विद्या सर्वार्थि साधिका

ANANDALAYA

PERIODIC TEST -2

Class: XII

Subject: Computer Science (083) MM :70

Date :23-09-2024 Time: 3 Hrs.

General Instructions:

1. There are 35 questions in this question paper. All questions are compulsory.
2. This question paper has five sections: Section-A to Section-E.
3. Section A consists of 18 questions (1 to 18). Each question carries 1 mark.
4. Section B consists of 7 questions (19 to 25). Each question carries 2 marks.
5. Section C consists of 5 questions (26 to 30). Each question carries 3 marks.
6. Section D consists of 2 questions (31 to 32). Each question carries 4 marks.
7. Section E consists of 3 questions (33 to 35). Each question carries 5 marks.

SECTION A

1. State True or False. (1)
"Comments are not executed by compiler".

2. Which of the following is not a sequential datatype in Python? (1)
(A) Dictionary (B) String (C) List (D) Tuple

3. Given the following dictionary (1)
Day={1:"Monday", 2: "Tuesday", 3: "Wednesday"}
Which statement will return "Tuesday".
(A) Day.pop() (B) Day.pop(2) (C) Day.pop(1) (D) Day.pop("Tuesday")

4. Consider the given expression: (1)
7 < 4 or 6 > 3 and not 10 == 10 or 17 > 4
Which of the following will be the correct output if the given expression is evaluated?
(A) True (B) False (C) NONE (D) NULL

5. Select the correct output of the code: (1)

```
S=" Yoga for self and society"
A=S.split(" ",2)
print(A)
```

(A) ('Yoga', 'for', 'self', 'and society') (B) ['Yoga', 'for', 'self', 'and society']
(C) ('Yoga', 'for', 'self and society') (D) ['Yoga', 'for', 'self and society']

6. Which of the following modes in Python creates a new file, if file does not exist and it overwrites the content, if the file exists? (1)
(A) r+ (B) r (C) w (D) a

7 Fill in the blank: (1)
_____ is not a valid built-in function for list manipulations.
(A) count() (B) length() (C) append() (D) extend()

8. Which of the following is an example of identity operators of Python? (1)
(A) is (B) on (C) in (D) not in

9. Which of the following statement(s) would give an error after executing the following code? (1)

```
S="CBSE"                    # Statement 1
print(S*2)                  # Statement 2
S+=" Sports "               # Statement 3
S.append("Calender")        # Statement 4
print(S)                    # Statement 5
```

(A) Statement 2 (B) Statement 3 (C) Statement 4 (D) Statement 3 and 4

10 Fill in the blank: (1)
In a relational model, tables are called _____, that store data for different columns.
(A) Attributes (B) Degrees (C) Relations (D) Tuples

11. The correct syntax of tell() is : (1)
(A) tell.file_object() (B) file_object.tell() (C) tell.file_object(1) (D) file_object.tell(1)

12. Fill in the blank: (1)
_____ statement of SQL is used to insert new records in a table.
(A) ALTER (B) UPDATE (C) INSERT (D) CREATE

13. Fill in the blank: (1)
In _____ switching, before a communication starts, a dedicated path is identified between the sender and the receiver.
(A) Packet (B) Graph (C) Circuit (D) Plot

14. What will the following expression be evaluated to in Python? (1)
print(6/3 + 4**3//8-4)
(A) 6.5 (B) 4.0 (C) 6.0 (D) 4

15. Which of the following functions is a common built-in function for both list and dictionary datatype? (1)
(A) items() (B) pop() (C) update() (D) values()

16. fetchone() method fetches only one row in a ResultSet and returns a _____. (1)
(A) Tuple (B) List (C) Dictionary (D) String

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) : In Python, a stack can be implemented using a list. (1)
Reasoning (R) : A stack is an ordered linear list of elements that works on the principle of First In First Out (FIFO).

18. Assertion (A) : readlines() reads all the lines from a text file and returns the lines along with newline as a list of strings. (1)
Reasoning (R) : readline() can read the entire text file line by line without using any looping statements.

