

**KENDRIYA VIDYALAYA SANGATHAN, JABALPUR REGION**  
**FIRST PREBOARD EXAMINATION (2022-23)**  
**CLASS - XII**  
**SUBJECT- Computer Science (083)**

**Max Marks : 70**

**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. One internal choice is given in Q34 against part iii only.
8. All programming questions are to be answered using Python Language only.

<b>SECTION A</b>		
1	Find the invalid identifier from the following a) Marks@12      b) string_12      c) _bonus      d)First_Name	1
2	Identify the valid declaration of Rec: Rec=(1,"Ashoka",50000) a) List      b) Tuple      c)String      d) Dictionary	1
3	Suppose a tuple Tup is declared as Tup = (12, 15, 63, 80) which of the following is incorrect? a) print(Tup[1])      b) Tup[2] = 90 c) print(min(Tup))      d) print(len(Tup))	1
4	The correct output of the given expression is: True and not False or False (a) False      (b) True      (c) None      (d) Null	1
5	t1=(2,3,4,5,6) print(t1.index(4)) output is (a) 4      (b) 5      (c) 6      (d) 2	1
6	Which of the following modes is used to open a binary file for writing (a) b      (b) rb+      (c) wb      (d) rb	1
7	Fill in the blank: The _____ command is used in a WHERE clause to search for a specified pattern in a column. (a) match      (b) similar      (c) like      (d) pattern	1
8	Which of the following commands is used to modify a table in SQL? (a) MODIFY TABLE      (b) DROP TABLE (c) CHANGE TABLE      (d) ALTER TABLE	1
9	Which of the following statement(s) would give an error after executing the following code? x= int("Enter the Value of x:") #Statement 1 for y in range[0,21]:      #Statement 2 if x==y:      #Statement 3 print (x+y)      #Statement 4 else:      #Statement 5 print (x-y)      # Statement 6	1

	(a) Statement 4 (c) Statement 4 & 6	(b) Statement 5 (d) Statement 1 & 2	
10	Fill in the blank: For each attribute of a relation, there is a set of permitted values, called the _____ of that attribute. (a) cardinality (b) degree (c) domain (d) tuple		1
11	What is the significance of the tell() method? (a) tells the path of the file. (b) tells the current position of the file pointer within the file. (c) tells the end position within the file. (d) checks the existence of a file at the desired location.		1
12	Fill in the blank: The SELECT statement when combined with _____ clause, returns records in sorted order. (a) SORT (b) ARRANGE (c) ORDER BY (d) SEQUENCE		1
13	Fill in the blank: The _____ is a mail protocol used to retrieve mail from a remote server to a local email client. (a) VoIP (b) FTP (c) PPP (d) HTTP		1
14	Evaluate the following Python expression print(12*(3%4)//2+6) (a)12 (b)24 (c) 10 (d) 14		1
15	In SQL, the aggregate function used to calculate and display the average of numeric values in an attribute of a relation is: (a) sum() (b) total() (c) count() (d) avg()		1
16	The name of the module used to establish a connection between Python and SQL database is- (a) mysql-connect (b) mysql-connector (c) mysql-interface (d) mysql-conn		1
	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):- The default arguments can be skipped in the function call. Reasoning (R):- The function argument will take the default values even if the values are supplied in the function call		1
18	Assertion (A):- If a text file already containing some text is opened in write mode the previous contents are overwritten. Reasoning (R):- When a file is opened in write mode the file pointer is present at the beginning position of the file		1
	<b>SECTION B</b>		
19	Aarti has written a code to input an integer and check whether it is even or odd. The code has errors. Rewrite the code after removing all the syntactical errors, underlining each correction: checkval def(): x = input("Enter a number") if x % 2 == 0 print (x, "is even") else;		2

	<code>print (x, "is odd")</code>	
20	<p>What is the difference between hub and switch? Which is more preferable in a large network of computers and why?</p> <p style="text-align: center;"><b>OR</b></p> <p>Differentiate between WAN and MAN. Also give an example of WAN.</p>	2
21	<p>(a) Given is a Python string declaration:  <code>str="Kendriya Vidyalaya Sangathan"</code>  Write the output of: <code>print(str[9:17])</code></p> <p>(b) Write the output of the code given below:  <code>lst1 = [10, 15, 20, 25, 30]</code>  <code>lst1.insert( 3, 4)</code>  <code>lst1.insert( 2, 3)</code>  <code>print (lst1[-5])</code></p>	2
22	What are constraints in SQL? Give two examples.	2
23	<p>(a) Write the full forms of the following:  (i) TCP (ii) VPN  (b) What is the use of FTP?</p>	2
24	<p>Predict the output of the Python code given below:</p> <pre>value = 50 def display(N):     global value     value = 25     if N%7==0:         value = value + N     else:         value = value - N print(value, end="#") display(20) print(value)</pre> <p style="text-align: center;"><b>OR</b></p> <p>Predict the output of the Python code given below:</p> <pre>a=20 def call():     global a     b=20     a=a+b     return a print(a) call() print(a)</pre>	2
25	<p>What are aggregate functions in MySQL? Give their names along with their use.</p> <p style="text-align: center;"><b>OR</b></p> <p>List various DDL and DML commands available in MySQL</p>	2
<b>SECTION C</b>		
26	<p>(a) Consider the following tables – EMPLOYEES AND DEPARTMENT</p>	1

**TABLE : EMPLOYEES**

ENO	ENAME	DOJ	DNO
E1	NUSRAT	2001-11-21	D3
E2	KABIR	2005-10-25	D1

**TABLE : DEPARTMENT**

DNO	DNAME
D1	ACCOUNTS
D2	HR
D3	ADMIN

What will be the output of the following statement?

