

Please Check that this question paper contains **35** questions and **07** pages.

D.A.V. INSTITUTIONS, CHHATTISGARH
Practice Paper – 2 : 2023-24
Class : XII

Time : 3 Hrs.**Subject : Computer Science-Python (083)****Max. Marks : 70****General Instructions :**

- Question paper is containing 35 questions.
- The paper is divided into 5 Sections- A, B, C, D and E.
- Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.
- Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.
- Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.
- Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.
- Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.
- In some questions of Section B,C & E there will be internal choice.
- All programming questions are to be answered using Python Language only.

Section : A (1 Mark each)**Select the most appropriate option out of the options given or write answer in one word/line.****Attempt all the questions from question No. 1 to 18.**

- | | | |
|---|---|---|
| 1 | State True or False :
“In Python, only if statement has else clause. “ | 1 |
| 2 | In a relational database, a Table is referred to as _____.
(a) Relation (b) Attribute (c) Tuple (d) Domain | 1 |
| 3 | Consider the given expression :
not True and False or True
Which of the following will be the correct output if the given expression is evaluated ?
(a) True (b) True (c) NONE (d) NULL | 1 |
| 4 | What is the output of the following code : print(“Hi” * 2 + “@” * 2)
(a) Error (b) Hi@ (c) HiHi@ (d) HiHi@@ | 1 |
| 5 | Which command is used to switch from one database to another in mysql ? | 1 |
| 6 | Amar wants to transfer pictures from his mobile phone to his laptop. She uses Bluetooth Technology to connect two devices. Which type of network will be formed in this case ?
(a) PAN (b) LAN (c) MAN (d) WAN | 1 |
| 7 | Which line of code will cause an error ?
1. N = [5,4,3,[2],1]
2. print(N[0])
3. print(N[3][0])
4. print(N[5])
(a) Line 3 (b) Line 2 (c) Line 4 (d) Line 1 | 1 |
| 8 | You have the following code segment :
S1 = “my”
S2 = “work”
print (S1 + S2.upper())
What is the output of this code ?
(a) mywork (b) MYWork (c) myWork (d) myWORK | 1 |
| 9 | Which of the following options will not result in an error when performed on type in Python | 1 |

- where $T = (1,2,3)$?
 (a) $T[1] = 5$ (b) $T.append(2)$ (c) $T1 = T + T$ (d) $T.sum()$
- 10 Which of the following function does not comes under random module ? 1
 (a) `random.randrange()` (b) `random.randint()`
 (c) `random.randfloat()` (d) `random.random()`
- 11 Expand FTP. 1
- 12 Consider the code given below : 1
`N = 10`
`def Cal (A):`
 _____ # missing statement
 `N = N + A`
`Cal(20)`
`print(N)`
- Which of the following statement should be given in the blank for #missing statement, if the output produced is 30 ?
 (a) `global N` (b) `global N=10` (c) `global A` (d) `global A=20`
- 13 When is the finally block executed under Exception Handling ? 1
 (a) when there is no exception (b) when there is an exception
 (c) only if some condition that has been specified is satisfied (d) always
- 14 Which of the following is not an example of DBMS ? 1
 (a) Oracle (b) MS Access (c) MySQL (d) None of the above
- 15 Which of the following is/are email protocols ? 1
 (a) TCP (b) IP (c) SMTP (d) POP
- 16 To read the next line of the file from a file object `rfh` , we use 1
 (a) `rfh.read(all)` (b) `rfh.read()` (c) `rfh.readline()` (d) `rfh.readlines()`
- Q 17 & 18 are ASSERTION AND REASONING 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) : The file modes “r”, ”w”, ”a” work with text files as well as CSV files. 1
 Reasoning (R) : The CSV file is a type of delimited text file only.
- 18 Assertion (A) : Every open file maintains a file pointer and keeps track of its position after every operations. 1
 Reasoning (R) : Every read & write operation takes place at the current position of the file pointer.

