

**KENDRIYA VIDYALAYA SANGATHAN HYDERABAD REGION**  
**PRE-BOARD 1 - EXAMINATION - 2022-23**  
**Class: XII (COMPUTER SCIENCE -083)**

Maximum Marks: 70

Time Allowed: 3 hours

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**General Instructions:**

1. *This question paper contains five sections, Section A to E.*
2. *All questions are compulsory.*
3. *Section A has 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 Q34 against part C only.*
8. *All programming questions are to be answered using Python Language only.*

**SECTION A**

- 1 What will be the result of the following statements? 1  
a) `bool(int('0'))`    b) `type("hello")`
- 2 Which of the following is valid arithmetic operator in Python: 1  
(a) `//`    (b) `?`    (c) `<`    (d) `and`
- 3 Given the following dictionary 1  
`Emp1={'salary':10000,'dept':'sales','age':24,'name':'john'}`  
`Emp1.keys()` can give the output as  
a. `('salary','dept','age','name')`  
b. `['name','salary','dept','age']`  
c. `[10000,'sales',24,'john']`  
d. `{'salary','dept','age','name'}`
- 4 Consider the given expression: 1  
`(5<10)and(10<5)or(3<18)and not(8<18)`  
Which of the following will be correct output if the given expression is evaluated?  
(a) True  
(b) False  
(c) NONE  
(d) NULL
- 5 `string= "it goes as - ringa ringa roses"` 1  
`sub="ringa"`  
`string.find(sub,15,22)`  
(a) 13    (b)-13    (c) -1    (d) 19
- 6 When the file content is to be retained , we can use the \_\_\_\_\_ mode 1  
(a) r    (b) w    (c) a    (d) w+
- 7 Which of the following is NOT a DML Command? 1  
(a) Insert    (b) Update    (c) Drop    (d) Delete

- 8 Identify the error in the following SQL query which is expected to delete all rows of a table emp without deleting its structure and write the correct one: 1
- (a) DELETE TABLE emp;
  - (b) DROP TABLE emp;
  - (c) REMOVE TABLE emp;
  - (d) DELETE FROM emp;
- 9 What will be the Output for the following code – 1
- ```
Language=["C", "C++", "JAVA", "Python", "VB", "BASIC", "FORTRAN"]
del Language[4]
Language.remove("JAVA")
Language.pop(3)
print(Language)
```
- (a) ['C', 'C++', 'VB', 'FORTRAN']
  - (b) ['C', 'C++', 'Python', 'FORTRAN']
  - (c) ['C', 'C++', 'BASIC', 'FORTRAN']
  - (d) ['C', 'C++', 'Python', 'BASIC']
- 10 All attribute combinations inside a relation that can serve as primary key are \_\_\_\_\_ 1
- (a) Primary Key
  - (b) Foreign Key
  - (c) Candidate Key
  - (d) Alternate Key
- 11 Which of the following statements correctly explain the function of tell() method? 1
- (a) tells the current position within the file.
  - (b) tell the name of file.
  - (c) move the current file position to a different location.
  - (d) it changes the file position only if allowed to do so else returns an error
- 12 Which is known as range operator in MySQL? 1
- (a) IN (b) BETWEEN (c) IS (d) DISTINCT
- 13 Network in which every computer is capable of playing the role of a client, or a server or both at same time is called 1
- a) local area network
  - b) peer-to-peer network
  - c) dedicated server network
  - d) wide area network
- 14 What will be the value of y when following expression be evaluated in Python? 1
- ```
x=10.0
y=(x<100.0) and x>=10
```
- (a) 110 (b) False (c) Error (d) True
- 15 All aggregate functions except \_\_\_\_\_ ignore null values in their input collection. 1
- (a) Count (attribute)
  - (b) Count (\*)
  - (c) Avg
  - (d) Sum
- 16 A database \_\_\_\_\_ is a special control structure that facilitates the row by row processing of records in the result set. 1
- (a) Fetch (b) table (c) cursor (d) query

**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):-Built in functions are predefined in the language that are used directly. 1  
Reasoning(R):-print() and input() are built in functions
- 18 Assertion (A):CSV file stands for Comma Separated Values. 1  
Reason(R):CSV files are common file format for transferring and storing data