SECTION-B

19 (A) Write the full forms of the following: (1)
(i) XML
(ii) HTTPS
(B) What is the use of FTP? (1)

OR

(A) Define the term Web hosting.
(B) Name any two web browser.

20. Ramya, a Python programmer, is working on a project in which she wants to write a function to count the number of even and odd values in the list. She has written the following code but her code is having errors. Rewrite the correct code and underline the corrections made. (2)

```
define EOCOUNT(L):
    even_no=odd_no=0
    for i in range(0,len(L))
        if L[i]%2=0:
            even_no+=1
        Else:
            odd_no+=1
    print(even_no, odd_no)
```

21. Write a user defined function in python named showPoints(G) which takes the dictionary G as an argument. The dictionary G contains Group-Name: [March-past, Sports, Academic] as key: value pairs. The function displays the corresponding remarks obtained by the group according to following grading rules: (2)

Average of point Scored in March-Past, Sports, and Academic	Remarks
>=260	Excellent Performance
<260 but >=250	Average Performance
<250	Poor Performance

G={“Harsh”:[95,80,70], “Umang”: [80,90,80], “Utkarsh”:[90,90,80],“Ullas”:[85,90,85] }
The output should be:
Harsh – 245- Poor Performance
Umang-250- Average Performance
Utkarsh-260- Excellent Performance
Ullas-260- Excellent Performance

OR

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 Nth alphabet of the word W is replaced with an underscore ("_").
For example: if W contains the word " Kaleidoscope" and N is 3, then the function should return the string " Ka_ei_os_op_ ". Likewise for the word " Kaleidoscope " and N is 4, then the function should return " Kal_ido_cop_ ".

22. Write the output displayed on execution of the following python code: (2)

```
RS=[“Tapi”,  “Narmada”, “Mahi”, “Machchhu”  ]
D={}
for S in RS:
    if  “i”  in S:
        D[S]=len(S)
for K in D:
    print( K, D[K] , sep= “@”)
```

23. (A) Given is a Python string declaration: (1)

```
NAME = "Learning Python is Fun"
Write the output of : print(NAME[-5:-10:-1])
```

(B) Write the output of the code given below: (1)

```
dict1={1:["Rohit",20], 2:["Siya",90]}
dict2={1:["Rahul",95], 5:["Rajan",80]}
dict1.update(dict2)
print(dict1.values())
```

OR

A tuple name ***sports*** stores the names of different sports. Write commands to convert a given tuple to a list ***lstSports*** and thereafter find the first occurrence of the sports "Cricket" from the list.

24. (A) Consider the following tables Student and Sport: (2)

Table : Student

ADMNO	NAME	CLASS
1100	MEENA	X
1101	VANI	XI

Table : Sport

ADMNO	GAME
1100	CRICKET
1103	FOOTBALL

(i) What will be the output of the following statement?
SELECT * FROM Student, Sport;

(ii) Write command to add column contactno to table student;

OR

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

(i) View the available databases;

(ii) To view the structure of the table, Sports;

25. Write the output of the Python code given below: (2)

```
a=15
def update(x):
    global a
    a+=2
    if x%2==0:
        a*=x
    else:
        a//=x
    a=a+5
print(a,end="$")
update(5)
print(a)
```

SECTION – C

26. Write the output on execution of the following python code: (3)

```
S="Formula-1 Racing"
L=S.split()
for W in L:
    x=W.lower()
    if "in" in x:
        for I in x:
            print(I,end="&")
    else:
        for I in W:
            print(I,end="#")
    print()
```

27. Write the output of the queries (i) to (iv) based on the table, GARMENT given below: (3)

TABLE : GARMENT

GCODE	TYPE	PRICE	FCODE	ODR_DATE
G101	EVENING GOWN	850	F03	2008-12-19
G102	SLACKS	750	F02	2020-10-20
G103	FROCK	1000	F01	2021-09-09
G104	TULIP SKIRT	1550	F01	2021-08-10
G105	BABY TOP	1500	F02	2020-03-31
G106	FORMAL PANT	1250	F01	2019-01-06

(I) SELECT DISTINCT(COUNT(FCODE)) FROM GARMENT;