Section B

Attempt all the questions from Q.No. 19 to 25 . Each question carries 2 mark

- 19 (i) Expand the following terms : PPP , FTP 2
 (ii) Give one difference between XML and HTML
- OR
- (i) Define the term bandwidth with respect to networks.
 (ii) How is http different from https ?
- 20 Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code. 2
- ```

Def sm(c):
 s=0
 for i in range(1, c+1)
 s += i
 print(s)
#MAIN PROGRAM STARTS
print(sm()) #function calling part

```

- 21 Write a function countNow(PLACES) in Python, that takes the dictionary, PLACES as an argument and displays the names (in uppercase) of the places whose names are longer than 5 characters. 2  
 For example, Consider the following dictionary  
 PLACES={1:"Delhi",2:"London",3:"Paris",4:"New York",5:"Doha"}  
 The output should be:  
 LONDON  
 NEW YORK  
 OR  
 Write a function, lenWords(STRING), that takes a string as an argument and returns a tuple containing length of each word of a string.  
 For example, if the string is "Come let us have some fun", the tuple will have (4, 3, 2, 4, 4, 3)
- 22 Predict the output of the following program : 2
- ```

keepgoing = True
x = 100
while keepgoing:
    print(x)
    x = x - 10
    if x < 70 :
        keepgoing = False
  
```
- 23 Write the most appropriate list method to perform the following tasks. 2
- Delete a given element from the list.
 - Add an element in the end of the list.
 - Add an element in the beginning of the list.
 - Delete 3rd element from the list.
- OR
- Write a program to print the total number of Even numbers in the given List L.
- Here L = [11 , 35 , 20 , 99 , 12 , 40]
- 24 Ms. Anjali has just created a table named "Emp" containing columns ENm, Dept & Salary. 2
 After creating the table , she realized that she has forgotten to add a primary key column in the table. Help her in writing an MySql command to add a primary key column EmpId of integer type to the table "Emp". Thereafter, write the command to insert a record as per your choice.
- 25 Predict the output of the following code : 2
- ```

def changer(P,Q=10):
 P /= Q
 Q = P % Q
 return P

A=200
B=20
A=changer(A,B)
print(A,B,sep="@")
B=changer(B)
print(A,B,sep="@,end="#"")

```

### Section C

**Attempt all the questions from Q.No. 26 to 30 . Each question carries 3 mark**

- 26 Find and write the output of the following Python code : 3
- ```

def Display(S1):
  
```

```

S2 = "" #no blank space
for i in range( len(S1)):
    if S1[i].isupper() :
        S2 = S2 + S1[i].lower()
    elif S1[i].islower():
        S2 = S2 +S1[i].upper()
    else:
        if i%2 ==0:
            S2 = S2 + S1[i-1]
        else:
            S2 = S2 +"#"

print(S2)
#MAIN PROGRAM
Display("Fun@Python3")

```

27

Table : Bank_Account		
ACode	Name	Type
A01	Amrita	Savings
A02	Amit	Current
A03	Ravi	Current

Table : Branch	
ACode	City
A01	Delhi
A02	Mumbai
A01	Pune

3

Answer the following questions on the bases of above Tables :

- Which attribute is considered to be the Foreign Key and from which table.
- What is the Degree and Cardinality of Branch Table.
- Write the command for Cartesian Product of above relations.

28

Write a function in Python to read a text file, Alpha.txt and displays those lines which begin with the word 'You'.

3

OR

Write a function, vowelCount() in Python that counts and displays the number of vowels in the text file named Poem.txt.

29

Write SQLcommands for (a) to (c) on the basis of table GRADUATE.

3

Table: GRADUATE

S.N O.	NAME	STIPEN D	SUBJECT	AVERAG E	DI V
1	KARAN	400	PHYSICS	68	1
2	DIVAKAR	450	COMPUTER SC	68	1
3	DIVYA	300	CHEMISTRY	62	2
4	ARUN	350	PHYSICS	63	1
5	SABINA	500	MATHEMATICS	70	1
6	JOHN	400	CHEMISTRY	55	2
7	ROBERT	250	PHYSICS	64	1
8	RUBINA	450	MATHEMATICS	68	1
9	VIKAS	500	COMPUTER SC	62	1
10.	MOHAN	300	MATHEMATICS	57	2

- List the names of those students who have obtained DIV 1 sorted by NAME.
- To count the number of students who are either PHYSICS or COMPUTER SC graduates.
- Display Name of the students whose average is more than 65.

