

# Self Assessment Paper-5

## 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 python function can return multiple values.

[1]

2. Namita wants to delete records from a table using the SQL command for deletion. To which category of SQL commands, does the command belongs.

- (A) DDL (B) DML (C) TCL (D) DML [1]

3. The expression :

$160\%5 + 7**2**2 + 16//12$  evaluates to :

- (A) 2401 (B) 2402 (C) 2400 (D) Error [1]

4. Give the output of the following statements:

- (A) Hnesty is the best plicy (B) H\*nesty is the best p\*licy  
(C) Honesty is the best p\*licy (D) None of these [1]

5. Which of the following expressions relates primary, candidate and alternate keys properly?

- (A) Primary key = candidate key – Alternate key  
(B) Candidate key = Primary key + Alternate key  
(C) Alternate key = Primary key + Candidate key  
(D) Both a and b [1]

6. Which of the following is a valid IP address?

- (A) 121.208.9.1 (B) 256.255.2.1 (C) 275.176.174.2 (D) 200.306.2.1 [1]

7. Find the output from the following code:

```
t=tuple()
t=t+('Python',)
print(t)
t1=(10,20,30)
print(len(t1))
```

- (A) ('Python',) (B) ('Python',)1 (C) Python 1/3 (D) "Python" 1/3 [1]

8. Given the following dictionaries

```
dict_exam={"Exam", "AISSCE", "Year", 2023}
```

```
dict_result=("Total", 500, "Pass_Marks", 165)
```

Which statement will merge the contents of both dictionaries?

- (A) dict\_exam.update(dict\_result)      (B) dict\_exam + dict\_result  
(C) dict\_exam.add(dict\_result)      (D) dict\_exam.merge(dict\_result)      [1]

9. Given str1 = "Hello" and str2 = "Bye", what is the output produced by the following expression?

```
3*str1 + 4 * str2
```

- (A) Hello Bye      (B) Hello Bye Bye  
(C) HelloHelloHelloByeByeBye      (D) None of these      [1]

10. After executing, what are not possible outcome(s) from the following code?

```
NAV = ["LEFT", "FRONT", "RIGHT", "BACK"]
```

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

```
NAVG=""
```

```
for C in range(NUM, 1, -1)
```

```
    NAVG = NAVG+NAV[C]
```

```
print(NAVG)
```

(A) BACKRIGHT

(B) BACKRIGHTFRONT

(C) BACK

(D) LEFTFRONTRIGHT      [1]

11. Fill in the blank:

A network of computers spread across multiple countries can be regarded as \_\_\_\_\_.

- (A) LAN      (B) Wifi      (C) PAN      (D) WAN      [1]

12. Consider the code given below and fill the missing blank for proper execution of code

```
def Func(a):
```

```
    while a>0:
```

```
        x=a%10
```

```
        r=r*10+x
```

```
        a=_____
```

```
    print (r)
```

- (A) a/10      (B) a//10      (C) a/r      (D) a//r      [1]

13. State True or False:

Exception handling code is written in the catch block in python.      [1]

14. A table in a database can contain \_\_\_\_\_ candidate key(s).

- (A) 1      (B) 5      (C) Multiple      (D) 3      [1]

15. Fill in the blank;

1 Gbps is equal to \_\_\_\_\_.

[1]

16. The file opening mode that keeps safe the existing data in a file and adds new data at the end of the file is :

- (A) b      (B) r      (C) ra      (D) a      [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): Elements of a tuple cannot be changed after it has been created.

Reason (R): Tuple is an immutable data type.      [1]

18. Assertion (A): If a sequence has comma separated elements without parentheses, it is also treated as a tuple.

Reason (R): Keys are of immutable type but values can be mutable.      [1]

## Section – B

19. (i) Expand the following:  
VoIP, PPP
- (ii) Riya wants to transfer pictures from her mobile phone to her laptop. She uses Bluetooth technology to connect two devices. Which type of network (PAN/LAN/MAN/WAN) will be formed in this case? [2]

OR

- (i) Which option would you choose on the web browser if a web page takes too long to load and we wish to load the same page again?
- (ii) What is web hosting?

