

KENDRIYA VIDYALAYA RAJGARH
CLASS: XII
SESSION: 2023-2024
COMPUTER SCIENCE (083)
PRACTICE PAPER-I

Maximum Marks: 70

Time Allowed: 3 hours

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each. One internal choice is given in Q 34 against part C only.
8. All programming questions are to be answered using Python Language only.

Section A (Very Short Answer/MCQ type questions)

1. Find the invalid identifier(s) from the following: 1
(a) MyName (c) True
(b) 2ndName (d) My_Name
2. Identify the valid arithmetic operator(s) used in Python form the following: 1
(a) ** (C) not
(b) // (d) ^
3. Identify the wrong statement(s) in the following code: 1
T1=(14, 17, 29, 33, 31) #Line 1
T2=(29, 18, 27, 38, 44) #Line 2
T1[1]=12 #Line 3
T1=T2 #Line 4
T1[0]=T2[0] #Line 5
T3=T1+T2 #Line 6
(a) #Line1 (c) #Line3 & #Line5
(b) #Line2 & #Line5 (d) #Line1 & Line4
4. What is the output of this code? 1
>>>int("6"+"7")
a) 13 b)"67" c) 67 d) 42
5. Give the output of the following list: 1
List L=[66,54,38,87,65,53,33, 68]
Print(L[2:-2])
(a) [54, 38, 87, 65, 53, 33] (c) [54, 38, 87, 53]
(b) [38, 87, 65, 53] (d) [38, 87, 65, 53, 33]
6. Which suffix is used for opening a binary file 1
a) b b) bin c) ab d) None of the above
7. Identify the incorrect aggregate function(s) used in SQL: 1
(a) avg() (c) average()
(b) add() (d) sum()
8. In SQL, Which command(s) is (are) used to change a table's structure / 1
characteristic?
a) ALTER TABLE
b) MODIFY TABLE

- c) CHANGE TABLE
d) ALL OF THESE
- 9 What will be the output of the following? 1
- ```
a=8
i=1
while a:
 print(a)
 i=i+1
 a=a/2
 print(i)
```
- (a) 8, 4, 2, 1 (c) 8, 4, 2, 1, 0  
(b) 8, 4, 2, 1, 0.5 (d) Infinite loop
- 10 Which of the following is needed to be able to use the database? 1
- (a) Use <database name> (c) show <database name>  
(b) Login <database name> (d) None of the above
11. Which of the following command is incorrect? 1
- a) f=open("file.txt") (c) f=open('file.txt','r')  
b) f=open("file.txt","r",0) (d) None of the above is incorrect
12. The SQL count(), avg() and sum() functions are 1
- (a) Aggregate functions (c) Select Function  
(b) External function (d) None of the above
13. Which of the following finds the best path for a packet? 1
- a) Modem (c) Router  
b) Repeater (d) Bridge
14. What is mean by range (3,8)? 1
- a) 3, 4, 5, 6, 7, 8 (c) 3, 4, 5, 6, 7  
b) 1, 2, 4, 5, 6, 7, 8 (d) 8, 8, 8
15. The order by clause can be used to order the result based on 1
- a) A single column (c) None of the above  
b) Multiple column (d) Cannot say
16. Which of the following are passed as arguments to the connect method? 1
- a) Host (c) Username  
b) Password (d) All of the above
- Q17 and 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 most common reason of an errors in python program is when a 1  
certain statement is not in accordance with the prescribed usage . Such an error is  
called a syntax errors.  
Reasoning (R):- Error caused by not following the proper structure of the language is  
called syntax error.
18. Assertion (A): CSV stands for Comma Separated Values 1  
Reason (R): CSV file are common file format for transferring and storing data.
- Section B (Short Answer type questions)**
19. Mr Rathi has written code in Python. His code is having errors. Rewrite the correct 2  
and underline the correction made.
- ```
def calc():
    fee=400
    0=i
    while fee<=5000:
        if fee=<750:
```

```

    print fee
    Fee=fee+250
else:
    print(fee*i)
    i=i+1
    fee=+250

```

20. Write two points of difference between Twisted Pair Cables and Coaxial Cables 2

OR

Write two points of difference between SMTP and POP3

21. a) Given is a Python string declaration: 2

```
exam="PreBoardExamination2023"
```

Write the output of: `print(exam[::2])`

b) Write the output of the following code

```
l=['Harsh','Amit','Sahil','Viresh']
```

```
l.sort()
```

```
print(l)
```

22. What is an equijoin in Relational Database Management System. Give Example to support your answer 2

23. a) Write the full form of the following 2

(i) SMTP (ii) HTTP

b) What is Router? What is its function?

