INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2022
COMPUTER SCIENCE(083)

CLASS : XII
DATE: 20.09.2022

TIME ALLOTED   : 3 HRS.
MAXIMUM MARKS: 70

GENERAL INSTRUCTIONS:

- All questions are compulsory.
- Programming language is Python and SQL

1. Find the invalid identifier from the following: 1
    a) Roll$no   b) False   c) 20CNT   d) sales

2. Given the tuple T=(22,7,8,16,9,177,34,56,33)   1
    Write the output of: **print(T[-7:-2])**

3. Give the output of the following Python statements: 1
    L1 = [10, 15, 20, 25, 30]
    L1.insert(2, 4)
    L1.insert(3, 40)
    print (L1[-4])

4. Rewrite the following code in Python after removing all syntax error(s). Underline each   2
    correction done in the code.
    60=Number
    for NUM in range(0,Number)
       if NUM%4 = 0:
          print (NUM*4)
       elif NUM%5 == 0:
          print (NUM+3)
       Else:
          print(NUM+10)

5. What will be displayed after the execution of the following loop?   2
    Sum, Limit = 10,20;
    for X in range(1,Limit,2):
        Sum += 1
    print(Sum,X)

6. What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables Lower and Upper.   2

```
import random
AR=[2,3,4,5,6,7]
Lower =random.randint(1,3)
Upper =random.randint(2,4)
for K in range(Lower, Upper +1):
    print (AR[K],end="#")
```

(i) 3#4#5#   (ii) 1#4#7#   (iii) 5#6#7#   (iv) 4#5#7#

7. Write a program to show entered string is a palindrome or not.   3

8. Write a program to sum all the values which are ending with three(3) in a list of MARKS, and display the sum.   3

9. What is the output of the following code?   1

```
def func(x = 3, y = 2):
    x = x * y + 1
    y = y * 2 - x
    print(x, y)
func(y = 6, x = 3)
```

10. Riya, a python programmer, is working on a project which requires to define a function with name Calc( ). She defines it as: 1

```
def Calc(Principal, Rate=0.05,Time):    #code
```

But this code is not working. Help Riya to identify the error in the above function and with the solution.

11. What is the default return value for a function that does not return any value explicitly?   1

12. What is the output of the following code snippet?   2

```
def ChangeVal(M,N):
    for i in range(N):
        if M[i] %5 == 0:
            M[i] //= 5
        if M[i]%3 == 0:
            M[i] //= 3
L = [30,40,50,60]
ChangeVal(L,4)
for i in L:
    print(i,end="#")
```

13. What will be the output of the following code?   2
```
value = 100
def display(N):
    global value
    value = 25
    if N%10 == 0:
        value = value + N
    else:
        value = value - N
print(value, end="#")
display(20)
print(value)
```

14. Write a function to accept a string as a parameter and return number of vowels in it.   3

15. Name the process of converting structure to a byte stream before writing to a binary file?   1

16. What is the difference between "w+" and "r+" file modes?   1

17. What is the output of following code?   2
```
file=open("notes.txt","w")
file.write("Hello friends\n")
file.write("Computer Science")
file.close( )
file=open('notes.txt','r')
d= file.readline( )
print(d,end=")
d1=file.read(3)
d2=file.read(5)
print(d2)
file.close( )
```

18. Rewrite the following code in Python after removing all syntax error(s). Underline each   2
    correction done in the code.
```
Def write1( ):
    f=open(daynote.txt",'w')
    while true:
        line=input("Enter line:")
        file.write(line)
        choice=input("Are there more lines (Y/N):")
        if choice=='N':
            break
    f.close( )
write1( )
```

19. Answer the following: 2
    a) Assume f is file object and to change the current position of file to 5 bytes backward.
       Which statement will be used?
    b) Which method returns the current position of the file object pointer within the file?