20. Find the errors from the following code:

```
c=dict()
n=input(Enter total number)
i=1
whiel i<=n:
    a=input("enter place")
    b=input("enter number")
    c[a]=b
    i=i+1
print("place", "/t", "number")
for i in C
    print(i, "/t", c[a[i]])
```

21. Write a python function Lfactorial (Lst) to receive a list of numbers and return the factorial of the lowest number.

Or

Write a function namely checkSen (sen) that receives a sentence and displays whether the sentence has even or odd number of words. [2]

22. Find and write the output of the following Python code :

```
v = 25
def fun(Ch):
    V=50
    print(V, end=Ch)
    V *= 2
    print(V, end=Ch)
print (V, end = "**")
Fun("!")
Print(V)
```

[2]

23. Write the Python statement for each of the following tasks using BUILT-IN functions/methods only: [2]

- (i) To change the "Roll" key's value of dictionary "Studict" to "SS/1"
- (ii) To display the string "wbreg" in uppercase

OR

What will be the output of the following Python code?

```
f = None
for i in range (5):
    with open("data.txt", "w") as f:
        if i > 2:
            break
Print(f.closed)
Print(f.name)
```

24. A table, Transaction has been created in a database with the following fields:

Tr\_ID, Tdate , Amt , Discount

Give the SQL command to increase the width of Amt column to float(10,2)

Then after write a query to add the record : [ "T001", "2017-09-05", 10000, 300 ] to the table. [2]

OR

What is Hierarchical model?

Answer: The hierarchical model was developed by IBM in 1968. The data is organised in a tree structure where the nodes represent the records and the branches of the tree represent the fields. Since the data is organized in a tree structure, the parent node has the links to its child nodes.

If we want to search a record, we have to traverse the tree from the root through all its parent nodes to reach the specific record. Thus, searching for a record is very time consuming.

25. What will be the output of the following Python code?

```
V = 50
```

```
def Change (N):
```

```
    global V
```

```
    V, N = N, V
```

```
    print(V, N, sep="#", end="@")
```

```
Change (20)
```

```
print (V)
```

[2]

## Section – C

26. Find and write the output of the following Python code:

```
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')
```

[3]

27. Write the output of the queries (i) to (iii) based on the table, COURSE given below:

Table: COURSE

CID	CNAME	FEES	STARTDATE	TID
C201	AGDCA	12,000	2018-07-02	101
C202	ADCA	15,000	2018-07-15	103
C203	DCA	10,000	2018-10-01	102
C204	DDTP	9,000	2018-09-15	104
C205	DHN	20,000	2018-08-01	101
C206	O LEVEL	18,000	2018-07-25	105

- (i) SELECT DISTINCT TID FROM COURSE;  
(ii) SELECT TID, COUNT(\*), MIN(FEES) FROM COURSE GROUP BY TID HAVING COUNT (\*) > 1;  
(iii) SELECT COUNT (\*), SUM (FEES) FROM COURSE WHERE STARTDATE < '2018-09-15';

28. Write a function to read the content of a text file "DELHI.txt" and display all those lines on screen, which are either starting with 'D' or 'M'. [3]

OR

Write a function countarg(wrd) to count the number of times the word in the function argument appears in a file "Tfile.txt" and display the count. [3]

29. Consider the table School given below : [A1]

Table : SCHOOL

CODE	TEACHERNAME	SUBJECT	DOJ	PERIODS	EXPERIENCE
1001	Ravi Shankar	English	12/3/2000	24	10
1009	Priya Rai	Physics	03/09/1998	26	12
1203	Lisa Anand	English	19/04/2000	27	5
1045	Yashraj	Maths	24/08/2000	24	15
1123	Ganan	Physics	16/07/1999	28	3
1167	Harish B	Chemistry	19/10/1999	27	5
1215	Umesh	Physics	11/05/1998	22	16

Based on the table write SQL queries for the following :

- (i) To display TEACHERNAME, PERIODS of all teachers whose periods are more than 25.  
 (ii) To display all the information from the table SCHOOL in descending order of experience.  
 (iii) To decrease periods of "English" teachers by 2. [3]
30. • Write the definition of a user defined function Push 3\_5 (N) which accepts a list of integers in a parameter N and pushes all those integers which are divisible by 3 or divisible by 5 from the list N into a list named Only 3\_5.  
 • Write a program in Python to input 5 integers into a list named NUM.  
 The program should then use the function Push 3\_5 () to create the stack of the list Only3\_5. There after pop each integer from the list Only3\_5 and display the popped value. When the list is empty, display the message 'StackEmpty':  
 For example:  
 If the integers input into the list NUM are:  
 [10, 6, 14, 18, 30]  
 Then the stack Only 3\_5 should store  
 [10, 6, 18, 30]  
 And the output should be displayed as  
 30 18 6 10 StackEmpty [3]