30

Julie has created a dictionary containing names and marks as key value pairs of 6 students. Write a program, with separate user defined functions to perform the following operations:

3

- Push the keys (name of the student) of the dictionary into a stack, where the

corresponding value (marks) is greater than 75

- 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

Section D

Attempt all the questions from Q.No. 31 to 32 . Each question carries 4 mark

31 Consider the table EXAMDETAILS given below : 4

Table : EXAMDETAILS				
EXAMID	ENAME	ELANGUAGE	RATING	PLATFORM
E001	SSE	ENGLISH	4	OFFLINE
E004	SSCE	ENGLISH	5	OFFLINE
E007	CET	HINDI	3	BLENDED
E011	TET	ENGLISH	2	ONLINE
E015	PET	HINDI	2	ONLINE

Write statements to :

- Delete the records whose language is "ENGLISH"
- Add a new record : "E020", "IIT", ENGLISH, 6, "ONLINE"
- Add a new column "EFEES" of type float.
- Display the structure of the table EXAMDETAILS.

32 Create a binary file student.dat to hold students' records like Rollno, Students name, and 4

Address using the list. Write functions to write data, read them and print on the screen.

Give two functions as shown below :

file_create() : To write data into the file.

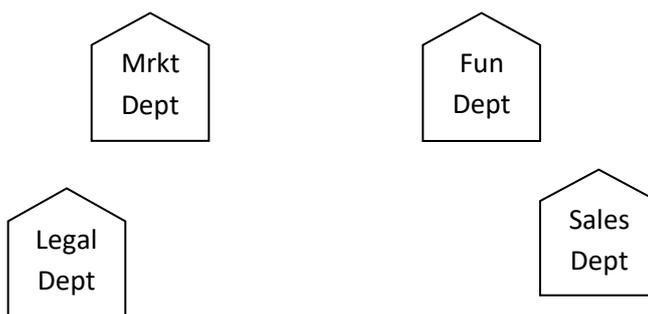
read_read() : To read data and print from file.

Section E

Attempt all the questions from Q.No. 33 to 35 . Each question carries 5 mark

33 SunRise Pvt. Ltd. is setting up the network in Ahmedabad. There are four departments— 5

MrktDept, FunDept, LegalDept, SalesDept.



Distance between various buildings is as under:

MrktDept to FunDept	80 m
MrktDept to LegalDept	180 m
MrktDept to SalesDept	100 m
LegalDept to SalesDept	150 m
LegalDept to FunDept	100 m
FunDept to SalesDept	50 m

Number of computers in the buildings:

MrktDept	20
LegalDept	10
FunDept	08
SalesDept	42

- (i) Suggest the network type between the Departments and specify topology.
- (ii) Suggest the most suitable building to place the server with a suitable reason.
- (iii) Suggest the placement of i) modem, ii) Hub/Switch in the network.
- (iv) The organization is planning to link its sale counters situated in various parts of the same city. Which type of network out of LAN, WAN, MAN will be formed? Justify.
- (v) Is there a requirement of a repeater in the given cable layout? Why/ Why not?

34

- (i) Differentiate between COUNT() and COUNT(*) functions in SQL.
- (ii) Write a code to insert the following record in the table Product :
 - Productno – integer
 - Pname – string
 - Productquantity – integer
 - Productcost – integer

1+4
=5

Note the following to establish connectivity between Python and MySQL :

- Username is root
- Password is tiger
- The table exists in a MySQL database named Manufacture.
- The details (Productno , Pname , Productquantity , Productcost) are to be accepted from user.

OR

Categorise the following commands as DDL or DML :

INSERT, UPDATE, ALTER, DROP

Write the code to read record from the table named student and displays only those records who have marks greater than 75 :

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.

- 35 (i) Define the term Domain with respect to RDBMS. Give one example to support your answer.

1+4
=5

(ii) Kabir wants to write a program in Python to insert the following record in the table named Student in MYSQL database, SCHOOL:

- rno(Roll number)- integer
- name(Name) - string
- DOB (Date of birth) – Date
- Fee – float

Note the following to establish connectivity between Python and MySQL:

- Username - root

- Password - tiger
- Host - localhost

The values of fields rno, name, DOB and fee has to be accepted from the user. Help Kabir to write the program in Python.

OR

(i) Give one difference between alternate key and candidate key.

(ii) Sartaj has created a table named Student in MYSQL database, SCHOOL:

- rno(Roll number)- integer
- name(Name) - string
- DOB (Date of birth) – Date
- Fee – float

Note the following to establish connectivity between Python and MySQL:

Sartaj, now wants to display the records of students whose fee is more than 5000. Help Sartaj to write the program in Python.

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