(II) SELECT FCODE, COUNT(*), MIN(PRICE) FROM GARMENT GROUP BY FCODE HAVING COUNT(*) > 1;

(III) SELECT TYPE FROM GARMENT WHERE ODR_DATE > '2021-02-01' AND PRICE < 1500;

28 Write a function dispBook(Fname) in Python that displays the book names having 'y' in their name from a text file Bookname.txt which is passed as a parameter where each line contains name of the book. (3)

Example:

If the file "Bookname.txt" contains the names of following books:

One Hundred Years of Solitude
The Diary of a Young Girl
On the Road

After execution, the output will be:

One Hundred Years of Solitude
The Diary of a Young Girl

OR

Write a function RevString(Line) that accepts Line as parameter and prints the words starting with "O" in the reverse order , the rest of the content is displayed normally.

Example:

If content in the text file is:

UBUNTU IS AN OPEN SOURCE OPERATING SYSTEM

Output will be:

UBUNTU IS AN NEPO SOURCE GNITAREPO SYSTEM

29 Consider the table Employee given below: (3)

Table: Employee

Empcd	Name	DOB	Gender	City
1	Nanda	06-06-1995	M	Agra
2	Saurabh	05-07-1993	M	Mumbai
3	Sonal	05-06-1994	F	Delhi
4	Trisha	08-08-1995	F	Mumbai
5	Shila	10-08-1995	M	Delhi
6	Manisha	12-12-1994	F	Dubai
7	Neha	12-08-1995	F	Moscow
8	Nishant	06-12-1995	M	Moscow

Based on the given table write SQL Queries for the following:

(i) Add the constraint primary key to column Empcd in the existing Employee

(ii) To change the city to "Ahmedabad" whose empcd is 6

(iii) To delete the table employee along with its data.

30. A list contains following record of course details for a University : (3)
[Course_name, Fees, Duration]
Write the following user defined functions to perform given operations on the stack named 'Univ' :

(1) **Push_element()** To push an object containing the Course_name, Fees and Duration of a course, which has fees greater than 100000 to the stack.

(2) **Pop_element()** To pop the object from the stack and display it. Also display "Underflow" when there is no element in the stack.

The program takes one list from courses and call the Push_element()
For example: If the lists of courses details are which are pushed on **Univ** stack:

['MCA',200000,3]
['MBA',500000,2]
['BA',100000,3]

The output should be :

['MBA',500000,2]
['MCA',200000,3]
Stack empty

SECTION-D

31 Write the output of any three SQL queries (i) to (iv) based on the tables COMPANY and CUSTOMER given below: (4)

Table: COMPANY

CID	C_NAME	CITY	PRODUCTNAME
111	SONY	DELHI	TV
222	NOKIA	MUMBAI	MOBILE
333	ONIDA	DELHI	TV
444	SONY	MUMBAI	MOBILE
555	BLACKBERRY	CHENNAI	MOBILE
666	DELL	DELHI	LAPTOP

Table: CUSTOMER

CUSTID	CID	NAME	PRICE	QTY
C01	222	ROHIT SHARMA	70000	20
C02	666	DEEPIKA KUMARI	50000	10
C03	111	MOHAN KUMAR	30000	5
C04	555	RADHA MOHAN	30000	11

(i) Display Name, price and product name from the tables company and customers.
(ii) Display number of products whose company is in DELHI
(iii) Display all details of customer whose name ends with 'R'.
(iv) Display custid and Name in alphabetic order of customer name, from the table customer.