20. A binary file "Library.dat" has structure [BookNo, Book_Name, Author, Price]. Write a user defined function Create() to input data for a record and add to Library.dat.   3

21. 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 70. Also return number of students scoring above 70%.   3

22. Write a python program to display the number of words in a file "Information.txt".   3

23. Write a function AMCount() 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).   3
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

24. Sunil, a student of class 12th, is learning CSV File Module in Python. During examination, he has been assigned an incomplete python code (shown below) to create a CSV File 'Employee.csv' (content shown below). Help him in completing the code which creates the desired CSV File.   5

CSV File

NAME,DEPT,ADDRESS
Sunil, Physics, Ruwi
Serina,Chemistry,Al-Khuwair
Vijay, Computer Science, Seeb

```
#Incomplete Code
import _____                                    #Statement-1
with open(_____) as csv1:               #Statement-2
        xyz = csv._____                 #Statement-3
        xyz.writerow(["NAME","DEPT","ADDRESS"])
        record=[ ]
        while True:
            Name = input("Enter Name\n")
            Dept = input("Enter Dept\n")
            Address = input("Enter Address\n")
            data=[ Name,Dept,Address]
            record.append(_____)                  #Statement-4
            ch = input("insert more record(y/n):")
            if ch =='n':
                break
        xyz._____(record)                 #Statement-5
```

25. Give any two characteristics of stacks.   1

26. Answer the following: 5

   • Write the definition of a user-defined function Push3_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 Only3_5.

   • Write a program in Python to input 5 integers into a list named NUM. The program
     should then use the function Push3_5( ) to create the stack of the list of Only3_5.
     Thereafter 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 Only3_5 should store
   [10, 6, 18, 30]
   And the output should be displayed as
   30 18 6 10 StackEmpty

27. Which keyword is used to remove the duplicate values from the results of a SELECT statement?   1

28. What do you mean by degree and cardinality of a table? What is the Degree and   2
    Cardinality of the following table **EMP**?

Eno	Name	Salary	Department
101	Amit	40000	Sales
102	Ramesh	50000	Marketing

29. Write the full forms of DDL and DML. Write any two commands of DDL in SQL.   2

30. Define Primary key and Candidate key.   2

31. Reena has to create a database named **COMPANY** in MYSQL.   2
    She now needs to create a table named **ITEM** in the database to store the records of various
    items in the store. The table **ITEM** has the following structure. Help her to complete the task
    by suggesting appropriate SQL commands.

Table: ITEM

Field name	Data Type
ITEMNO	CHAR(5)
INAME	CHAR(25)
QTY	INTEGER
PRICE	DECIMAL(10,2)

32. Write SQL commands for (i) to (v) on the basis of table STUDENT:

Table : STUDENT

SNO	NAME	STREAM	FEES	AGE	GENDER
1	ARUN	COMPUTER	7000	16	M
2	DIVYA	COMPUTER	7000	17	F
3	SARIKA	BIOLOGY	5000	18	F
4	HARISH	COMMERCE	4000	19	M
5	SUNIL	COMMERCE	4000	18	M

(i)   Display the structure of the table STUDENT.

(ii) Display the details of all the students, who have taken stream as COMMERCE.

(iii) To display name and fees of female students whose fees is above 6000.

(iv) To display all the records in descending order of fees.

(v)   To display the name of students whose name ends with letter 'A'.

****END OF THE QUESTION PAPER****

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HALF YEARLY EXAMINATION 2022
COMPUTER SCIENCE(083)

CLASS : XII
DATE: 20.09.2022

TIME ALLOTED   : 3 HRS.
MAXIMUM MARKS: 70

GENERAL INSTRUCTIONS:

- All questions are compulsory.
- Programming language is Python and SQL

1.   Find the invalid identifier from the following: 1
      a) While   b) true   c) 2ndTerm   d) Total*Tax

2.   Given a Tuple T= (10, 20, 30, 40, 50, 60, 70, 80, 90)   1
      What will be the output of **print (T [3::2])**?

3.   Give the output of the following Python statements: 1
      lst1 = [10, 15, 20, 25, 30]
      lst1.insert(3, 4)
      lst1.insert(2, 3)
      print (lst1[-5])

4.   Rewrite the following code in Python after removing all syntax error(s). Underline each   2
      correction done in the code.
      30=Value
      for VAL in range(0,Value)
         if VAL%4=0:
           print (VAL*4)
         elif VAL%5==0:
           print (VAL+3)
         Else:
           print(VAL+10)

5.   What will be displayed after the execution of the following loop?   2
      Total, End = 5, 15;
      for Turn in range(1,End,2):
           Total += 1
      print(Total,Turn)

6. What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables Lower and Upper.   2

```
import random
AR=[20,30,40,50,60,70]
Lower =random.randint(1,3)
Upper =random.randint(2,4)
for K in range(Lower, Upper +1):
    print (AR[K],end="#")
```

(i) 10#40#70#   (ii) 30#40#50#   (iii) 50#60#70#   (iv) 40#50#70#

7. Write a program to sum all the values which are ending with zero(0) in a list of SCORES, and display the sum.   3

8. Write a program to show entered string is a palindrome or not.   3

9. What is the default return value for a function that does not return any value explicitly?   1

10. Divya, a python programmer, is working on a project which requires to define a function with name CalculateInterest( ). She defines it as: 1

```
def CalculateInterest(Principal, Rate=0.06, Time):    #code
```

But this code is not working. Help Divya to identify the error in the above function and with the solution.

