ANANDALAYA
PREBOARD EXAMINATION
Class : XII

Subject: Computer Science. (083)	MM :70
Date :19-01-2023	Time: 3 Hrs.

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. All programming questions are to be answered using Python Language only.

SECTION-A

1. State True or False and why? (1)
   "Comments in Python begin with a "$" symbol."

2. Find the valid identifier from the following (1)
   (A) My-Name   (B) True   (C) While   (D) S_name

3. Which statement is correct for dictionary? (1)
   (A) A dictionary is a ordered set of key: value pair
   (B) each of the keys within a dictionary must be unique
   (C) each of the values in the dictionary must be unique
   (D) values in the dictionary are immutable

4. Write the names of any two mutable data types available in Python. (1)

5. If the following code is executed, what will be the output of the code? (1)
   n="Trust yourself that you can do it and get it"
   print(name[2:-4:2])

6. Which of the following commands can be used to read "n" number of characters from (1)
   a file using the file object <file>?
   (A) read(n)   (B) n = file.read()   (C) file.readline(n)   (D) file.readlines()

7. Fill in the blank: (1)
   _____ command is used to remove the database .
   (A) update   (B) remove   (C) alter   (D) drop

8. Which of the following command will use to add new column in the table from MYSQL (1)
   database?
   (A) DELETE TABLE   (B) DROP TABLE   (C) REMOVE TABLE   (D) ALTER TABLE

9. Which of the following statement(s) would give an error after executing the following code? (1)
   W=" Nothing is impossible, the word itself says 'I'm possible" # Statement 1
   print(W)   # Statement 2
   S="Good"   # Statement 3
   S[0]= ' '   # Statement 4
   S=S*"Good"   # Statement 5
   (A) Statement 3
   (B) Statement 4
   (C) Statement 5
   (D) Statement 4 and 5

10. In SQL, which command is used to SELECT only one copy of each set of duplicable (1)
rows
(A) SELECT DISTINCT
(B) SELECT UNIQUE
(C) SELECT DIFFERENT
(D) All of the above

11. Write the output of the following code (1)
fout=open("story.txt","w")
fout.write("Welcome Python")
fout.seek(5)
print(fout.tell( ))
fout.close( )

12. A(n) in a table represents a logical relationship among a set of values. (1)
(A) Attribute
(B) Key
(C) Tuple
(D) Entry

13. Rearrange the following terms in increasing order of speedy medium of data transfer. (1)
Telephone line, Fiber Optics, Coaxial Cable, Twisted Paired Cable

14. What will the following expression be evaluated to in Python? (1)
print(10.0 + 4 * (2 + 3.0))
(A) 14.75 (B)14.0 (C) 15 (D) 30.0

15. The SQL built-in function _____ obtains the smallest value in a numeric column : (1)

16. Which connector is used for linking the database with Python code? (1)
(A) MySQL-connector
(B) YesSQL: connector
(C) PostSQL: connector
(D) None of the above

Note: 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):- Python allows function arguments to have default values; if the function is (1)
called without the argument, the argument gets its default value.
Reasoning (R):- During a function call, the argument list first contains default argument(s)
followed by positional argument(s).

18. Assertion (A): A CSV file stores data in rows and the values in each row is separated with a (1)
separator, also known as a delimiter.
Reason (R): You cannot change the by default comma as a value separator.

SECTION-B

19. Mr Tendulkar has written a code to generate Fibonacci series. But he is unable to get the (2)
result / code is having errors. Rewrite the correct code and underline the corrections made.
def Fibonacci(n):
    # Check if input is 0 then it will
    # print incorrect input
    if n < 0
        print("Incorrect input")
    # Check if n is 0
    # then it will return 0
    El if n == 0:
        return 0

```
# Check if n is 1,2
# it will return 1
elif n == 1 or n == 2:
    return (1);
els:
    return Fibonacci(n-1) + Fibonacci(n-2)
```

20. Mention any two characteristics of BUS Topology. (2)

OR

Differentiate between the terms Domain Name and URL in the context of World Wide Web.

21. If given A=2,B=1,C=3, What will be the output of following expressions:
(A) print((A>B) and (B>C) or(C>A)) (1)
(B) print(A**B**C) (1)

22. Explain the use of 'Primary Key' in a Relational Database Management System. Give example to support your answer. (2)

23. (A) Write the full forms of the following: (2)
      (i) FTP (ii) VoIP
(B) What protocol in terms of networking?

