODE	DESCRI-PTION	PRICE	FCODE	READY-DATE
10023	PENCIL SKIRT	1150	F03	19-DEC-08
10001	FORMAL SHIRT	1250	F01	12-JAN-08
10012	INFORMAL SHIRT	1550	F02	06-JUN-08
10024	BABY TOP	750	F03	07-APR-07
10090	TULIP SKIRT	850	F02	31-MAR-07
10019	EVENING GOWN	850	F03	06-JUN-08
10009	INFORMAL PANT	1500	F02	20-OCT-08
10007	FORMAL PANT	1350	F01	09-MAR-08
10020	FROCK	850	F04	09-SEP-07
10089	SLACKS	750	F03	20-OCT-08

TABLE: FABRIC	
FCODE	TYPE
F04	POLYSTER
F02	COTTON
F03	SILK
F01	TERELENE

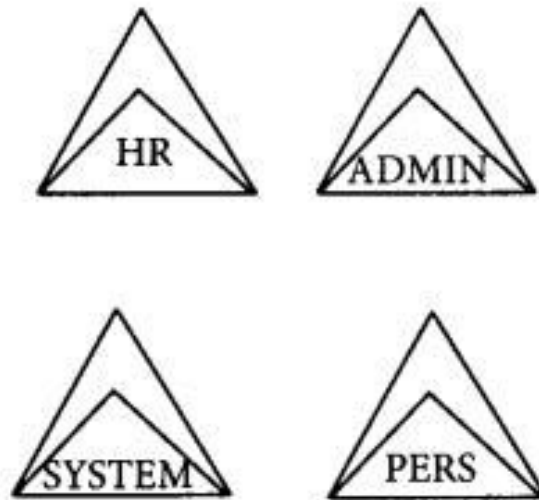
- (i) To display GCODE and DESCRIPTION of each GARMENT in descending order of GCODE.
- (ii) To display the details of all the GARMENTS, which have READYDATE in between 08-DEC-07 and 16-JUN-08 (inclusive of both the dates).
- (iii) To display the average PRICE of all the GARMENTS. Which are made up of FABRIC with FCODE as F03.
- (iv) To display FABRIC wise highest and lowest price of GARMENTS from GARMENT table.
(Display FCODE of each GARMENT alongwith highest and lowest price.)

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34. Red Pandas Info-systems has its 4 blocks of buildings. The number of computers and distances between them is given below :



Building	Number of Computers
HR	15
ADMIN	100
SYSTEM	25
PERS	30

Building	Distance
HR -Admin	10 m
HR- System	50 m
HR- Pers	750 m
Admin- System	300 m
Admin- Pers	20 m
System-Pers	250 m

Answer the following questions with respect to the above :

- (i) Suggest a suitable cable layout for the network.
- (ii) Suggest the best place to house the server of the network.
- (iii) Which topology should be used to connect computers in each building?
- (iv) What kind of network will be formed here? (LAN/MAN/WAN)

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35. What is CSV file?

Write a program using two functions :

- (a) addCustomer(): To write Customer code, Customer name and Amt in file “cust.csv”.

The details of the customers are as follows :

['CustCode', 'CustName', 'Amount']

['001', 'Nihir', '8000']

['104', 'Akshay', '5000']

- (b) readCustomer(): To read the details of the customers and display them.

or

When do we use CSV file?

Write a program using following functions :

- (a) getInventory() : Write code to accept as many inventory records and store them to the csv file Inventory. csv storing records of inventory as per following structure

36. PCode Invname Price Reorder

- (b) Display() : To display the detail that store in Inventory.csv

SECTION - E

37. Consider the table MOVIE DETAILS given below

Table : MOVIEDETAILS				
MOVIEID	TITLE	LANGUAGE	RAT-ING	PLAT-FORM
M001	Minari	Korean	5	Netflix
M004	MGR Magan	Tamil	4	Hotstar
M010	Kaagaz	Hindi	3	Zee5
M011	Harry Potter and the Chamber of Secrets	English	4	Prime Video
M015	Uri	Hindi	5	Zee5
M020	Avengers: Endgame	English	4	Hotstar

- (i) Identify the degree and cardinality of the table.
- (ii) Which field should be made the primary key? Justify your answer.
- (iii) Write statements to :
- (a) Delete the records whose language is “English”
- (b) Add a new record : “M050”, “Palki”, “Hindi”, 5, “Amazon Prime”.

or (Option for part (iii) only)

Write statements to :

- (a) Add a new column “DAYS” of type integer
- (b) Remove the column “RATING”

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38. Below is a program to delete the line having word (passed as argument). Answer the questions that follow to execute the program successfully.

```
import .....
def filedel (word):
    file1 = open ("Python. txt ",
                 ".....")
    nfile = open ("algol.txt", "w")
    while True:
        line = file1.readline( )
        if not line:
            break
        else :
            if word in line :
                .....
            else :
                print(line)
                nfile.....(line)
    file1.close()
    nfile.close()
filedel ('write')
```

- (i) Name the module that should import in Line 1.
- (ii) In which mode, above program should open the file to delete the line?
- (iii) Fill the blank in Line 11 and Line 14.
- (iv) Suggest an alternative way to open and read the file without using.
- (v) Explain what happens if the specified word is not found in any line of "Python.txt".

END