11. What is the output of the following code?   1
```
def test(x = 2, y = 1):
    x = x * y + 1
    y = y * 2 - x
    print(x, y)
test(y = 5, x = 3)
```

12. What will be the output of the following code?   2

```
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)
```

13. What is the output of the following code snippet?

```
def ChangeVal(M,N):
    for i in range(N):
        if M[i] %5 == 0:
            M[i] //= 5
        if M[i] %3 == 0:
            M[i] //= 3
L = [25,8,75,12]
ChangeVal(L,4)
for i in L:
    print(i,end="#")
```

2

14. Write a function to accept a string as a parameter and return number of vowels in it.

3

15. Name the process of converting a byte stream back to the original structure while reading the contents of the binary file? ,

1

16. What is the difference between "a+" and "r+" file modes?

1

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

```
Def write1( ):
    f=open(daynote.txt",'w')
    while true:
        line=input("Enter line:")
        file.write(line)
        choice=input("Are there more lines (Y/N):")
        if choice=='N':
            break
    f.close( )
write1( )
```

2

18. What is the output of following code?

```
file=open("info.txt","w")
file.write("Python is easy\n")
file.write("Language to work with.")
file.close( )
file=open('info.txt','r')
x=file.readline( )
print(x,end=")
y=file.read(3)
print(y)
file.close( )
```

2

19. Answer the following:
    a) Assume f is file object and to change the current position of file to 3 bytes forward. Which statement will be used?
    b) Which method returns the current position of the file object pointer within the file?

2

20. Write a python program to display the number of words in a file "Quotes.txt". 3

21. Write a function AMCount() in Python, which should read each character of a text file 3
STORY.TXT, should count and display the occurrence of alphabets A and M (including small cases a and m too).
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

22. A binary file "Book.dat" has structure [BookNo, Book_Name, Author, Price]. Write a user 3
defined function CreateFile() to input data for a record and add to Book.dat.

23. A binary file "STUDENT.DAT" has structure (admission_number, Name, Percentage). Write 3
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 80. Also return number of
students scoring above 80%.

24. Varun, a student of class 12th, is learning CSV File Module in Python. During examination, he 5
has been assigned an incomplete python code (shown below) to create a CSV File 'Staff.csv'
(content shown below). Help him in completing the code which creates the desired CSV File.

   CSV File

   NAME,DEPT,ADDRESS
   Sunil, Physics, Ruwi
   Serina,Chemistry,Al-Khuwair
   Vijay, Computer Science, Seeb

```
#Incomplete Code
import _____            #Statement-1
with open(_____) as csv1:   #Statement-2
    xyz = csv._____       #Statement-3
    xyz.writerow(["NAME","DEPT","ADDRESS"])
    record=[ ]
    while True:
        Name = input("Enter Name\n")
        Dept = input("Enter Dept\n")
        Address = input("Enter Address\n")
        data=[ Name,Dept,Address]
        record.append(____)          #Statement-4
        ch = input("insert more record(y/n):")
        if ch =='n':
            break
    xyz._____(record)     #Statement-5
```

25. Give any two characteristics of stacks. 1

26. Answer the following: 5

- Write the definition of a user-defined function Push3_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 Only3_5.

- Write a program in Python to input 5 integers into a list named NUM. The program should then use the function Push3_5() to create the stack of the list of Only3_5. Thereafter 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 Only3 _5 should store
[10, 6, 18, 30]
And the output should be displayed as
30 18 6 10 StackEmpty

27. Which keyword is used to remove the duplicate values from the results of a SELECT statement? 1

28. What do you mean by degree and cardinality of a table? What is the Degree and Cardinality of the following table **EMP**? 2

Eno	Name	Salary
101	Amit	40000
102	Ramesh	50000

29. Write the full forms of DDL and DML. Write any two commands of DML in SQL. 2

30. Define Primary key and Alternate key. 2

31. Reena has to create a database named **STORE** in MYSQL. 2
She now needs to create a table named **PRODUCT** in the database to store the records of various products in the store. The table **PRODUCT** has the following structure. Help her to complete the task by suggesting appropriate SQL commands.