24. Predict the output of the Python code given below: (2)
Find the output of the following code:
```
x = 20
def myfunc():
    global x
    x = 10
    print(x)
myfunc()
print(x,end="")
```

OR

Fill in the blanks to execute loop from 10 to 100 and 10 to 1
(i) for i in range(_____): print(i)
(ii) for i in range(_____):print(i)

25. Differentiate between Degree and Cardinality in the context of Relational Data Model. (2)

OR

Write the names of any two commands of DDL and any two commands of DML in SQL.

SECTION-C

26. a) Consider following table medicalstore and write perform the following query: (1)

MedicineNo	MedicineName	MedCode	Quantity
5647	Saridon	141	75
5741	Paracetamol	142	44
3546	Nicip Plus	141	60
9541	Disprin	140	53
2025	Diclofenac	143	73
2783	Corex Syrup	141	97
8614	Psorid	142	48

Insert the following data into the attributes respectively in the given table medicalstore.
MedicineNo = 6647, MedicineName = "Dapsone", MedCode = 141 and Quantity = 55

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

STAFF

Ecode	Name	Dept	DOB	Gender	Designation	Salary
101	Sunita	Sales	06-06-1995	F	Manager	25000
102	Neeru	Office	05-07-1993	F	Clerk	12000

103	Raju	Purchase	05-06-1994	M	Manager	26000
104	Neha	Sales	08-08-1995	F	Accountant	18000
105	Nishant	Office	08-10-1995	M	Clerk	10000
106	Vinod	Purchase	12-12-1994	M	Clerk	10000

(i) Select sum(Salary) from staff where Gender = 'F' and Dept = 'Sales';
(ii) Select Max(DOB), Min(DOB) from staff;
(iii) Select Gender, Count(*) from staff group by Gender;
(iv) Select Name from staff where salary>25000;

27. Write a method in python to read lines from a text file Test.TXT and display those lines (3) which start with the alphabets S.

(OR)

Write a function Count_word( ) in python to read the text file "story.txt" and count the number of times "vidyalaya" occurs in the file. For example if the file story.txt contains:
"This is my vidyalaya. I love to play and study in my vidyalaya."
the Count_word ( ) function should display the output as:"vidyalaya occurs 2 times".

28. (a) Consider the tables given below which are linked with each other and maintains (3) referential integrity.:

Table : Party

Partyid	Description	Costperperson
P101	Birthday	400
P102	Wedding	700
P103	Farewell	350
P104	Engagement	450

Table : Client

ClientId	ClientName	Address	Phone	NoOfGuest	PartyId
C101	A.K.Antony	A-151 Adarsh Nagar	99101956	80	P101
C102	Fauzia Aria,	K-5/52 Vikas Vihar,	981166568	500	P102
C103	Rashi Khanaa	D-6 Hakikat Nagar	981166568	50	P101
C104	S.K.Chandra	76-A/2 MG Colony Adarsh Avenue	65877756	100	P104

Table : Client

P_ID	Department	Place
1	History	Ahmedabad
2	Mathematics	Jaipur
3	Computer Sc	Nagpur

(i) Name the Primary keys in both the tables .
(ii) 'P101' data is present twice in column 'PartyId' in 'Client' table – Is there any discrepancy? Justify your answer.

With reference to the above given tables , Write commands in SQL for (iii) and (iv) and write output for (iv)
(iii) To display Client names of clients, their phone numbers,PartyId and party description who will have number of guests more than 50 for their parties.
(iv) To display Client Ids, their addresses, number of guests of those clients who have 'Adarsh' anywhere in their addresses.

