ANANDALAYA
ANNUAL EXAMINATION
Class : XI

Subject: COMPUTER SCIENCE   M.M: 70
Date   : 14/02/2020   Time: 3 Hour

Instruction: (1) All questions are compulsory.
                 (2) Programming language: **Python**.

Q-1   (a)   What are variables in Python. Which statement is used to read the value of any   (2)
              variable.

        (b)   Name the Python Library modules which need to be imported to invoke the following   (2)
              functions, also mention the use of this function:

                (i)   lower()   (ii)   sqr()

        (c)   Rewrite the following code In python after removing all syntax error(s).Underline each   (3)
              correction done in the code.

              25=Val
              for I in the range(0,Val)
                      if I%2==0:
                              print I+1
                      Else:
              print I-1

        (d)   Rewrite the following code in python after removing all syntax error(s).Underline each   (2)
              correction done in the code.

              Nums = ["X",20,"Y",10,"Z",30]
              for C In Range(1,6,2):
                      Add = Add + Nums[C]:
                      print (Add):

        (e)   Find output of the following code fragment.   (3)

              x="hello world"
              print(x[:2],x[:-2],x[-2:])
              print(x[6],x[2:4])
              print(x[2:-3],x[-4:-2])

        (f)   Find and write the output of the following python code: (3)

              Str="Udan-2020"
              Out_Str=""
              I=0
              while I<len(Str):
                 if Str[I]>="0" and Str[I]<="9":
              Ch = int(Str[I])+1
              Out_Str=Out_Str + str(Ch)
                 elif Str[I]>="A" and Str[I] <="Z":
              Out_Str=Out_Str + (Str[I+1])
                 elif Str[I]>="a" and Str[I] <="z":
              Out_Str=Out_Str + (Str[I-1])
                 else:
              Out_Str=Out_Str + "&"
                I=I+1
              print (Out_Str)

(g) Find and write the output of the following python code: (3)
```
def check(n1=1, n2=2):
        n1=n1+n2
        n2+=1
        print(n1,n2)
check()
check(2,1)
check(3)
```

(h) Find and write the output of the following python code: (3)
```
STR = ["90","10","30","40"]
COUNT = 3
SUM = 0
for I in [1,2,5,4]:
        S = STR[COUNT]
        SUM = float (S) +I
        Print ( SUM )
        COUNT-=1
```

(i) What are the possible outcome(s) executed from the following code? Also specify the (2) maximum and minimum values that can be assigned to variable N.
```
import random
NAV = ["LEFT","FRONT","RIGHT","BACK"]
NUM = random.randint(1,3)
NAVG = ""
for I in range(NUM,1,-1):
        NAVG = NAVG+NAV[I]
        print (NAVG)
        (i) (ii) (iii) BACK (iv) LEFTFRONTRIGHT
```

| 1. | BACKRIGHT | 2. | BACKRIGHTFRONT |
| 3. | BACK | 4. | LEFTFRONTRIGHT |

Q-2 (a) Write a Python program to find lowest and second lowest number in a list. (4)

(b) Write a python program to read a value of number N and display Pattern based on (4) number N as show below:

If value of N is 5 then the pattern will be as follows :

A				
A	B			
A	B	C		
A	B	C	D	
A	B	C	D	E

(c) Write a program in Python to read a number and display its factorial. (4)

(d) Write a Python program to find sum of number other than highest and lowest number (4) in the List
Input : list = [10, 20, 30, 40, 50]
Output : 70 (i.e. 20+30+40)

Q-3 (a) Consider the tables given below (8)

Table : STAFF

StaffID	Name	Department	Gender	Experience
1125	Nihara	Sales	F	12
1263	Kartik	Finance	M	6
1452	Payal	Research	F	3
236	Aryan	Sales	M	8
366	Laxman	Finance	M	10
321	Krishna	Sales	M	7

Table : SALARY

StaffID	Basic	Allowance	Comm
1452	12000	1000	200
321	23000	2300	900
1125	32000	4000	100
236	12000	52000	800
336	42000	1700	700
1263	18900	1690	150

With reference to the above table, write commands in SQL for (i) to (iv) and output for (v) to (viii)

(i) To display names of all staff that are in Sales department having experience less than 9 years and commission more than 700

(ii) Display average salary of staff working in Finance department. Salary= Basic+Allowance

(iii) Display number of female members in each department.

(iv) Display name of employee earning maximum salary. Give Output

(v) SELECT NAME FROM STAFF ST, SALARY SA WHERE COMM <=700 AND ST.STAFFID = SA.STAFFID

(vi) SELECT NAME, BASIC FROM STAFF, SALARY WHERE DEPT="SALES" AND STAFF.STAFFID= SALARY.STAFFID

(vii) SELECT COUNT(DEPARTMENT),DEPARTMENT FROM STAFF GROUP BY DEPARTMENT

(viii) SELECT COUNT(*),GENDER FROM STAFF GROPU BY GENDER

Q-4 (a) Convert The following Decimal Number to binary (4)
(i) 25_{10} (ii) 42_{10} (iii) 33_{10} (iv) 36_{10}

(b) Convert The following Binary Number to Decimal Number System (4)
(i) 1001010_2 (ii) 1000001_2 (iii) 1011110_2 (iv) 1000010_2

(c) Convert The following Hexa Decimal numbers to Binary Number (4)
(i) 35_{16} (ii) $A1_{16}$ (iii) $B2_{16}$ (iv) $7A_{16}$

(d) Write a Short note on ASCII code. (3)

Q-5 (a) Using truth table, prove that : $AB + BC + A\bar{C} = AB + C\bar{A}$ (2)

(b) Write an equivalent Boolean expression for the Logic Circuit. (2)
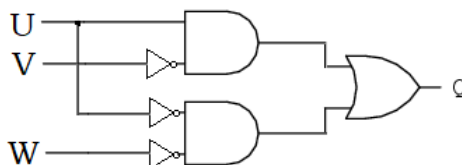
Q-6 (a) What do you understand by identity theft? (2)

(b) What are cookies? How are they used by the website to track you? (2)