24. What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables Lower and Upper. 2

```
import random
```

```
AR=[20,30,40,50,60,70]
```

```
Lower =random.randint(1,3)
```

```
Upper =random.randint(2,4)
```

```
for K in range(Lower, Upper +1):
```

```
    print (AR[K],end="#"")
```

(i) 10#40#70#

(ii) 30#40#50#

(iii) 50#60#

(iv) 40#50#70

OR

Predict the output of the following code given below:

```
t=('Manish','Amit','Mukesh','Prakash')
```

```
l=list(t)
```

```
for Name in l:
```

```
    if Name[0]=='P':
```

```
        break
```

```
    else:
```

```
        print("Not Find")
```

```
print("Finished")
```

25. Explain the group by clause and state its syntax. 2

OR

Categorize the following command as DML and DCL

UPDATE,ALTER,CREATE,INSERT

Section C (Short Answer type questions)

26. a) Consider the table Office given below: 1 Mark

3

EMPID	CATEGORY	SALARY
E101	MANAGER	60000
E102	EXECUTIVE	65000
E103	CLERK	40000
E104	MANAGER	62000
E105	EXECUTIVE	50000
E106	CLERK	35000

What will be output of the following statement

Select EMPID,CATEGORY,SALARY FROM OFFICE WHERE SALARY>60000 ;

b) Write the output of the queries (i) to (iv) based on the table
2 Mark

TABLE-SPORTS

ACODE	ACTIVITYNAME	PARTICIPANTSNUM	PRIZEMONEY	SCHEDULEDATE
1001	Relay Name	16	10000	23-Jan-2004
1002	High Jump	10	12000	12-Dec-2003
1003	Shot Put	12	8000	14-Feb-2004
1005	Long Jump	12	9000	NULL
1008	Discuss Throw	10	15000	19-Mar-2004

- (i) Select * from sports where participantsnum >=12;
- (ii) Select distinct participantnum from sports where prizemoney>=10000;
- (iii) Select count(scheduledate) from sports;
- (iv) Select activityname,prizemoney from sports where prizemoney between 10000 to 15000;

27. Write a method in Python to read lines from a text file STORY.TXT and display those lines which start with the alphabet 'T' 3

OR

Consider a Binary file staff.dat containing details such as sno:sname:salary(separator '*'). Write a Python function to display details of those employees who are earning between 40000 and 60000(both values inclusive)

28. Consider the following table GAMES 3

GCode	GameName	Number	PrizeMoney	ScheduleDate
101	Carom Board	2	5000	23-Jan-2004
102	Badminton	2	12000	12-Dec-2003
103	Table Tennis	4	8000	14-Feb-2004
105	Chess	2	9000	01-Jan-2004
108	Lawn Tennis	4	25000	19-Mar-2004

Write the output for the following queries :

- (i) SELECT COUNT(DISTINCT Number) FROM GAMES;
- (ii) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM GAMES;
- (iii) SELECT SUM(PrizeMoney) FROM GAMES;

29. Write a function odd(L), where L is the list of element passed as argument to the function. The function return another list named oddlist that stores odd numbers. 3

Sample List:[1,2,3,4,5,6,7,8,9]

Expected Result:[1,3,5,7,9]

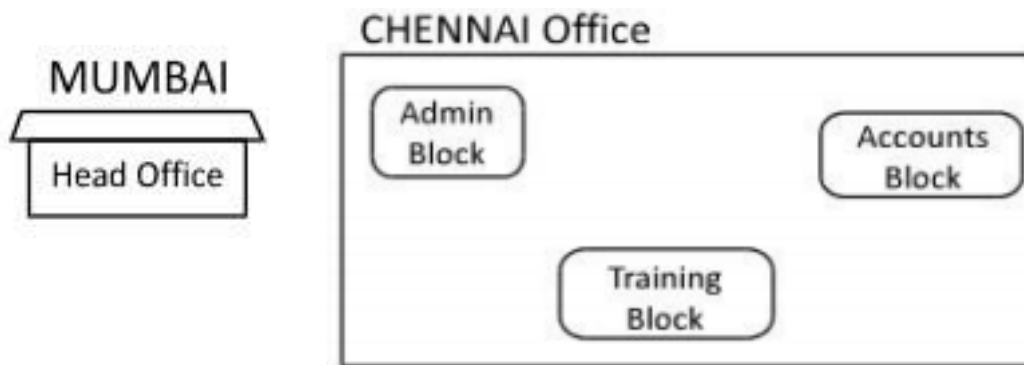
30. Write a function in Python, MakePush(Package) and MakePop(Package) to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure. 3

OR

Define a function PUSH(stack) in python (where stack is a list of numbers) to add more numbers into a stack and display the stack after the insertion of every new number.