Table: PRODUCT

Field name	Data Type
PNO	CHAR(3)
PNAME	VARCHAR(25)
QTY	INTEGER
PRICE	DECIMAL(10,2)

32. Write SQL commands for (i) to (v) on the basis of table STUDENT: 5

Table : STUDENT

SNO	NAME	STREAM	FEES	AGE	GENDER
1	ARUN	COMPUTER	7000	16	M
2	DIVYA	COMPUTER	7000	17	F
3	SARIKA	BIOLOGY	5000	18	F
4	HARISH	COMMERCE	4000	19	M
5	SUNIL	COMMERCE	4000	18	M

(i)   Display the details of all the students, who have taken stream as COMPUTER.

(ii) To display name and age of those students whose age is in the range 17 and 19. (both 17 and 19 are included in the range)

(iii) To display all the records in the ascending order of name.

(iv) To display the name of students whose name starts with letter 'S'.

(v)   Display the structure of the table STUDENT.

****END OF THE QUESTION PAPER****

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HALF YEARLY EXAMINATION 2022
COMPUTER SCIENCE(083)

CLASS : XII
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TIME ALLOTED : 3 HRS.
MAXIMUM MARKS: 70

GENERAL INSTRUCTIONS:

- All questions are compulsory.
- Programming language is Python and SQL

1. Find the invalid identifier from the following:
   a) 5Num   b) true   c) MyName   d) Empno$ 1

2. Given a Tuple T= (9,8,7,6,5,4,3,2,1)
   What will be the output of **print (T [2::3])**?   1

3. Give the output of the following Python statements: 1
   lst1 = [11,22, 33, 44]
   lst1.insert(1, 100)
   lst1.insert(2, 300)
   print (lst1[-3])

4. Rewrite the following code in Python after removing all syntax error(s). Underline each   2
   correction done in the code.
   60=NUM
   for X in range(0,NUM)
     if X%4=0:
        print (X*4)
     elif X%5==0:
        print (X+3)
     Else:
        print(X+10)

5. What will be displayed after the execution of the following loop?   2
   Total, End = 15,25;
   for Turn in range(1,End,2):
        Total+=1
   print(Total,Turn)

6. What possible outputs(s) are expected to be displayed on screen at the time of execution of the program from the following code? Also specify the maximum values that can be assigned to each of the variables L and U.   2

```
import random
ARR=[20,30,40,50,60,80]
L =random.randint(1,3)
U=random.randint(2,4)
for K in range(L, U+1):
    print (ARR[K],end="#")
```

(i) 10#40#80#   (ii) 50#60#80#   (iii) 30#40#50#   (iv) 40#50#80#

7. Write a program to sum all the values which are ending with seven(7) in a list of SCORES, and display the sum.   3

8. Write a program to show entered string is a palindrome or not.   3

9. What is the default return value for a function that does not return any value explicitly?   1

10. Priya, a python programmer, is working on a project which requires to define a function with name CalculateInterest( ). She defines it as: 1

```
def CalculateInterest(Principal, Rate=0.06,Time):    #code
```

But this code is not working. Help Priya to identify the error in the above function and with the solution.

11. What is the output of the following code?   1

```
def test(x = 2, y = 1):
    x = x * y + 1
    y = y * 2 - x
    print(x, y)
test(y = 5)
```

12. What will be the output of the following code?   2

```
value = 150
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)
```

13. What is the output of the following code snippet?

```
def ChangeVal(M,N):
    for i in range(N):
        if M[i] %5 == 0:
            M[i] //= 5
        if M[i] %3 == 0:
            M[i] //= 3
L = [25,8,75,12]
ChangeVal(L,4)
for i in L:
    print(i,end="$")
```

2

14. Write a function to accept a string as a parameter and return number of vowels in it.

3

15. Name the process of converting a byte stream back to the original structure while reading the contents of the binary file?

