The Millennium School

Annual Examination

Class: XI Session: 2020-21

Computer Science (083)

(Theory) Set-A

Maximum Marks: 70

Time Allowed: 3 hours

General Instructions:

1. This question paper contains two parts A and B. Each part is compulsory.
2. Both Part A and Part B have choices.
3. Part-A has 2 sections:
   a. Section – I is short answer questions, to be answered in one word or one line.
   b. Section – II has two case studies questions. Each case study has 4 case-based sub- parts. An examinee is to attempt any 4 out of the 5 subparts.
4. Part - B is Descriptive Paper.
5. Part- B has three sections
   a. Section-I is short answer questions of 2 marks each in which two question have internal options.
   b. Section-II is long answer questions of 3 marks each in which two questions have internal options.
   c. Section-III is very long answer questions of 5 marks each in which one question has internal option.
6. All programming questions are to be answered using Python Language only

Question No.	Part-A	Marks allocated
	Section-I	
	Select the most appropriate option out of the options given for each question. Attempt any 15 questions from question no 1 to 21.	
1	Find the invalid identifier from the following a) India b) False c) 2ndName d) My_Name	1
2	Given the lists L=[1,3,6,82,5,7,11,92] , write the output of print(L[2:5])	1
3	Write the full form of BIOS.	1
4	Identify the valid arithmetic operator in Python from the following. a) ? b) < c) ** d) and	1

5	Suppose a tuple T is declared as T = (10, 12, 43, 39), which of the following is incorrect?
	
	     a) print(T[1])
	     b) T[2] = -29
	     c) print(max(T))
	     d) print(len(T))
		1

6	Write a statement in Python to declare a dictionary whose keys are 1, 2, 3 and values are Monday, Tuesday and Wednesday respectively.	1
7	A tuple is declared as T = (2,5,6,9,8) What will be the value of sum(T)?	1
8	Name the built-in mathematical function / method that is used to return an absolute value of a number.	1
9	What will be the output of following code? (17%5)==(17/5)	1
10	What will be the output of the following code? Y=str(123) X="hello"*3 print(X,Y)	1
11	In Python, name the Function that is used to display the tuples in ascending order .	1
12	In SQL, what is the use of IS NULL operator?	1
13	Write the correct statement of the following? print("Hello"+2) To get output as Hello2	1
14	Which of the following is a DDL command? a) SELECT b) ALTER c) INSERT d) UPDATE	1
15	Which package import in python for following :- sqrt(16)	1
16	Identify the valid declaration of L: L = ['Mon', '23', 'hello', '60.5'] a. dictionary b. string c. tuple d. list	1

17	If the following code is executed, what will be the output of the following code? name="ComputerSciencewithPython" print(name[3:10])	1
18	In SQL, write the query to display the list of tables stored in a database.	1
19	Write the expanded form of GPRS	1
20	Which of the following types of table constraints will prevent the entry of duplicate rows? a) Unique b) Distinct c) Primary Key d) NULL	1
21	Rearrange the following terms in increasing order of data transfer rates. Gbps, Mbps, Tbps, Kbps, bps	1
	Section-II **Both the Case study based questions are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark**	
22	A departmental store MyStore is considering to maintain their inventory using SQL to store the data. As a database administer, Abhay has decided that : • 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						

Table : STORE

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

(a) Identify the attribute best suitable to be declared as a primary key,	1
(b) Write the degree and cardinality of the table STORE.	1
(c) Insert the following data into the attributes ItemNo, ItemName and SCode respectively in the given table STORE. ItemNo = 2010, ItemName = "Note Book" and Scode = 25	1
(d) Abhay want to remove the table STORE from the database MyStore. Which command will he use from the following: a) DELETE FROM store; b) DROP TABLE store; c) DROP DATABASE mystore; d) DELETE store FROM mystore;	1
(e) 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.	1