29. Write a function in Display which accepts a list of integers and its size as arguments and (3) replaces elements having even values with its half and elements having odd values with twice its value . eg: if the list contains
5, 6, 7, 16, 9
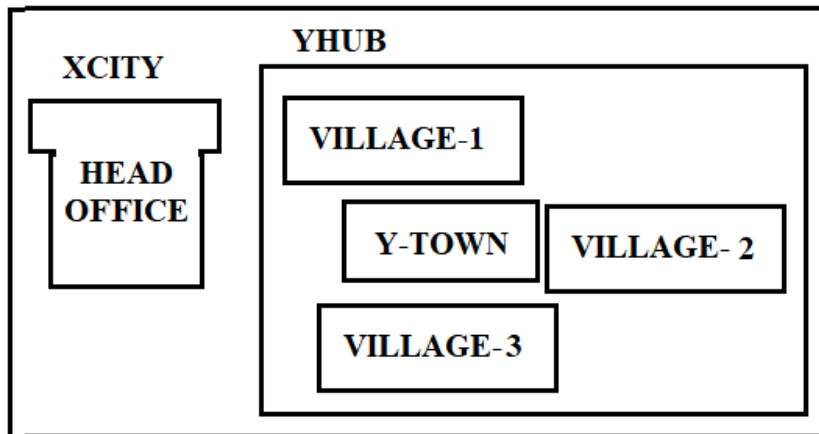then the function should rearranged list as
10, 3,14,8, 18

30. Write a function in python named PUSH(STACK, SET) where STACK is list of some (3)
numbers forming a stack and SET is a list of some numbers. The function will push all the
EVEN elements from the SET into a STACK implemented by using a list. Display the stack
after push operation.

(OR)

Write a function in python named POP(STACK) where STACK is a stack implemented by a
list of numbers. The function will display the popped element after function call.

SECTION D

31. DVC India is a knowledge community aimed to uplift the standard of skills and knowledge (5)
in the society. It is planning to setup its training centres in multiple towns and villages of
India with its head offices in the nearest cities. They have created a model of their network
with a city, a town and 3 villages as given. As a network consultant, you have to suggest the
best network related solution for their issues/problems raised in (i) to (v) keeping in mind the
distance between various locations and given parameters:

Shortest distance between various locations:

VILLAGE-1 to Y-TOWN	2 Km
VILLAGE-2 to Y-TOWN	1.2 Km
VILLAGE-3 to Y-TOWN	3 Km
VILLAGE-1 to VILLAGE-2	3.5 Km
VILLAGE-1 to VILLAGE-3	4.5 Km
VILLAGE-2 to VILLAGE-3	3.5 Km
City Head Office to Y-HUB	30KM

Number of computers installed at various locations are as follows :

Y-TOWN	100
VILLAGE-1	10
VILLAGE-2	15
VILLAGE-3	15
CITY OFFICE	5

Note: * In Villages, there are community centres, in which one room has been given as
training center to this organization to install computers. * The organization has got financial
support from the government and top IT companies

   1) Suggest the most appropriate location of the SERVER in the YHUB (out of the 4
   locations), to get the best and effective connectivity. Justify your answer.
   2) Suggest the best wired medium and draw the cable layout (location to location) to
   efficiently connect various locations within the YHUB.
   3) Which hardware device will you suggest to connect all the computers within each
   location of YHUB?
   4) Which server/protocol will be most helpful to conduct live interaction of Experts
   from Head office and people at YHUB locations?
   5) Suggest a device/software and its placement that would provide data security for the
   entire network of the YHUB.

32.   (a) Write the output of the code given below: 3+2
                                                                                                      =5

```
T="Happy New Year 2023"
L=len(T)
ntext=""
for i in range (0,L):
        if T[i].isupper():
                ntext=ntext+T[i].lower()
        elif T[i].isalpha():
                ntext=ntext+T[i].upper()
        else:
                ntext=ntext+"*"
print (ntext)
```

(b) The given program is used to connect with MySQL abd show the name of the all the
record from the table "stmaster" from the database "oraclenk". You are required to complete
the statements so that the code can be executed properly.

```
import _____.connector__pymysql
dbcon=pymysql._____(host="localhost", user="root",_____="sia@1928")
if dbcon.isconnected()==False
        print("Error in establishing connection:")
        cur=dbcon._____()
query="select * from stmaster"
cur.execute(_____)
resultset=cur.fetchmany(3)
for row in resultset:
        print(row)
dbcon._____()
```

(OR)
 (a) Predict the output of the code given below: 2+3
def fun(s):   =5
```
def fun(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)
fun('school2@com')
```