## Section – D

31. Consider the following tables SCHOOL and ADMIN and answer the following questions:

Table: SCHOOL

CODE	TEACHERNAME	SUBJECT	DOJ	PERIODS	EXPERIENCE
1001	Ravi Shankar	English	12/3/2000	24	10
1009	Priya Rai	Physics	03/09/1998	26	12
1203	Lisa Anand	English	19/04/2000	27	5
1045	Yashraj	Maths	24/08/2000	24	15
1123	Ganan	Physics	16/07/1999	28	3
1167	Harish B	Chemistry	19/10/1999	27	5
1215	Umesh	Physics	11/05/1998	22	16

Table: ADMIN

ACODE	GENDER	DESIG
1001	Male	Vice Principal
1009	Female	Co-ordinator
1203	Female	Co-ordinator
1043	Male	HOD
1123	Male	Senior Teacher
1167	Male	Senior Teacher
1215	Male	HOD

- (i) To display DESIGNATION without duplicate entries from the table ADMIN  
(ii) To display TEACHERNAME, CODE and corresponding DESIGNATION from tables SCHOOL and ADMIN of Male teachers.  
(iii) To display teacher name , subject ,experience for teachers whose designation is "Senior Teacher"  
(iv) Display each gender and total number of teachers of each gender. [4]
32. Suhani is a student of class 12 and has been assigned by her faculty to write functions Insert () and Detail () for working with details of students  
(i) Insert () - To accept of a student to a CSV file "Detail.csv". Each detail consists of a list with elements as Roll No, Name and Subject to store roll no, student name and prefer subject respectively.  
(ii) Detail () - To count the number of records present in the csv file named detail.csv [4]

## Section – E

33. A company ABC Enterprises has four blocks of buildings as shown:



Center to center distance between various blocks

B3 TO B1	50 M
B1 TO B2	60 M
B2 TO B4	25 M
B4 TO B3	170 M
B3 TO B2	125 M
B1 TO B4	90 M

Number of computers in each block:

B1	150 M
B2	15 M
B3	15 M
B4	25 M

Computers in each block are networked but blocks are not networked. The company has now decided to connect the blocks also.

- (i) Suggest the most appropriate topology for the connections between the blocks.  
(ii) The company wants internet accessibility in all blocks. The suitable and cost-effective technology for that would be:  
(iii) Which device will you suggest for connecting all the computers with in each of their blocks?

- (iv) The company is planning to link its head office situated in New Delhi with the offices in hilly areas. Suggest a way to connect it economically.
- (v) Suggest the most appropriate location of the server, to get the best connectivity for maximum number of computers. [5]
34. (i) Give any one point of difference between a binary file and a csv file.
- (ii) Write a Program in Python that defines and calls the following user defined functions:  
 add\_data ( ) – To accept and add more data of products to a CSV file 'fundata.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.  
 search ( ) – To display the records of the furniture whose price is more than 10000.

OR (Option for ii only)

- (i) What is X mode in text file in python?
- (ii) Write a function AMCCount ( ) in Python, which should read each character of a text file STORY.TXT, should count and display the occurrence of alphabets A and M (including small cases a and m too). [A1]
- Example:  
 If the file content is as follows:  
 Updated information  
 As simplified by official websites  
 The AMCount ( ) function should display the output as:  
 A or a:4  
 M or m:2 [5]

35. (i) Define the term tuple with respect to RDBMS.
- (ii) Consider the table FACULTY and COURSES with structure as follows. [A1]

FACULTY	COURSES
F_ID	C_ID
FName	F_ID
LName	Cname
Hiredate	Fees
Salary	

Write Python codes to display details of these faculties whose salary is greater than 12000. [5]

OR

- (i) Name any two aggregate functions which ignore NULL values?
- (ii) Consider the following table OrderDetails of database sales

ORDNUMB	PARTNUMB	NUMBORD	QUOTPRIC
12494	CB03	4	175.00
12495	CX11	2	57.95
12498	AZ52	2	22.95
12500	BT04	1	402.99

Write Python code to increase NUMBORD by 5 if QUOTPRIC is less than 100 or NUMBORD is greater than 3.

□□□

Finished Solving the Paper ?  
Time to evaluate yourself !

OSWAAL COGNITIVE  
LEARNING TOOLS

SCAN THE CODE

For elaborated Solutions