O. P. JINDAL SCHOOL, SAVITRI NAGAR
Half – Yearly Examination (2023 – 2024)

Class: XII **MM:70**

Subject: Computer Science(083) **Time: 3 Hr**

(Fifteen Minutes Extra will be given for reading the Question Paper.)

General Instructions:

1. The question paper is divided into **5 sections – A, B ,C , D and E**
2. **Section A**, consists of 18 questions (1-18). Each question carries 1 marks.
3. **Section B**, consists of 07 questions (19-25). Each question carries 2 marks.
4. **Section C**, consists of 05 questions (26-30). Each question carries 3 marks.
5. **Section D**, consists of 03 questions (31-33). Each question carries 5 marks
6. **Section E**, consists of 02 questions (34-35). Each question carries 4 marks
7. All programming questions are to be answered using Python Language only.

Question NO	SECTION A Each question carries 1 marks	Marks
1	What will be the correct output :- S= "python is very funny language" print(S.split("n")) (i) ['pytho', ' is very fu', ' ', ' ', 'y la', 'guage'] (ii) ['pytho', ' is very fu', ' ','y la', 'guage'] (iii) ['pytho', ' is very fu', 'y la', 'guage'] (iv) ['pytho', ' is very fun', 'y la', 'guage']	1
2	Evaluate the following expression: float(5+int(4.39+2.1)%2)	1
3	Which is the correct way to remove an item from dictionary i.e. Tuesday WEEKD={'mon':'Monday', 'tue':'Tuesday', 'wed':'Wednesday'} (i) Del WEEKD('Tuesday') (ii) Del WEEKD['Tue'] (iii) del WEEKD['tue'] (iv) del.WEEKD['tue']	1
4	The statement in SQL which allows to change the definition of a table is (i) Alter (ii) Update (iii) Create (iv) select	1
5	Which of the following command is used to SELECT only one copy of each set of duplicate rows? (i) DISTINCT (ii) UNIQUE (iii) PRIMARY (iv) COUNT	1
6	Consider the statements given below and then choose the correct output from the given options: s1="#G20 Presidency" s2="in the Vidyalaya" s1_new=s1[-3:2:-2] s2_new=s2[-3:2:-3] print(s1_new+s2_new)	1

	(i) ndsr ayVh (iii) ceieP0aadVet	(ii) ceieP0yaie (iv) nir0ayVh	
7	import random heights=[10,20,30,40,50] beg=random.randint(0,2) end=random.randint(2,4) for x in range(beg,end): print(heights[x],end='@') (i) 30 @ (iii) 20@30	(ii) 10@20@30@40@ (iv) 40@30@	1
8	Which line of code produces an error? (i) "one"+'two' (ii) "one" + "2"	(ii) 1 + 2 (iv) 1 + '2'	1
	Q 9 and 10 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 Ris False (d) A is False but R is True		
9	Assertion(A): Python Standard Library consists of various modules. Reasoning(R): A function in a module is used to simplify the code and avoids repetition.		1
10	Assertion (A): If you don't provide value to argument of function during function call then the function takes its default value defined in the function. Reason (R): during functions call argument are required		1
11	Identify the output of the following Python code. Lst1=[10,15,20,25,30] Lst1.insert(3,4) Lst1.insert(2,3) Print(Lst1[-5])		1

12	fetchall() method fetches all rows in a result set and returns a:
	    (i) Tuples of lists
	    (ii) Lists of strings
		(ii) List of tuples
		(iv) Tuple of strings
			1

13	Which of the following functions (a) changes the position of file pointer and (b) returns its new position? (i) flush(), read() (ii) seek () , tell() (iii)tell() ,seek() (iv) read(), write()		1
14	What will be the output of following code? >>>a = [[[4,5],[1,0],9],[6,7]] >>>a[0][1][1] (i) 1 (ii) 4 (iii) 0 (iv) 7		1

15	Predict the output of the Python code given below:
	x=1
	def fun1( ):
	x=3
	x=x+1
	print(x)
	def fun2( ):
			1

		global x x=x+2 print(x) fun1( ) fun2( )	

16		Rewrite the following code in Python after removing all syntax error(s).
		
		Underline each correction done in the code:
		
		Value=30
		
		Def Display(Value): #
		
		            Function Definefor VAL in range(0,Value)
		
		                        if(val%4==0):
		
		                        print(VAL* 4)
		
		                        elif(VAL%5==0):
		
		                                    Print(VAL+3)
		
		                        Else:
		print(VAL+10)
		Display(30) # Function call
			1

17		The code given below accepts a number as an argument and returns the reverse number. Observe the following code carefully and rewrite it after removing all syntax and logical errors. Underline all the corrections made.
		