(b) Srishti is trying to connect Python with MySQL for her project. Help her to write the
python statement on the following:-
(i) Name the library, which should be imported to connect MySQL with Python.
(ii)Name the function, used to run SQL query in Python.
(iii) Write Python statement of connect function having the arguments values as :Host name
:192.168.11.111
User : root
Password: Admin
Database : MYPROJECT

33. Sarthak of class 12 is writing a program to search a name in a CSV file "MYFILE.csv". He (5) has written the following code. As a programmer, help him to Successfully execute the given task.

```
import _____ # Statement 1
f = open("MYFILE.csv", _____) # Statement 2
data = _____ ( f ) # Statement 3
nm = input("Enter name to be searched: ")
for rec in data:
        if rec[0] == nm:
                print (rec)
f._____( ) # Statement 4
```

(a) Name the module he should import in Statement 1.
(b) In which mode, Rohit should open the file to search the data in the file in Statement 2?
(c) Fill in the blank in Statement 3 to read the data from the file.
(d) Fill in the blank in Statement 4 to close the file.
(e) Write the full form of CSV

(OR)

Srishti is making software on "Items & their prices" in which various records are to be stored (5) / retrieved in STORE.CSV data file. It consists some records (Item & Price). She has written the following code in python. As a programmer, you have to help her to successfully execute the program.

```
Import_____                         # Statement-1
def AddItem(Item, Price)_____          # Statement-2
f=open("STORE.CSV",_____ )           # Statement-3
fw=csv.writer(f) fw.writerow([Item,
_____                             # Statement-4


def ShowRecord():
with open("STORE.CSV","r") as NI: NewItem=csv.  # Statement-5
_____(NI) for rec in NewItem:
    print(rec[0], "#", rec[1])


#main-code
AddItem("Sugar", 38.00)
AddItem("Rice", 48.50)                     # Statement-6
```

Q1. Which module should be imported in Statement-1.
   (A) pickle   (B) . csv   (C) file   (D) text

Q2. Which file mode to be passed to add new record in Statement-3.
   (A) w+   (B) w   (C) wb   (D) a

Q3. What should be written in Statement-4 to close the file?
   (A) close()   (B) fw.close() (C). f.close()   (D). csv.close()

Q4. Which function to be used in Statement-5 to read the data from a csv file.
   (A) read()   (B). readline() (C) readlines() (D) reader()

Q5. Output after executing Statement-6 will be –
 (A) ("Sugar", "38.0")   (B) Sugar 38.0
    ("Rice", "48.50")   Rice 48.0

 (C) Sugar, 38.0   (D) Sugar # 38.0
    Rice, 48.50   Rice # 48.50

34. Write queries (a) to (d) based on the tables EMPLOYEE and DEPARTMENT given below: 2+2
=4

Table: EMPLOYEE

EMPID	NAME	DOB	DEPTID	DESIG	SALARY
120	Alisha	23-Jan-1978	D001	Manager	75000
123	Nitin	10-Oct-1977	D002	AO	59000
129	Navjot	12-Jul-1971	D003	Supervisor	40000
130	Jimmy	30-Dec-1980	D004	Sales	Rep
131	Faiz	06-Apr-1984	D001	Dep Manager	65000

Table: DEPARTMENT

DEPTID	DEPTNAME	FLOORNO
D001	Personal	4
D002	Admin	10
D003	Production	1
D004	Sales	3

    a. To display the average salary of all employees, department wise.

    b. To display name and respective department name of each employee whose salary is more than 50000.

    c. (i) To display the names of employees whose salary is not known, in alphabetical order?

    (ii) identify most appropriate column to , which can be considered as MPrimary key

35. Mr Prathamesh is a python programmer. He has written a code (to searching record) and   4 created binary file "student.dat" with rollno and name of the students. The file contains 05 records, As a python expert help him to complete the following code based on the requirement given below :-

```
import .................                                #Statement 1
roll = input('Enter roll number that you want to search in binary file :')
file = open("student.dat", "...........")               #Statement 2
list = pickle...................... #Statement 3
file.close( )
for x in list:
        if roll in x['roll']:
                print("Name of student is:", x['name'])
                break
        else:
                print("Record not found")
```

  (i)   Which module should be imported in the programme ? (statement 1)

  (ii)   Write the correct mode to open the file .

  (iii)   Which statement should prathamesh fill in statement 3 to read the data from binary file