SELECT ENAME, DNAME FROM EMPLOYEES, DEPARTMENT  
WHERE EMPLOYEE.DNO=DEPARTMENT.DNO;

(b) Write the output of the queries (i) to (iv) based on the tables given below:

**Table: ITEM**

ID	Item Name	Manufacturer	Price
PC01	Personal Computer	ABC	35000
LC05	Laptop	ABC	55000
PC03	Personal Computer	XYZ	32000
PC06	Personal Computer	COMP	37000
LC03	Laptop	PQR	57000

**Table: CUSTOMER**

C ID	CName	City	ID
01	N Roy	Delhi	LC03
06	R Singh	Mumbai	PC03
12	R Pandey	Delhi	PC06
15	C Sharma	Delhi	LC03
16	K Agarwal	Bangalore	PC01

i) SELECT ITEM\_NAME, MAX(PRICE), COUNT(\*) FROM ITEM  
GROUP BY ITEM\_NAME;

ii) SELECT CNAME, MANUFACTURER FROM ITEM, CUSTOMER  
WHERE ITEM.ID=CUSTOMER.ID;

iii) SELECT ITEM\_NAME, PRICE\*100 FROM ITEM WHERE  
MANUFACTURER="ABC";

(iv) SELECT DISTINCT CITY FROM CUSTOMER;

27

Write a function in python to count the number of lines in a text file 'Country.txt' which are starting with an alphabet 'W' or 'H'.

For example, If the file contents are as follows:

Whose woods these are I think I know.

His house is in the village though;

He will not see me stopping here

To watch his woods fill up with snow.

The output of the function should be:

W or w : 1

H or h : 2

OR

Write a user defined function to display the total number of words present in a text file 'Quotes.txt'

2

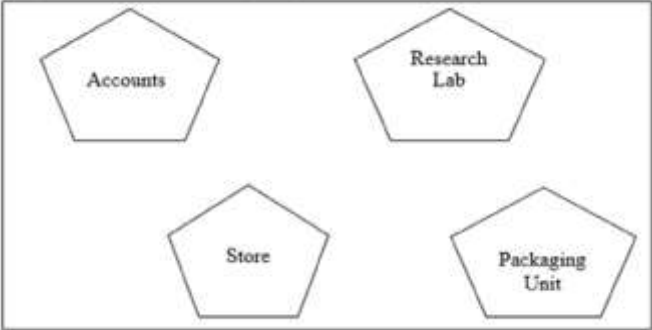
3



Write a function in Python PopBook(Book), where Book is a stack implemented by a list of books. The function returns the value deleted from the stack.

**SECTION D**

31 Rehaana Medicos Center has set up its new center in Dubai. It has four buildings as shown in the diagram given below:



Distances between various buildings are as follows:

Accounts to Research Lab	55 m
Accounts to Store	150 m
Store to Packaging Unit	160 m
Packaging Unit to Research Lab	60 m
Accounts to Packaging Unit	125 m
Store to Research Lab	180 m

No of Computers

Accounts	25
Research Lab	100
Store	15
Packaging Unit	60

As a network expert, provide the best possible answer for the following queries:

- i) Suggest a cable layout of connections between the buildings. 1
- ii) Suggest the most suitable place (i.e. buildings) to house the server of this organization. 1
- iii) Suggest the placement of the Repeater device with justification. 1
- iv) Suggest a system (hardware/software) to prevent unauthorized access to or from the network. 1
- (v) Suggest the placement of the Hub/ Switch with justification. 1

32 (a) Write the output of the code given below: 2

```

x = 50
def func():
    global x
    print('x is', x)

```

```

x = 20
print('Changed global+local x to', x)
func()

```

(b) The code given below inserts the following record in the table Book:

B\_No – integer  
B\_Name – string  
B\_Author – string  
Price – Decimal

Note the following to establish connectivity between Python and MYSQL:

- Username is root
- Password is tiger
- The table exists in a MYSQL database named Library.

The details (B\_No, B\_Name, B\_Author and Price) are to be accepted from the user.