23 — Carefully go through the code given below and the answer the question based on it:-

```
Thestr="This is the test"
Inputstr= input("Enter Interger")
Inputint=int(Inputstr)
Teststr=Thestr
while Inputint>0:
        Teststr=Teststr[1:-1]
        Inputint=Inputint-1
Testbool = 't' in Teststr
print(Thestr)                    Line 1
print(Teststr)                   Line 2
print(Inputint)                  Line 3
print(TestBool)                  Line 4
print(Thestr + Teststr)          Line 5
```

	(a) Given the input integer 3, what output is produced by Line 1?	1
	(b) Given the input integer 5, what output is produced by Line 2?	1
	(c) Given the input integer 3, what output is produced by Line 3?	1
	(d) What output is produced by Line 4?	1
	(e) What output is produced by Line 5?	1

Part – B

Section-I

24	Evaluate the following expressions: a) 6 * 3 + 4**2 // 5 – 8 b) 10 > 5 and 7 > 12 or not 18 > 3	2
25	Differentiate between Viruses and Worms in context of networking and data communication threats. **OR** Differentiate between Web server and web browser. Write any two popular web browsers.	2
26	Expand the following terms: a. SMTP b. XML c. LAN d. IPR	2
27	Differentiate between actual parameter(s) and a formal parameter(s) with a suitable example for each. **OR** Explain the use of global key word used in a function with the help of a suitable example.	2

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

29	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#

30	What do you understand by Candidate Keys in a table? Give a suitable example of Candidate Keys from a table containing some meaningful data.	2

31	Differentiate between *append()* and *remove()* methods of List with suitable examples for each.	2
32	Write the full forms of DDL and DML. Write any two commands of DML in SQL.	2
33	Find and write the output of the following Python code:	2

```python
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@Python3.0')
```

Section- II

34	Write a function LShift(Arr,n) in Python, which accepts a list Arr of numbers and n is a numeric value by which all elements of the list are shifted to left. Sample Input Data of the list Arr= [10,20,30,40,12,11], n=2 Output Arr = [30,40,12,11,10,20]	3
35	Write a function in Python that counts the number of "Me" or "My" words present in Poem If the "STORY.TXT" contents are as follows: My first book was Me and	3

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: 4

OR

Write a function AMCount() in Python, which should read each character of a text should count and display the occurance 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 EUCount() function should display the output as:

A or a:4
M or m :2

| 36 | Write the outputs of the SQL queries (i) to (iii) based on the relations Teacher and Posting given below: | 3 |

Table : Teacher						
T_ID	Name	Age	Department	Date_of_join	Salary	Gender
1	Jugal	34	Computer Sc	10/01/2017	12000	M
2	Sharmila	31	History	24/03/2008	20000	F
3	Sandeep	32	Mathematics	12/12/2016	30000	M
4	Sangeeta	35	History	01/07/2015	40000	F
5	Rakesh	42	Mathematics	05/09/2007	25000	M
6	Shyam	50	History	27/06/2008	30000	M
7	Shiv Om	44	Computer Sc	25/02/2017	21000	M
8	Shalakha	33	Mathematics	31/07/2018	20000	F

	i. SELECT Department, count(*) FROM Teacher GROUP BY Department;
	
	ii. SELECT Max(Date_of_Join),Min(Date_of_Join) FROM Teacher;
	
	iii. SELECT Teacher.name,Teacher.Department, Teacher.Salary FROM Teachr, WHERE Teacher.Department = "Computer Science AND Age>40	

37	Write A Python Program to print the frequency of Element in a list **OR** Write a Python Program to display the Min and Max Number from list without using min() and max() function	3
	Section-III	
38	Write a python program to accept 10 number in a list and sort them without using the sort function	5
39	Write a python program to accept a number from the user and check it is Sumproduct Number or not Ex- 144 is a SumProduct Number Sum of its Digit=9 Product of Digit =16 16 X 9 =144	5
40	Write a python program to accept a String form the user and print the longest word from string Ex- "Ram is my best friend" Longest word = friend	5