### SECTION B

- 19 Ravi has written a function to print Fibonacci series for first 10 elements. His code is having errors. Rewrite the correct code and underline the corrections made. some initial elements of Fibonacci series are: 2

```
def fibonacci()  
    first=0  
    second=1  
    print(("first no. is ", first)  
    print(("second no. is , second)  
    for a in range (1,9):  
        third=first+second  
        print(third)  
        first,second=second,third  
    fibonacci()
```

- 20 Give difference between Video Conferencing and Chatting 2  
**OR**  
Write two points of difference between Message Switching and Packet Switching

- 21 (a) Given is a Python string declaration: 1  
str="malayalam"  
Write the output of print(str[ :-1])

(b) Write the output of the code given below:

```
Employee1={'name':'John','salary':10000,'age':24}  
Employee2={'name':'Divya','salary':54000,'dept':'Sales'}  
Employee1.update(Employee2)  
print(Employee1)
```

- 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)GSM (ii)XML  
(b) What is the use of Modem?

24 (a) Predict the output of the Python code given below:

2

```
def Display(str):
    m=""
    for i in range(0,len(str)):
        if(str[i].isupper()):
            m=m+str[i].lower()
        elif str[i].islower():
            m=m+str[i].upper()
    else:
        if i%2==0:
            m=m+str[i-1]
        else:
            m=m+"#"
    print(m)
Display('Fun@World2.0')
```

**OR**

(b) Predict the output of the Python code given below:

What is the output of the following Python code

```
x="hello world"
print(x[:2],x[:-2],x[-2:])
print(x[6],x[2:4])
print(x[2:-3],x[-4:-2])
```

25 Differentiate between WHERE and HAVING clause in MySql.

2

**OR**

What do you understand by the terms Degree, cardinality of a Relation? Explain with an example.

### SECTION –C

26 (a) Differentiate between Natural join and Equi join.

1+2

(b) **Table : Employee**

EmployeeId	Name	Sales	JobId
E1	SumitSinha	110000	102
E2	Vijay Singh Tomar	130000	101
E3	Ajay Rajpal	140000	103
E4	Mohit Kumar	125000	102
E5	Sailja Singh	145000	103

**Table: Job**

JobId	JobTitle	Salary
101	President	200000
102	Vice President	125000
103	Administrator Assistant	80000
104	Accounting Manager	70000
105	Accountant	65000
106	Sales Manager	80000

Give the output of following SQL statement:

- (i) Select Name, JobTitle, Sales from Employee, Job  
where Employee.JobId=Job.JobId and JobId in (101,102);
- (ii) Select JobId, count(\*) from Employee group by JobId;

- 27 Write a method/function COUNT\_BLANK\_SPACES() in Python to read lines from a text file STORY.TXT, and display the count of blank spaces in the text file. 3

**OR**

Write a method/function DISPLAYWORDS() in python to read lines from a text file POEM.TXT, and display those words, which are less than 4 characters.

- 28 (a) Consider the following table GAMES. Give outputs for SQL queries (i) to (iv). 3  
**Table: GAMES**

GCode	GameName	Number	PrizeMoney	ScheduleDate
101	CaromBoard	2	5000	23-Jan-2004
102	Badminton	2	12000	12-Dec-2003
103	TableTennis	4	8000	14-Feb-2004
105	Chess	2	9000	01-Jan-2004
108	LawnTennis	4	25000	19-Mar-2004

- (i) SELECT COUNT(DISTINCT Number) FROM GAMES;
- (ii) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM GAMES;
- (iii) SELECT SUM(PrizeMoney) FROM GAMES;
- (iv) SELECT \* FROM GAMES WHERE PrizeMoney > 12000;

(b) What are the eligible candidate keys from the Table Games?