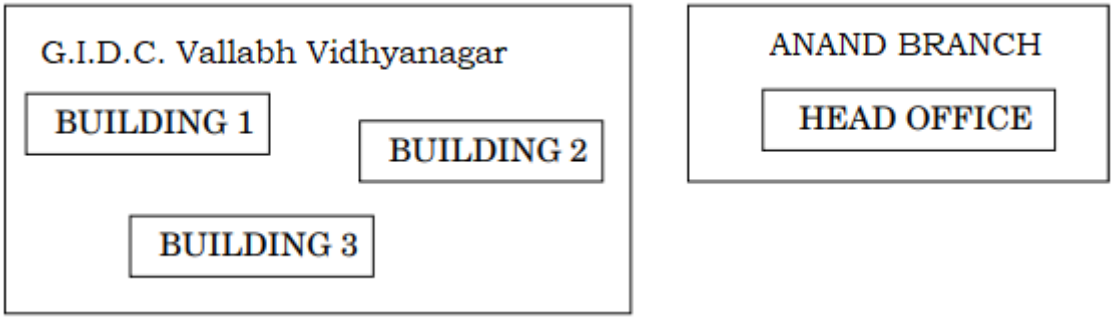
32 Sangeeta is a python programmer working in a Library. She has to maintain a records books in a library. She has created a csv file **Book.csv,** to store the details. The structure of **Books.csv** has structure [BookNo, Book_Name, Author, Price]. (4)
where,
BookNo is Book Identification Number (integer)
Book_Name is Book Title with subtitle (String)
Author is Author of the Book. (String)
Price is Book price (integer)
Help sangeeta to write the following user defined functions:

(i) Write a user defined function **CreateFile()** to input data for a record and add to Book.csv.

(ii) Write a function **CountRec(Author)** in Python which accepts the Author name as parameter and count and return number of books by the given Author are stored in the csv file "Book.csv"

Section - E

33 Shree Vallabh Glass Works is setting up a secure network for their office campus at Vallabh Vidyanagar for their day-to-day office and web-based activities. They are planning to have connectivity between three buildings and the head office situated in Anand. As a network consultant, give solutions to the questions (i) to (v), after going through the building locations and other details which are given below: (5)



Distance between various blocks/locations :

Building	Distance
Building 1 to Building 3	120 m
Building 1 to Building 2	50 m
Building 2 to Building 3	65 m
G.I.D.C. Vallabh Vidhyanagar to Head Office	15 km

Number of computers

Building	Number of Computers
Building 1	25
Building 2	51
Building 3	150
Head Office	10

(I) Suggest the most suitable place to install the server for this Shree Vallabh Glass. Also, give reason to justify your suggested location.

(II) Suggest the cable layout of connections between the buildings inside the campus.

(III) Suggest the placement of the following devices with justification:

◉ Switch ◉ Repeater

(IV) The organization is planning to provide a high-speed link with the head office situated in Anand, using a wired connection. Suggest a suitable wired medium for the same.

(V) The System Administrator does remote login to any PC, if any requirement arises. Name the protocol, which is used for the same.

34. (A) Write difference between append (A) and write (w) modes in a text file. (2)

(B) Write a program in Python that defines and calls the following user defined functions: (3)

(i) **Add_Teacher() :** It accepts the values from the user and inserts record of a teacher to a binary file 'Teacher.dat'. Each record consists of a list with field elements as T_id, Tname and desig to store teacher ID, teacher name and designation respectively.

(ii) **Search_Teacher() :** To display the records of all the PGT (designation) teachers.

OR

(a) Write difference between seek() and tell() functions in file handling.

(b) Write a program in Python that defines and calls the following user defined functions:

(i) **Add_Device()** : The function accepts and adds records of the peripheral devices to a binary file 'peripheral.dat'. Each record consists of a list with field elements as P_id, P_name and price to store peripheral device ID, device name, and price respectively.

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

35. A. Write the usage of HAVING clause in GROUP BY command in RDBMS. (1)

B. Satyajeet wants to write a program in Python to update the quantity to 35 whose item code is 235 in the table named Bstore in MySQL database Named "MyDb". The table Bstore contains the following attributes. (4)

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

Note the following to establish connectivity between Python and MySQL on a localhost:

Username is 'shop'

Password is 'Shopping'

OR

A. Differentiate between IN and BETWEEN operators in SQL with appropriate examples.

B. Amit wants to write a code in a python to display all the details of the passengers from the table trains in MySQL database, Travel. The table contains the following attributes:

- T_Code : Train number (integer)
- T_Name : Name of the train (String)
- From : Departure Junction of the Train.
- To : Destination Junction of the Train.

Note the following to establish connectivity between Python and MySQL on a localhost:

Username is 'root'

Password is 'stnM#'