A

COIMBATORE SAHODAYA SCHOOLS COMPLEX

GRADE:XII **PRE – BOARD EXAMINATION (DEC–2022)** **MARKS:70**

SUBJECT: COMPUTER SCIENCE **TIME: 3 HRS**

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 Q35 against Part-C only
8. All programming questions are to be answered using Python Language only.

S.NO	SECTION-A	MARKS
1	Find the invalid identifier from the following (a) name (b) class (c) section (d) break	1
2	State true or false: (i) -88.0 is the output of the print(3-10**2+99/11) (ii) Range( ) is also a module function.	1

3	What is the output of the following code?
	a=[1,2,3,4,5]
	for i in range(1,5):
	a[i-1]=a[i]
	for i in range(0,5):
	print(a[i],end=" ")
	(a) 5 5 1 2 3 (b) 5 1 2 3 4 (c) 2 3 4 5 1 (d) 2 3 4 5 5
		1

4	Given the Python declaration s1=”Hello”. Which of the following statements will give an error? (a) print(s1[4]) (b) s2=s1 (c) s1=s1[4] (d) s1[4]=”Y”	1
5	Identify the output of the following Python statement: s=”Good Morning” print(s.capitalise( ),s.title( ), end=”!”) (a) GOOD MORNING!Good Morning (b) Good Morning! Good Morning	1

	(c) Good morning! Good Morning! (d) Good morning Good Morning!	
6	What is the output of the functions shown below? min(max(False,-3,-4),2,7) (a) -3 (b) -4 (c) True (d) False	1

7	Suppose the context of "Rhymes.txt" is
	Hickory Dickory Dock
	The mouse went up the clock
	What will be the output of the following Python code?
	f=open("Rhymes.txt")
	l=f.readlines()
	x=["the","ock"]
	for i in l:
	for w in i.split():
	if w in x:
	print(w,end="*")
	(a) the* (b) the*the* (c) Dock*the*clock* (d) error
		1

8	Which of the following statement is not correct? (a) We can write content into a text file opened using 'w' mode (b) We can write content into a text file opened using 'w+' mode (c) We can write content into a text file opened using 'r' mode (d) We can write content into a text file opened using 'r+' mode	1
9	_____ is a protocol that allows to send/upload email message from local computer to an email server.	1
10	What will the following code do? dict={"Phy":94,"Che":70,"Bio":82,"Eng":95} dict.update({"Che":72,"Bio":80}) (a) It will create new dictionary as dict={"Che":72,"Bio":80} and old dict will be deleted (b) It will throw an error as dictionary cannot be updated (c) It will simply update the dictionary as dict={"Phy":94,"Che":72,"Bio":80, "Eng":95} (d) It will not throw any error but it will not do any changes in dict	1
11	Command to remove the row(s) from table student is (a) drop table student; (b) drop from student; (c) remove from student; (d) delete from student;	1
12	Which SQL command is used to add a new attribute in a table?	1
13	The following SQL command is which type of join: SELECT customer, cust_id,order,cust_id, name, order_id FROM customer, order; (a) Equi-join (b) Natural join (c) Outer join (d) Cartesian product	1
14	In order to open a connection with MySQL database from within Python using mysql.connector package, _____ function is used.	1

	(a) open( ) (b) database( ) (c) connect( ) (d) connected( )	
15	The aggregate functions can only be used in the select list or _____ clause of a select query.	1
16	_____ counts only those rows that contain a value; it ignores all null values in the field.	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 readline( ) method reads one complete line from a text file. Reason(R): The readline( ) method reads one line at a time ending with a newline(\n). It can also be used to read a specified number (n) of bytes of data from a file but maximum up to the newline character(\n)	1
18	Assertion(A): Keyword arguments are related to function calls. Reason(R): When you use keyword arguments in a function call, the caller identifies the arguments by the values passed.	1
S.NO	**SECTION-B**	**MARKS**

19	Rewrite the following Python program after removing all the syntactical errors (if any), underlining each correction:
	x=input("Enter a number")
	if x % 2=0:
	print x, "is even"
	else if x<0:
	print x, "should be positive"
	else;
	print x "is odd"
		2

20	Why do we need to network our systems? (OR) How is Coaxial cable different from Optical Fibre?	2
21	(a) Find the output generated by the following code: a=5 b=10 a+=a+b b*=a+b print(a,b) (b) Answer the following questions from the following code: num_list=["One","Two","Three","Four"] for c in num_list: print(c) (i) What will be the output of the above code?	1 1

	(ii) How many times the loop executed?	
22	What is the similarity and difference between UNIQUE and PRIMARY KEY constraints?	2
23	(a) What is the difference between HTTP and FTP? (b) Expand the following: SLIP, PPP	2