		``
		define revNumber(num):
		    rev = 0
		    rem = 0
		    While num > 0:
		        rem ==num %10
		        rev = rev*10 + rem
		        num = num//10
		    return rev
		print(revNumber(1234))
		``
			1

18		Dictionaries are also called _____. (iii) mapping (ii) hashes (iv) associative arrays (iv) All of these	1
		SECTION– B **Each question carries 2 marks**	
19		tuple1=(23,1,45,67,45,9,55,45) Tuple2=(100,200) Find the output of the following- (a) print(tuple1.index(45)) (b) print(tuple1.count(45)) (c) print(tuple1+Tuple2) (d) print(sorted(tuple1))	2

20		Give output
		def max_of_two(x, y):
		if x > y:
		return x
		else:
		return y
		def max_of_three(x, y, z):
			2

	return max_of_two(x, max_of_two(y, z)) print(max_of_three(3, 6, -5)) (i) 3 (ii) 6 (iii) -5 (iv) error	
21	What is the role of UNIQUE constraint? How is PRIMARY KEY constraint different from UNIQUE constraint? **OR** Categorize the following commands as DDL, DML & TCL: INSERT , CREATE , COMMIT , DELETE	2
22	Write a function in python to count and display the number of no. of digits present in a text file "data.txt". For example : data.txt has the content below: Computer science is a major for problem solvers who want to learn how to use computers and computational processes to build websites, program robots, mine data and more	2
23	Study the following program and select the possible output(s) and write maximum and minimum value assigned to the variable y import random x=random.random( ) y=random.randint(0,4) print(int(x),":",y+int(x)) (i) 0:0 (ii) 1: 6 (iii) 2:4 (iv) 0:3	2

24	Predict the output of the Python code given below:
	tuple1 = (11, 22, 33, 44, 55 ,66)
	list1 =list(tuple1)
	new_list = []
	for i in list1:
	  if i%2==0:
	new_list.append(i)
	new_tuple = tuple(new_list)
	print(new_tuple)
		2

25	Can a function return multiple values? How? **OR** What are the advantages of having function in a program?	2
	SECTION– C **Each question carries 3 marks**	
26	Write a function in python, vowelCount() that count and displays the number of vowels in the text file name "student.txt"	3
27	Write a function DISPLAYWORDS() in python to read lines from a text file STORY.TXT and display those words,which are less than 5 characters.	3
28	A Binary file, CINEMA.DAT has the following structure: {MNO: [MNAME, MTYPE]}Where MNO – Movie Number MNAME – Movie Name MTYPE is Movie Type Write a user defined function, findType(mtype), that accepts mtype as parameter and displays all the records from the binary file CINEMA.DAT, that have the value of Movie Type as mtype.	3

29	What is the difference between text, binary & CSV files?	3
30	(a) Write the outputs of the SQL queries (i) to (iv) based on the relations student and sports given below:	3

TABLE : STUDENT

ROLL_NO	SNAME	AGE	GENDER	DOB	TOTAL
A01	AKILAN S	16	M	2006-5-19	489
A02	YAZHINI	12	F	2011-1-28	456
A03	AVINESH	15	M	2007-6-20	345
A04	DEEPAK	20	M	NULL	456
A06	ANU	22	O	2000-5-21	452

TABLE: SPORTS

ROLL_NO	GNAME
A01	HOCKEY
A02	KABBADI
A03	HOCKEY
A06	CRICKET

(i) SELECT ROLL_NO,AGE,GNAME FROM STUDENT,SPORTS WHERE STUDENT.ROLL_NO=SPORTS.ROLL_NO AND GNAME LIKE '_R%';

(ii) SELECT AGE,GENDER FROM STUDENT WHERE DOB IS NOT NULL AND AGE>15;

(iii) SELECT SNAME,GENDER FROM STUDENT WHERE AGE NOT IN(12,22);

(iv) SELECT GENDER,AVG(TOTAL) FROM STUDENT WHERE GENDER IN('M','F') GROUP BY GENDER;

(b) Write the command to view all tables in a database.

Section-D
Each question carries 5 marks

31	(a) What are CSV File Format and its advantage for permanent storage? (b) Write a Program in Python that defines and calls the following user defined functions: (i) ADD() – To accept and add data of an student to a CSV file 'Sudent_record.csv'. Each record consists of a list with field elements as stdid, name and mobile to store student id, student name and student mobile respectively. (ii) COUNTR() – To count the number of records present in the CSV file named 'Student_record.csv'	2+3

32	MOHIT is writing a program to search a name in a CSV file "MYFILE.csv". He has written the following code. As a programmer, help him to successfully execute the given task.
	
	 import _____ # Statement 1
	 f = open("MYFILE.csv", _____) # Statement 2
	 data = _____ (f) # Statement 3
	 nm = input("Enter name to be searched: ")
	 for rec in data:
	 if rec[0] == nm:
	 print (rec)
	 f._____( ) # Statement 4
		5

(a) Name the module he should import in Statement 1.