- 29 Write definition of a method/function **DoubletheOdd()** to add and display twice of odd values from the list of Nums. 3

For example :

If the Nums contains [25,24,35,20,32,41]

The function should display

Twice of Odd Sum: **202**

- 30 Pramod has created a dictionary containing EMPCODE and SALARY as key value pairs of 5 Employees of Parthivi Constructions. 3

Write a program, with separate user defined functions to perform the following operations:

- Push the keys (Employee code) of the dictionary into a stack, where the corresponding value (Salary) is less than 25000.
- Pop and display the content of the stack. For example: If the sample content of the dictionary is as follows:

EMP={"EOP1":16000, "EOP2":28000, "EOP3":19000, "EOP4":15000, EOP5":30000}

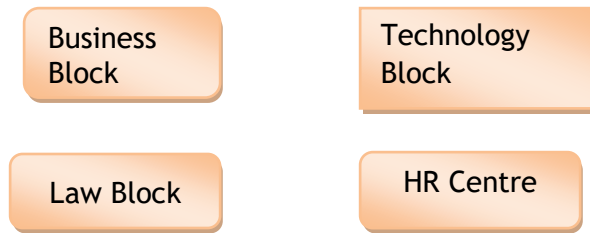
The output from the program should be: EOP4 EOP3 EOP1

**OR**

Write a function POP(Arr) , where Arr is a stack implemented by a list of numbers The function returns the value deleted from the stack.

### SECTION D

- 31 Quick Learn University is setting up its academic blocks at Prayag Nagar and planning to set up a network. The university has 3 academic blocks and one human resource Centre as shown in the diagram given below:



Centre-to-Centre distance between various blocks is as follows:

Law block to business block	40 m
Law block to technology block	80 m
Law block to HR block	105 m
Business block to technology block	30 m
Business block to HR block	35 m
Technology block to HR block	15 m

Number of computers in each of the buildings is as follows:

Law block	15
Technology block	40
HR Centre	115
Business block	25

- (a) Suggest a cable layout of connection between the blocks. 1
- (b) Suggest the most suitable place to house the server of the organization with suitable reason. 1
- (c) Which device should be placed/installed in each of these blocks to efficiently connect all the computers within these blocks? 1
- (d) The university is planning to link its sales counters situated in various parts of the CITY. Which type of network out of LAN, MAN or WAN will be formed? 1
- (e) Which network topology may be preferred between these blocks? 1

32 (a) Find and write the output of the following python code:

2+3

```
def Change(P ,Q=10):
    P=P*Q
    Q=Q+P
    print( P,"#",Q)
    return (Q)
```

```
A=5
B=10
A=Change(A)
B=Change(A,B)
print(A,"#",B)
```

(b) Avni 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**

**OR**

(a) Find and write the output of the following python code:

```
def encrypt(s):
    k=len(s)
    m=""
    for i in range(0,k):
        if(s[i].isupper( )):
            m=m+str(i)
        elif s[i].islower( ):
            m=m+s[i].upper()
        else:
            m=m+'*'
    print(m)
```

```
encrypt('Kvs@Hyderabad')
```

(b) Note the following to establish connectivity between Python and MYSQL:

- Username is **myusername**
- Password is **mypassword**
- The table exists in a MYSQL database named **mydatabase**

Write the following missing statements to complete the code:

Statement 1 – to create the connection object

Statement 2 – to create the cursor object

Statement 3 – To execute the sql query

```
import mysql.connector
mydb = _____ # Statement 1
mycursor = _____ # Statement 2
sql = "INSERT INTO customers (name, address) VALUES (%s, %s)"
val = ("John", "Highway 21")
mycursor. _____ # Statement 3
mydb.commit()
print(mycursor.rowcount, "record inserted.")
```

33 Manoj Kumar of class 12 is writing a program to create a CSV file “user.csv” which will contain user name and password for some entries. He has written the following code. As a programmer, help him to successfully execute the given task.