24	Determine the output of the following code fragments:
	def determine(s):
	d={"UPPER":0, "LOWER":0}
	for c in s:
	if c.isupper( ):
	d["UPPER"]+=1
	elif c.islower( ):
	d["LOWER"]+=1
	else:
	pass
	print("Original String:",s)
	print("Upper case count:", d["UPPER"])
	print("Lower case count:", d["LOWER"])
	determine("These are HAPPY Times")
	(OR)
	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')
		2

25	Write the full forms of DDL and DML. Write any two commands of DML in SQL. (OR) What is the use of GROUP BY clause? Give example.	2
S.NO	**SECTION-C**	**MARKS**
26	Consider the following tables: CONSIGNOR and CONSIGNEE Table: CONSIGNOR	3

CnorID	CnorName	CnorAddress	City
ND01	R.Singhal	24, ABC Enclave	New Delhi
ND02	Amit Kumar	123, Palm Avenue	New Delhi

MU15	R Kohli	5/A, South Street	Mumbai
MU50	S Kaur	27-K, Westend	Mumbai

Table: CONSIGNEE

CneeID	CnorID	CneeName	CneeAddress	CneeCity
MU05	ND01	Rahul Kishore	5, Park Avenue	Mumbai
ND08	ND02	P Dhinga	16/J, Moore Enclave	New Delhi
KO19	MU15	A P Roy	2A, Central Avenue	Kolkata
MU32	ND02	S Mittal	P 245, AB Colony	Mumbai
ND48	MU50	B P Jain	13, Block D, A Vihar	New Delhi

Give output for the following SQL queries:

(i) SELECT A.CnorName, B.CneeName
FROM Consignor A, Consignee B
WHERE A.CnorID=B.CnorID AND B.CneeCity='Mumbai';

(ii) SELECT CneeName, CneeAddress
FROM Consignee
WHERE CneeCity NOT IN('Mumbai', 'Kolkata');

(iii) SELECT DISTINCT CneeCity FROM Consignee

27 Write a function Show_words( ) in python to read the content of a text file 'NOTES.TXT" and display the entire content in capital letters. Example if the file contains: 3

"This is a test file"

Then the function should display the output as:

THIS IS A TEST FILE

(OR)

Write a function countmy( ) in python to read the text file "DATA.TXT" and count the number of times "my" occurs in the file.

For example if the file "DATA.TXT" contains:

"This is my website. I have displayed my preferences in the CHOICE section"

The countmy( ) function should display the output as : "my occurs 2 times"

28 Consider the following tables WORKER and PAYLEVEL and answer the following parts of this question: 3

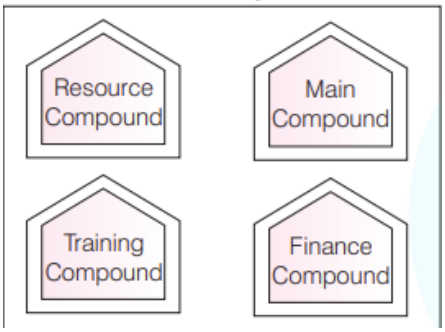
Table: WORKER

ECODE	NAME	DESIG	PLEVEL	DOJ	DOB
11	Radhe Shyam	Supervisor	P001	13-09-2004	23-08-1981
12	Chander Nath	Operator	P003	22-02-2010	12-07-1987
13	Fizza	Operator	P003	14-06-2009	14-10-1983
15	Ameen Ahmed	Mechanic	P002	19-12-2005	13-03-1983
18	Sanya	Clerk	P002	19-12-2005	09-06-1983

Table: PAYLEVEL

PLEVEL	PAY	ALLOWANCE
P001	26000	12000
P002	22000	10000
P003	12000	6000

	Give the output for the following SQL queries: (i) SELECT COUNT(PLEVEL), PLEVEL FROM WORKER GROUP BY PLEVEL; (ii) SELECT MAX(DOB), MIN(DOJ) FROM WORKER; (iii) SELECT Name, Pay FROM WORKER W, PAYLEVEL P WHERE W.PLEVEL=P.PLEVEL AND W.CODE<13	
29	Write a function stats( ) that accepts a filename and reports the file's longest line.	3
30	Write Addnew(Book) and Remove(Book) functions in python to add a new book and remove a book from a List of books, considering them to act as PUSH and POP operations of the data structure Stack. (OR) Write a function called **letter_freq(my_list)** that takes one parameter, a list of strings(mylist) and returns a dictionary where the keys are the letters from **mylist** and the values are the number of times that letter appears in the mylist, e.g.,if the passed list is as: wlist=list("aaaaabbbbcccdde") then it should return a dictionary as{'a':5,'b':4,'c':3,'d':2,'e':1}	3
S.NO	**SECTION-D**	**MARKS**
31	Learn Together is an educational NGO. It is setting up its new campus at Jabalpur for its web-based activities. The campus has four compounds as shown in the diagram below:	5