(b) In which mode, MOHIT should open the file to search the data in the file in statement 2?

(c) Fill in the blank in Statement 3 to read the data from the file.

(d) Fill in the blank in Statement 4 to close the file.

(e) Write the full form of TSV.

33	(a) Write the output of the code given below:
	
	``python
	a,a1=5,2
	def welcome(a1,b1=2):
	 global a
	 a=6
	 a*=a1
	 b1//=a
	 return a,b1
	print(welcome(3),welcome(2,-5),sep='&')
	``
	
	(b) The code given below reads records from the table named Vehicle and displays only those records which have model later than 2010. The structure of a record of table Vehicle is:
	V_ID – integer; Name – string; Model – integer; Price –integer
	Note the following to establish connectivity between Python and MYSQL:
	• Username is root
	• Password is sadhana
	• The table exists in a MYSQL database named Transport.
	• The details (RollNo, Name, Clas and Marks) are to be accepted fromthe user.
	Write the following missing statements to complete the code:
	Statement 1 – to create the cursor object
	Statement 2 – to execute the query that extracts records of those vehicles whose model is greater than 2010.
	Statement 3 - to read the complete result of the query into the object named data.
	
	``python
	import mysql.connector as mysql
	def display():
	 con1=mysql.connect(host="localhost",user="root",
	password="sadhana", database="sadhana")
	 _____ #Statement 1
	print("Students with marks greater than 75 are : ")
	q="Select * from vehicle where model>2010"
	_____ #Statement 2
	data= _____ #Statement 3
	for rec in data:
	 print(rec)
	``
	
	 OR
	
	(a) Predict the output of the code given below:
	
	``python
	s='Rs.10'
	U=''
	for i in s:
	 if i.upper() and i.islower():
	 U+=''
	 elif i.isdigit():
	 U+=i
	 else:
	``
		2+3

U=U
print('$'+U)
(b) The code given below accepts the increments the value of Clas by 1 for each student. The structure of a record of table Student is: RollNo – integer; Name – string; Clas – integer; Marks – integer

Note the following to establish connectivity between Python and MYSQL:
• Username is root, Password is sadhana
• The table exists in a MYSQL database named school.

Write the following missing statements to complete the code:

```
import mysql.connector as mysql
def sql_data():
con1=mysql.connect(host="localhost",user="root",
password="sadhana")
_____ #Statement 1
crsr.execute("use sadhana")
_____ #Statement 2
crsr.execute(querry)
_____ # Statement 3
print("Data updated successfully")
```

Statement 1 – to create the cursor object.
Statement 2 – to create the query to update the table.
Statement 3- to make the updation in the database permanent

Section-E
Each question carries 4 marks

34	This is a binary file record.dat with employeeid, ename and salary. The file contains 10 records.	4

He now has to update a record based on the employee id entered by the user and update the salary. The updated record is then to be written in the file temp.dat. The records which are not to be updated also have to be written to the file temp.dat. If the employee id is not found, an appropriate message should to be displayed.

1. As a Python expert, help him to complete the following code based on the requirement given above:

```
import _____ #Statement 1
def update_data():
rec={}
fin=open("record.dat","rb")
fout=open("_____") #Statement 2
found=False
eid=int(input("Enter employee id to update their salary :: "))
while True:
try:
rec=_____ #Statement 3
if rec["Employee id"]==eid:
found=True
rec["Salary"]=int(input("Enter new salary :: "))
pickle._____ #Statement 4
else:
pickle.dump(rec,fout)
except:
break
if found==True:
print("The salary of employee id ",eid," has been updated.")
else:
```

7

print("No employee with such id is not found")
fin.close()
fout.close()
(i) Which module should be imported in the program? (Statement 1)
(ii) Write the correct statement required to open a temporary file named temp.dat.
(Statement 2)
(iii) Which statement should fill in Statement 3 to read the data from the binary
file, record.dat and in Statement 4 to write the updated data in the file, temp.dat?

35	Consider the following tables MobileMaster and MobileStock. Write SQL commands for the statements (i) to (v) .	4

Table: MobileMaster

M_Id	M_Company	M_Name	M_Price	M_Mf_Date
MB001	Samsung	Galaxy	4500	23-Jan-2004
MB003	Nokia	N1100	2250	12-Dec-2003
MB004	Micromax	Unite3	4500	14-Feb-2004
MB005	Sony	XperiaM	7500	01-Jan-2004
MB006	Oppo	SelfieEx	8500	19-Mar-2004

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

i)Display the Mobile company, Mobile Name & Price in descending order of their

manufacturing date.

ii)List the details of mobile whose name starts with s

iii)Display the mobile supplier and quantity of all mobiles except MB003.

iv) Display the name of mobile company having price between 3000 and 5000