1

16. What is the difference between "rb+" and "wb+" file modes?

1

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

```
Def write1( ):
    f=open(daynote.txt",'w')
    while true:
        line=input("Enter line:")
        file.write(line)
        choice=input("Are there more lines (Y/N):")
        if choice=='N':
            break
    f.close( )
write1( )
```

2

18. What is the output of following code?

```
file=open("info.txt","w")
file.write("Python Language\n")
file.write("Working with python.")
file.close( )
file=open('info.txt','r')
a=file.readline( )
print(a,end=")
b=file.read(3)
c=file.read(4)
print(c)
file.close( )
```

2

19. Answer the following:
    a) Assume f is file object and to change the current position of file to 10 bytes forward. Which statement will be used?
    b) Which method returns the current position of the file object pointer within the file?

2

20. Write a python program to display the number of words in a file "Story.txt". 3

21. Write a function AMCount() in Python, which should read each character of a text file 3
STORY.TXT, should count and display the occurrence of alphabets A and M (including small
cases a and m too).

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

22. A binary file "Book.dat" has structure [BookNo, Book_Name, Author, Price]. Write a user 3
defined function CreateFile() to input data for a record and add to Book.dat.

23. A binary file "STUDENT.DAT" has structure (admission_number, Name, Percentage). Write 3
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 60. Also return number of
students scoring above 60%.

24. Rohan, a student of class 12th, is learning CSV File Module in Python. During examination, he 5
has been assigned an incomplete python code (shown below) to create a CSV File 'Emp.csv'
(content shown below). Help him in completing the code which creates the desired CSV File.

CSV File

NAME,DEPT,ADDRESS
Sunil, Physics, Ruwi
Serina,Chemistry,Al-Khuwair
Vijay, Computer Science, Seeb

```
#Incomplete Code
import _____              #Statement-1
with open(_____) as csv1:  #Statement-2
        xyz = csv._____     #Statement-3
        xyz.writerow(["NAME","DEPT","ADDRESS"])
        record=[ ]
        while True:
            Name = input("Enter Name\n")
            Dept = input("Enter Dept\n")
            Address = input("Enter Address\n")
            data=[ Name,Dept,Address]
            record.append(_____)        #Statement-4
            ch = input("insert more record(y/n):")
            if ch =='n':
                break
        xyz._____(record)       #Statement-5
```

25.   Give any two characteristics of stacks.   1

26.   Answer the following: 5

- Write the definition of a user-defined function Push3_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 Only3_5.

- Write a program in Python to input 5 integers into a list named NUM. The program should then use the function Push3_5( ) to create the stack of the list of Only3_5. Thereafter 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 Only3 _5 should store
[10, 6, 18, 30]
And the output should be displayed as
30 18 6 10 StackEmpty

27.   Which keyword is used to remove the duplicate values from the results of a SELECT statement?   1

28.   What do you mean by degree and cardinality of a table? What is the Degree and   2
       Cardinality of the following table **SUPPLIER**?

SUPCODE	SUPNAME	CITY
S01	EASY MARKET CORP	DELHI
S02	DIGI BUSY SHOP	MUMBAI

29.   Write the full forms of DDL and DML. Write any two commands of DML in SQL.   2

30.   Define Primary key and Alternate key.   2

31.   Reena has to create a database named **WAREHOUSE** in MYSQL.   2
       She now needs to create a table named **STOCK** in the database to store the records of various products in the store. The table **STOCK** has the following structure. Help her to complete the task by suggesting appropriate SQL commands.
       Table: STOCK

Field name	Data Type
PNO	INTEGER
NAME	VARCHAR(25)
QUANTITY	INTEGER
UNITPRICE	DECIMAL(10,2)

32. Write SQL commands for (i) to (v) on the basis of table STUDENT   5

Table : STUDENT

SNO	NAME	STREAM	FEES	AGE	GENDER
1	ARUN	COMPUTER	7000	16	M
2	DIVYA	COMPUTER	7000	17	F
3	SARIKA	BIOLOGY	5000	18	F
4	HARISH	COMMERCE	4000	19	M
5	SUNIL	COMMERCE	4000	18	M

(i) Display the details of all the students, who have taken stream as BIOLOGY.

(ii) To display name and stream of male students whose age is below 18.

(iii) To display all the records in ascending order of fees.

(iv) To display the name of students whose name starts with letter 'D'.

(v) Display the structure of the table STUDENT.

****END OF THE QUESTION PAPER****