Section C (Short Answer type questions)

31. OKHALA is a Mumbai based organization which is expanding its office set-up to Chennai. At Chennai office compound, they are planning to have 3 different blocks for Admin, Training and Accounts related activities. Each block has a number of computers, which are required to be connected in a network for communication, data and resource sharing. As a network consultant, you have to suggest the best network related solutions for them for issues/problems raised by them in (i) to (v), as per the distances between various blocks/locations and other given Parameters 5



Shortest distances between various blocks/locations:

Admin Block to Accounts Block	-	300 Metres
Accounts Block to Training Block	-	150 Metres
Admin Block to Training Block	-	200 Metres
MUMBAI Head Office to CHENNAI Office	-	1300 Km

Number of Computers-

Training Block=50

Admin Block=150

Account Block = 25

- Suggest the most appropriate place for the server in the Chennai Office to get the best effective connectivity. Justify your answer
- Suggest the best wired medium for connection of computers in the Chennai office
- Draw the cable layout(block to block) to efficiently connect various blocks with Chennai office
- Suggest a device /software and its placement that would provide data security for the entire network of the Chennai office
- Suggest a device and the protocol that shall be needed to provide wireless Internet access to all smartphones /laptop users in the Chennai office

32 a). Write the output of the code given below:

2+3

```
a=15
y=12
def myfunc():
    global a
    y=a
    a=2
    print("y=",y, "a=",a)
    print("a+y=",a+y)
    return a+y
print("y=",y,"a=",a)
print(myfunc())
print("y=",y, "a=",a)
```

(b) The code given below inserts the following record in the table Books:

Title - String

AuthorName - string

ISBN_No - String

Price - 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 Library.
- The details (Title, AuthorName, ISBN_No and Price) 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 Library_data():
    con1=mysql.connect(host="localhost",user="root",password="tiger",
    database="Library")
    mycursor=_____ #Statement 1
    Title=input("Enter Book Title :: ")
    AuthorName=input("Enter Book Author Name :: ")
    ISBN_No=input("Enter Book ISBN Number:: ")
    Price=int(input("Enter Price of Book :: "))
    query="insert into Books values({},'{}',{},{})".format(Title,AuthorName ,
    ISBN_No,Price)
    _____ #Statement 2
    _____ # Statement 3
    print("Data Added successfully")
```

OR

(a) Predict the output of the following code

```
def test(s):
    k=len(s)
    m=""
    for i in range(0,k):
        if(s[i].isupper()):
            m=m+s[i].lower()
        elif s[i].isalpha():
```

```

        m=m+s[i].upper()
    else:
        m=m+'bb'
    print(m)
    test('vidyalaya2@com')

```

b) The code given below reads the following record from the table named Books and displays only those records who have Price greater than 200:

Title - String
 AuthorName - string
 ISBN_No - String
 Price - 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 Library.

Write the following missing statements to complete the code:

Statement 1 - to form the cursor object

Statement 2 - to execute the query that extracts records of those books whose price are greater than 200.

Statement 3- to read the complete result of the query (records whose price are greater than 200) into the object named data, from the table books in the database

```

import mysql.connector as mysql
def sql_data():
    con1=mysql.connect(host="localhost", user="root", password="tiger",
        database="library")
    mycursor=_____ #Statement 1
    print("Books with Price greater than 200 are : ")
    _____ #Statement 2
    data=_____ #Statement 3
    for i in data:
        print(i)
    print()

```

33. 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: 5
- (i) 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.
- (ii) search()- To display the records of the furniture whose price is more than 10000.

SECTION E

34. Given the following tables for a database LIBRARY 4

TABLE-BOOKS

Book_id	Book_name	Author_name	Publishers	Price	Type	Qty
C0001	Fast Cook	Lata Kapoor	EPB	355	Cookery	5
F0001	The Tears	William Hopkins	First Publ	650	Fiction	20
T0001	My First C++	Brain & Brooke	EPB	350	Text	10

(1+1+2)

T0002	C++Brainwork	A.W.Rossaine	TDH	350	Text	15
F0002	Thunderbolts	Anna Roberts	First Publ	750	Fiction	50

TABLE-ISSUED

Book_id	Quantity_Issued
T0001	4
C0001	5
F0001	2

- i) To Show Book name, Author name and Price of books of EPB Publishers
- ii) To display the names and price from books in descending order of their price,
- iii) Write the statement to
 - a) To insert a new row in the table issued having the following data: 'F0003',1
 - b) To display minimum price according to publisher.

OR (Option for part iii only)

- iii) Write the statement to
 - a) Delete the database LIBRARY permanently.
 - b) What is difference between UNIQUE KEY and PRIMARY KEY?

35. SARITA is learning to work with Binary files in Python using a process known as pickling/de-pickling. Her teacher has given her the following incomplete code which is creating a binary file namely Mydata.dat and then opens, reads and displays the content of this created file 4

```
import_____ # Fill_Line1
sqlist=list()
for k in range(10):
    sqlist.append(k*k)
fout=_____ #Fill_Line 2
_____ #Fill_Line 3
fout.close()
fin=_____ #Fill_Line 4
mylist=pickle.load(fin)
fin.close()
```

- (a) Complete Fill_Line1 so that the required library becomes available to the program
- (b) Complete Fill_Line 2 so the above mentioned binary file is opened for writing in the file object fout
- (c) Complete Fill_Line 3 so that list created in nthe code , namely Sqlist, is written in the open file.
- (d) Complete Fill_Line 4 which will open the same binary file for reading in the file object fin.