5

```
import _____ #Line1
def addCsvFile(UserName, Password):
    fh=open('user.csv','_____') #Line2
    Newfilewriter=csv.writer(fh)
    Newfilewriter.writerow([UserName,Password])
fh.close( )
# csv file reading code
def readCsvFile(): #to read data from CSV file
    with open('user.csv','r') as newFile:
        newFileReader=csv._____(newFile) #Line3
        for row in newFileReader:
            print(row)
newFile._____ #Line4
addCsvFile('Arjun','123@456')
addCsvFile('Arunima','aru@nima')
addCsvFile('Frieda','myname@FRD')
readCsvFile()

OUTPUT _____ #Line 5
```

- (a) What module should be imported in #Line1 for successful execution of the program?
- (b) In which mode file should be opened to work with user.csv file in#Line2
- (c) Fill in the blank in #Line3 to read data from csv file
- (d) Fill in the blank in #Line4 to close the file
- (e) Write the output he will obtain while executing Line5

**OR**

Radha Shah is a programmer, who has recently been given a task to write a python code to perform the following CSV file operations with the help of two user defined functions/modules:

- (a) . CSVOpen() : to create a CSV file called “ **books.csv**” in append mode containing information of books – Title, Author and Price.
- (b) . CSVRead() : to display the records from the CSV file called “ **books.csv**” .where the field title starts with 'R'.

She has succeeded in writing partial code and has missed out certain statements, so she has left certain queries in comment lines.

```
import csv
```

```
def CSVOpen( ):
    with open('books.csv','_____',newline=") as csvf: #Statement-1
        cw=_____ #Statement-2
        _____ #Statement-3
        cw.writerow(['Rapunzel','Jack',300])
        cw.writerow(['Barbie','Doll',900])
        cw.writerow(['Johnny','Jane',280])
def CSVRead( ):
    try: with open('books.csv','r') as csvf:
        cr=_____ #Statement-4
        for r in cr:
```



```

        if _____: #Statement-5
            print(r)
    except:
        print('File Not Found')
CSVOpen( )
CSVRead( )

```

You as an expert of Python have to provide the missing statements and other related queries based on the following code of Radha.

- (a) Write the appropriate mode in which the file is to be opened in append mode (Statement 1)
- (b) Which statement will be used to create a csv writer object in Statement 2.
- (c) Write the correct option for Statement 3 to write the names of the column headings in the CSV file, **books.csv**
- (d) Write statement to be used to read a csv file in Statement 4.
- (e) Fill in the appropriate statement to check the field Title starting with 'R' for Statement 5 in the above program.

### SECTION –E

34 A departmental store MyStore is considering to maintain their inventory using SQL to store the data. As a database Administrator, Abhay has decided that:

1+1+  
2

- Name of the database – mystore
- Name of the table –STORE
- The attributes of STORE are as follows
- ItemNo –numeric
- ItemName – character of size 20
- Scode – numeric
- Quantity – numeric

**Table : STORE**

ItemNo	ItemName	Scode	Quantity
2005	Sharpner Classic	23	60
2003	Ball Pen 0.25	22	50
2002	Gel Pen Premium	21	150
2006	Gel Pen Classic	21	250
2001	Eraser Small	22	110
2004	Eraser Big	22	220
2009	Ball Pen 0.5	21	180

- (a) Identify the attribute best suitable to be declared as primary key
- (b) Write the query to add the row with following details  
(2010,"Notebook",23,155)
- (c) (i) Abhay wants to remove the table STORE from the database MyStore, Help Abhay in writing the command for removing the table STORE from the database MyStore.

(ii) Now Abhay wants to display the structure of the table STORE i.e. name of the attributes and their respective data types that he has used in the table. Write the query to display the same.

**OR**

(i) Abhay wants to ADD a new column price with data type as decimal. Write the query to add the column..

(ii) Now Abhay wants to remove a column price from the table STORE. Write the query.

35 Manoj is learning to work with Binary files in Python using a process known as Pickling/de-pickling. His teacher has given him 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.

```
import _____ #Statement-1
sqlist=list()
for k in range(5): sqlist.append(k*k)
fout=open("mydata.dat", _____) #Statement-2
_____ (sqlist,fout) #Statement-3
fout.close()
fin=open("Mydata.dat", "rb" )
mylist= _____ (fin) #Statement-4
fin.close()
print(mylist)
```

- i) Which module should be imported in Statement-1.
- ii) Which file mode to be passed to write data in file in Statement-2
- iii) What should be written in Statement-3 to write data onto the file.
- iv) Which function to be used in Statement-4 to read the data from the file.

1  
1  
1  
1