

Self Assessment Paper-3

COMPUTER SCIENCE

Class-XII, Session: 2023-24

Unsolved

Time Allowed: 3 hours

Maximum Marks: 70

General Instructions:

- (i) Please check this question paper contains 35 questions.
- (ii) The paper is divided into 5 Sections-A, B, C, D and E.
- (iii) Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.
- (iv) Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.
- (v) Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.
- (vi) Section D, consists of 2 questions (31 to 32). Each question carries 5 Marks.
- (vii) Section E, consists of 3 questions (33 to 35). Each question carries 4 Marks.
- (viii) All programming questions are to be answered using Python Language only.

Section – A

1. State True or False:

A binary file has extension of .txt .

[1]

2. Ravneet wants to find records that match a specific pattern . Which SQL clause she needs to use?

- (A) Like (B) IN (C) Between (D) None of these

[1]

3. The expression :

$362//7 + 26\%52 - 2**8 + 5$ evaluates to:

- (A) -174 (B) -174.5 (C) 174 (D) 175

[1]

4. Give the output of the following code:

```
s="MyFirstproGRam"
print(s[11:].endswith("ram"))
```

5. To add a new constraint to a table the command that can be used is :

- (A) Alter (B) Change (C) Update (D) Add constraint

[1]

6. Which of the following is the first element in an URL?

- (A) Protocol (B) Domain name (C) Home page (D) None of these

[1]

7. What will be the output of the following code?

```
s="hello1234"
for ch in s:
    if ch.isalpha():
        print(ch.upper())
    elif ch.isdigit():
        print(int(ch) + 5)
```

[1]

(a)	(b)	(c)	(d)
H	H	H	H
E	E	e	e
L	L	l	l

L	L	l	l
O	O	o	o
6	1	6	1
7	2	7	2
8	3	8	3
9	4	9	4

8. Given $p=25$, $q=30$, $r=26$

The expression :

$p+q>r$ and $\text{not } q$ or $q\%5==0$ evaluates to :

- (A) True (B) False (C) Error (D) 8 [1]

9. Which of the following statement is not correct?

- (A) We can write content into a text file opened using 'w' mode
 (B) We can write content into a text file opened using 'w+' mode
 (C) We can write content into a text file opened using 'r' mode
 (D) We can write content into a text file opened using 'r+' mode [1]

10. Name the Python Library modules which need to be imported to invoke the `dump()` function :

- (A) pickle (B) random (C) math (D) statistics [1]

11. Fill in the blank

Bus Topology is also called as _____.

- (A) Circular topology (B) Linear topology
 (C) Ring topology (D) Hybrid topology [1]

12. The function that returns the current position of the file pointer in a file is :

- (A) `getpos()` (B) `seek()` (C) `tell()` (D) None of these [1]

13. State True or False:

It is compulsory to handle exceptions in every code. [1]

14. Which of the following are used in data definition?

- (A) DML (B) DDL (C) TCL (D) None of these [1]

15. Fill in the blanks: The topology that provides easy error detection is _____.

16. In which mode is a text file opened by default, if no mode is specified while opening it?

- (A) Read (B) Write
 (C) Read and Write (D) Mode must be specified while opening the file. [1]

Assertion and Reason:

In the following questions, A statement of Assertion (A) is followed by a statement of Reason (R). 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 correct explanation of A.
 (C) A is true but R is false.
 (D) A is false but R is true.

17. Assertion (A): It is not possible to delete/remove element(s) from the list.
 Reason (R): The `pop()`, `remove()` and `del()` functions are used to delete/remove items from the list. [1]

18. Assertion (A): `ZeroDivisionError` is raised when the second operand of a division or module operation is zero.
 Reason (R): Illegal operations can raise exceptions. [1]

Section – B

19. (i) Write the expanded names for the following abbreviated terms used in Networking and Communications:

- (a) OFC
 (b) HTML

(ii) What is domain name resolution?

OR

- (i) Identify the type of topology from the following:
Each node is connected with the help of a single cable.
- (ii) Write two advantages of bus topology.

20. Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code.

```
250 = Number
WHILE Number<=1000:
if Number=>750:
    print (Number)
    Number=Number+100
else
    print (Number*2)
    Number=Number+50
```

[2]

21. Write a function that receives two tuples and creates a third that contains all elements of the first followed by all elements of the second.

OR

Write a function Perfect (num) that accepts as parameter a number and returns True if the number is a perfect number, else returns a False.

(A perfect number is one which is the sum of its factors other than itself. Ex : $6=3+2+1$)

22. Write the output of the following Python code :

```
def display():
    a=[[1,2,3,4,5],[6,7,8]],9]
    a[-1]=200
    b=a[:]
    b[0][0][3]=17
    print(a)
    print(b)
```

23. Write the Python statement for each of the following tasks :

[2]

- (i) Given a list L=[["Ria", "Seema", "Alka"], ["London", "Manchester", "Frankfurt"]]. To display the 2nd city name from the list.
- (ii) Given : Lst=[3, 4, 5, 6, 7, 8, 9, 10]. To remove elements from index 3 to 5.

OR

Find the output of the following code:

```
def test (x=100,y=20):
    temp=x+y
    print (temp,x,y)
a,b=40,50
test (b)
test (a,b)
test (b,a)
```

24. A table Professor has to be created with following structure . Write the SQL command to do so.

Field	Type	Size	Constraint
PID	Int	5	Primary key
Pname	Varchar	30	Not Null
Dept	Varchar	20	Not Null
Salary	Float	8,1	>10000

Then after write a query to remove the field Dept.

OR

Differentiate between the primary key and alternate key of a table with the help of an example.

[2]

25. Predict output of the code given below :

```
lst=[1,2,3]
myvar=lst[1]
lst[1]=67
print(lst)
print(myvar)
```

[2]

Section – C

26. What would be the output produced by the following code?

```
def hey(n,m):
    return m-n
hey(hey(3,4),5)
```

[3]

27. Obtain the outputs of the following SQL queries based on the data given in the table PRODUCTS

[3]

Table : PRODUCTS

PID	PNAME	QTY	PRICE	COMPANY	SUPCODE
101	DIGITAL CAMERA 14X	120	12000	RENBIX	S01
102	DIGITAL PAD 11i	100	20000	DIGI POP	S02
104	PEN DRIVE 16 GB	500	1100	STOREKING	S01
106	LED SCREEN 32	70	28000	DISPEXPERTS	S02
105	CAR GPS SYSTEM	60	12000	MOVEON	S03

(i) SELECT MAX (PRICE), MIN (PRICE) FROM PRODUCTS;

(ii) SELECT PNAME FROM PRODUCTS WHERE PRICE = 12000;

(iii) SELECT DISTINCT SUPCODE FROM PRODUCTS;

28. Write a function `countmy()` in Python to read the text file "DATA.TXT" and count the number of times "my" occurs in the file.

For example if the file "DATA.TXT" contains:

"This is my website. I have displayed my preferences in the CHOICE section."

The `countmy()` function should display the output as:

"my occurs 2 times".

[3]

OR

Write a function in Python to count the number of blank spaces in a text file named "STORY.txt".

29. Write SQL queries with respect to the table Moviedetails given below :

[3]

Table : MOVIEDETAILS

MOVIEID	TITLE	LANGUAGE	RATING	PLATFROM
M001	Minari	Korean	5	Netflix
M002	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

(a) To display the distinct platforms

(b) To display Title and Rating of "English" and "Hindi" movies.

(c) To change the platform of "Uri" to "Netflix"

30. Alam has a list containing 10 integers. You need to help him create a program with separate user defined functions to perform the following operations based on this list.