Centre to centre distance between various compounds as per architectural drawing (in m) is as follows:

BLOCK	DISTANCE
Main Compound to Resource Compound	110 m
Main Compound to Training Compound	115 m
Main Compound to Finance Compound	35 m
Resource Compound to Training Compound	25 m
Resource Compound to Finance Compound	135 m
Training Compound to Finance Compound	100 m

Expected number of computers in each compound are as follows:

BLOCK	NO.OF COMPUTERS
Main Compound	5
Resource Compound	15
Training Compound	150

	Finance Compound | 20 (i)Suggest a cable layout of connections between the compounds. (ii) Suggest the most suitable place (i.e. compound) to house the server for this NGO. Also, provide a suitable reason for your suggestion. (iii) Suggest the placement of the following devices with justification: (a) Repeater (b) Hub/Switch (iv) The NGO is planning to connect its international office situated in Mumbai, which out of the following wired communication link, will you suggest for a very high-speed connectivity? (a) Telephone analog line (b) Optical fibre (c) Ethernet cable. (v) Suggest a device / software to be installed in the Jabalpur campus to take care of data security.	

32	(a) Write the output of the code given below:
	def evn(l):
	enum=" "
	for n in range(len(l)):
	if n%2==0:
	enum+=l[n]
	elif n%3==0:
	enum+=l[n].upper( )
	return enum
	print(evn(['a','b','r','a','c','a','d','a','b','r','a']))
	(b) The given program is used to connect with MYSQL and show the name of all the database available in MYSQL server. You are required to complete the statements so that the code can be executed properly.
	import mysql.connector
	db=mysql.connector._____(i) fill the statement with appropriate method
	(host="localhost",user"root",password="smsmb")
	cur=db.cursor( )
	cur.execute("_____;") (ii) command to display all the database name
	print(cur._____) (iii) method to extract all the required from the cursor
	(OR)
	(a) Predict the output of the code given below:
	a=10
	b=20
	def change( ):
	global b
	a=45
	b=56
	change( )
	print(a)
	print(b)
	(b) Write a function to find the power of a number.
		2+3

33 (a) Write a function in Python that counts the number of "Me" or "My" words present in a text file "STORY.TXT". If the "STORY.TXT" contents are as follows:
My first book was Me and My family.
It gave me chance to be known to the world.
The output of the function should be:
Count of Me/My in file:
(b) Give one point of difference between a binary file and a CSV file. — 5

(OR)

(a) What are functions? Give its advantages.
(b) Write a function in Python PUSH(Arr), where Arr is a list of numbers. From this list push all numbers divisible by 5 into a stack implemented by using a list. Display the stack if it has at least one element, otherwise appropriate error message.

S.NO | **SECTION-E** | **MARKS**

34 In a database High sports there are two tables: students and sports with the instances given below: — 4

Table: STUDENTS

ADMNO	NAME	CLASS	GRADE	RNO	ADDRESS	PHONE
1211	MEENA	12A	D	4	A-26	3245678
1212	VANI	10A	D	1	B-25	5456789
1213	MEENA	12B	A	1	NULL	NULL
1214	KARISH	10B	B	3	AB-234	4567890

Table: SPORTS

ADMNO	GAME	COACHNAME	GRADE
1215	CRICKET	MR.RAVI	A
1213	VOLLEYBALL	MR.AMANDEEP	B
1211	VOLLEYBALL	MR.GOVARDHAN	A
1212	BASKETBALL	MR.TEWARI	B

Write the SQL queries for the following statements:
(i) To display name and game of those students whose address is available in students table.
(ii) To delete a column phone from the table students.
(iii) To display names of those students who are studying in class 12 and their corresponding coach names is their admission number.

(OR) (Option for part iii only)

(iii) To count the number of students who play volleyball.

35 Krishna of class 12 is writing a program to read the details of Sports performance and store in the csv file "games.csv" delimited with a tab character. As a programmer, help him to achieve the task. — 4

```
import csv
f=open("games.csv","a")
sobj=csv._____(f.delimiter='\t') # Line 1
sobj.writerow(['Games','Competitions','Prizes'])
ans='y'
i=1
while ans=='y':
    print("Record:"i)
    game= input("Game Name:")
    comp=int(input("No.of participants:"))
    prize=int(input("Prizes:"))
    rec=_____ # Line 2
    sobj._____ # Line 3
    i+=1
    ans=input("Do you want to continue?(y/n):")
    f._____ # Line 4
```

(a) Line 1: To create an object to enable to write in the csv file
(b) Line 2: To store the data in list
(c) Line 3: To write a record
(d) Line 4: To close the file