Write the following missing statements to complete the code:

Statement 1 – to form the cursor object  
Statement 2 – to execute the command that inserts the record in the table Book.  
Statement 3- to add the record permanently in the database

```

import mysql.connector as mysql
def sql_data():
    conn=mysql.connect(host="localhost", user="root",
password="tiger", database="Library")
    mycursor=_____ #Statement 1
    B_No=int(input("Enter Book Number : "))
    B_Name=input("Enter Book Name : ")
    B_Author=input("Enter Author : ")
    Price=float(input("Enter Price : "))
    sql="insert into Book values({},'{}','{}',{})".format(B_No, B_Name,
    B_Author, Price)
    _____ #Statement 2
    _____ # Statement 3
    print("Data Added successfully")
    conn.close()

```

3

**OR**

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

```

def convert(Old):
    l=len(Old)
    New=" "
    for i in range(0,l):
        if Old[i].isupper():
            New=New+Old[i].lower()
        elif Old[i].islower():
            New=New+Old[i].upper()
        elif Old[i].isdigit():
            New=New+"*"
        else:
            New=New+"%"

```

	<pre> return New Older="InDla@2022" Newer=Convert(Older) print("New String is: ", Newer) </pre> <p>(b) The code given below reads and fetches all the records from EMP table having salary more than 25000. empno - integer, ename- string and salary- integer.</p> <p>Note the following to establish connectivity between Python and MYSQL:</p> <ul style="list-style-type: none"> <li>▪ Username is root</li> <li>▪ Password is tiger</li> <li>▪ The table exists in a MYSQL database named company.</li> </ul> <p>Write the following missing statements to complete the code: Statement 1 – to form the cursor object Statement 2 – to execute the query that extracts records of those employees having salary more than 25000. Statement 3- to read the complete result of the query (records whose salary is more than 25000) into the object named data, from the table EMP in the database.</p> <pre> import mysql.connector as mysql def sql_data():     conn=mysql.connect(host="localhost", user="root", password=     "tiger", database="company")     mycursor=_____ #Statement 1     print("Employees with salary more than 25000 are : ")     try:         _____ #Statement 2     resultset=_____ #Statement 3     for row in resultset:         print(row)     except:         print("Error: unable to fetch data")     conn.close() </pre>	
33	<p>A binary file "Book.dat" has structure [BookNo, Book_Name, Author, Price].</p> <p>i. Write a user defined function CreateFile() to input data for a record and add to Book.dat .</p> <p>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 binary file "Book.dat"</p> <p style="text-align: center;"><b>OR</b></p> <p>A binary file "STUDENT.DAT" has structure (admission_number, Name, Percentage). Write a function countrec() in Python that would read contents of the file "STUDENT.DAT" and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%</p>	5
<b>SECTION E</b>		



34	<p>Modern Public School is maintaining fees records of students. The database administrator Aman decided that-</p> <ul style="list-style-type: none"> <li>• Name of the database -School</li> <li>• Name of the table – Fees</li> <li>• The attributes of Fees are as follows: <ul style="list-style-type: none"> <li>Rollno - numeric</li> <li>Name – character of size 20</li> <li>Class - character of size 20</li> <li>Fee – Numeric</li> <li>Qtr – Numeric</li> </ul> </li> </ul> <p>Answer any four from the following questions:</p> <p>(i) Identify the attribute best suitable to be declared as a primary key</p> <p>(ii) What is the degree of the table.</p> <p>(iii) Write the statements to:</p> <p style="padding-left: 40px;">a. Insert the following record into the table Rollno-1201, Name-Akshay, Class-12th, Fee-350, Qtr-2</p> <p style="padding-left: 40px;">b. Increase the second quarter fee of class 12th students by 50</p> <p style="text-align: center;"><b>OR (Option for part iii only)</b></p> <p style="padding-left: 40px;">a. Delete the record of student with Rollno-1212</p> <p style="padding-left: 40px;">b. Aman wants to add a new column to the Fees table,</p> <p>Which command will he use from the following:</p> <p>a) CREATE</p> <p>b) ALTER</p> <p>c) SHOW</p> <p>d) DESCRIBE</p>	<p>1</p> <p>1</p> <p>2</p>
35	<p>Vijay of class 12 is writing a program to create a CSV file “mydata.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.</p> <pre>import _____ # Line 1 def addCsvFile(UserName,PassWord): # write data into the CSV file     f=open(' mydata.csv','_____') # Line 2     newFileWriter = csv.writer(f)     newFileWriter.writerow([UserName,PassWord])     f.close() def readCsvFile(): # read data from CSV file     with open('mydata.csv','r') as newFile:         newFileReader = csv._____(newFile) # Line 3         for row in newFileReader:             print (row[0],row[1])             newFile._____ # Line 4 addCsvFile("Aman", "123@456") addCsvFile("Vijay", "aru@nima") addCsvFile("Raju", "myname@FRD") readCsvFile()</pre> <p>(i) Give Name of the module he should import in Line 1.</p> <p>(ii) In which mode, Vijay should open the file to add data into the file in Line2.</p> <p>(iii) Complete the Line 3 to read the data from csv file and Line 4 to close the file.</p>	<p>1</p> <p>1</p> <p>2</p>