- Traverse the content of the list and push the even numbers into a stack.
- 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

[3]

Section – D

31. Consider the following tables Mobilemaster and Mobilestock.

Table: MobileMaster

M_id	M_company	M_Name	M_price	M_Mf_Date
MB001	Samsung	Galaxy	4500	2013-02-12
MB003	Nokia	N1100	2250	2011-04-15
MB004	Micromax	Unite3	4500	2016-10-17
MB005	Sony	Xperia.M	7500	2017-11-20
MB006	Oppo	Selfie Ex	8500	2010-08-21

Table: MobileStock

S_id	M_id	M_Qty	M_Supplier
S001	MB004	450	NEW Vision
S002	MB003	250	Praveen Gallery
S003	MB001	300	Classic Mobile Store
S004	MB006	150	A_one Mobiles
S005	MB003	150	The Mobile
S006	MB006	50	Mobile Centre

- Write the statement to decrease the price of all mobiles by 10%.
- To display the mobile name, company and corresponding supplier.
- To display the Id, Manufacturing date and company of mobiles from MobileMaster table which have been manufactured after year "2015"
- To display the maximum and minimum quantity from MobileStock table. [4]

32. Mrs. Maria is a Programmer in a company. She wants to write a code to transfer data of stock from a csv file "Stock.csv" that stores records of inventory of her company.

The file stores records of following structure:

[StockID, Stockname, Brand, Quality, Price]

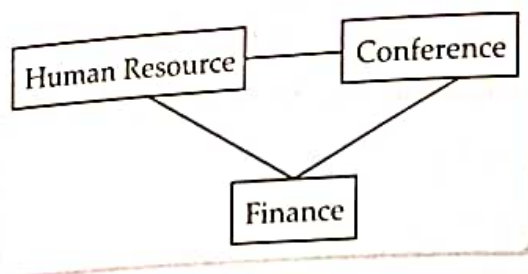
Help her to write a function transfer(Sid) that receives a stockid as argument and copies the records of the stock to another file "Newstock.csv"

The code should also display the contents of the new file. [4]

Section – E

33. ABC is professional consultancy company. The company is planning to set up their new offices in India with its hub at Bengaluru. As a network adviser you have to understand their requirements and suggest them the best available solutions. Their queries are mentioned as (i) to (v) below:

Physical Location of the blocks of ABC.



Block to Block Distance (in Mtr)

Block (From)	Block (To)	Distance
Human Resource	Conference	110
Human Resource	Finance	40
Conference	Finance	80

Expected number of computers to be installed in each blocks:

Block	Computer
Human Resource	25
Finance	120
Conference	90

- What will be the most appropriate block, where ABC should plan to install their server?
- Draw a block diagram showing cable layout to connect all the buildings in the most appropriate manner for efficient communication.
- What will be the best possible connectivity out of the following, you will suggest to connect the new setup of offices in Chennai with its London based office.
 - Satellite link
 - Infrared
 - Ethernet cable
- Which of the following device will be suggested by you to connect each computer in each of the buildings?
 - Switch
 - Modem
 - Gateway
- The company is planning to link its blocks situated in various part of the same city. Which type of network out of LAN, WAN, MAN will be formed? Justify. [5]

34. (i) How is r+ file mode different from rb+ mode? [5]

(ii) Given a binary file "Hospital.dat" storing details of patients as per following structure:

[patId, patname, gender, wardno, doctor]

Write a function transfer(wrd) to copy those records from the file to another file newfile.dat whose ward number is provided as parameter.

OR

(i) Which method is used to add element to a list but at specified index number?

(ii) Given a binary file "Inventory.dat" storing details of stock as per following structure:

[ItemId, Iname, Qty, Reorder, Category]

Write a function Modify() to input an ItemId and update the item details in the file.

35. (i) Write the use of Group by clause of SQL.

(ii) Write Python code to update the salary of those employees who are in Delhi by 5000 in Employee table.

Here, Database:EmpDB

UserId:EmpDetail

Password:Emp@123

[5]

OR

- (i) Which method of cursor class is used to fetch limited rows from the table?
- (ii) Following table represents information on sales representatives for Premiere Products and contains the following data fields for sales representations.

Sales representative's number - SLSRNUMB

Sales representative's name - SLSRNAME

Sales representative's address - SLSRADDR

Total commission paid to the sales representatives - TOTCOMM

Sales representative's commission rate - COMMRATE

Write Python code to create the above table

Finished Solving the Paper ?
Time to evaluate yourself !

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