D.A.V GIRLS SENIOR SECONDARY SCHOOL, CHENNAI-86

QUARTERLY EXAMINATION 2020_21

CLASS- XI COMPUTER SCIENCE TIME – 3Hrs

DATE -19.10.20 MARKS-70

I. Conversion: (1*5=5)

a)Convert Decimal 713.58 to Octal

b) Convert Binary 111101.011 to Hexadecimal

c) Convert Hexadecimal B01.5D to Decimal

d) Convert Octal 2104.73 to Binary

e) Convert Hexadecimal 190E.5B to Octal

II a) Identify errors in the following code, rewrite the correct code after removing errors, underlining corrections made: (2)

```
A=int(input("enter first number:"))
B=int(input("Enter second number:")
if fabs(A-B) %2 = 0 :
        print("Result"  A)
else:
        print("Result"  B)
```

b) Pick the valid identifiers from the following, stating reasons if invalid (2)

Semester-1, 3rdRow, While, TotalTax%

c) Write outputs for the following:

i) a, b, c, d =9.2 , 2.0 , -23, 4 (2)

```
b, c, d, a = a / 5, c **b, c % d, a + 14 // 3
print( a , b, c, d )
```

ii) S= "GoodLuck" (2)

```
for k in range(0, len(S), 2):
        print(S[k:], end= '@')
```

iii) (**Assume the input entered for the following code is 75)** (2)

```
import math
y = 500
x = int(input())
if x >= 50:
        if x  >= 80:
                if x >= 100:
                        x *=1.5 - y
                else:
                        x *= 2.2 -y
        else:
                x *= 4.3 - y
else:
        x *= 5.2- y
print(x, math.floor(x))
```

iv) (2)

```
x, y = 0 , 2
for k in range( 4, 0, -1 ):
        for m in range( 1, k ) :
                z = ( m + k ) % y
                if z % 2 == 0 :
                    x += z
                else:
                    x += z -2
        y += 1
        print(x, end = "@")
```

v) (2)

```
STR="bees buzz"
while True:
   if STR[-1] =='z':
      STR = STR[0 :3] +'c'
   elif 'e' in STR:
      STR = STR[0] + 'bb'
   elif not STR.isalpha():
      STR = 'L' + STR[ 1 : ] + 'z'
   else:
      STR = STR + '*'
   if len(STR) >5:
       break
print("new string", STR)
```

vi) (3)

```
Text = "Good Luck!!"
New_Text= "
for k in range( len(Text)):
   if Text[k].isupper() :
      New_Text +=  Text[k].lower()
   elif Text[k].islower():
      if k % 2 == 0:
         New_Text += chr( ord(Text[k])  +  2)
      else:
         New_Text += Text[ k +1]
   elif not Text[k].isalpha() :
      New_Text += Text[ k -1 ]
print(New_Text [2 : 7 ] , New_Text[ -7: : -2] , sep = '@')
```

d) Name the function which will do the following: (2)

i) check if a string has alphabets and digits

ii) to obtain the ascii value for a given character

III Answer briefly:

a) What is a language processor? Name any 2 . (1)

b) Write 2 differences between the memory devices RAM and Hard disk (1)

c) Fill up 100TB = _____ GB (1)

d) Differentiate between break and continue with a valid example for each (2)

e) Write names of 2 immutable data types (1)

f) Explain the 2 types of datatype conversions with valid examples for each (2)

g) Explain rvalue, lvalue of an identifier with an example (1)

h) Explain the 2 forms of writing a floating point literal with valid examples (1)

i) Differentiate between keyword and identifier (1)

j) Name the 3 attributes associated with any object in python. (1)

k) Write the following math expression as a python expression (1)

$e^{(2x + y)} + (m / (n + sqrt (p)))$

IV Rewrite the following code segments as per the given specifications:

i) Rewrite the given **nested for** using **nested while**: (2)

```
for k in range(5,0,-1):
    for j in range(1, k+1) :
        print(j)
print()
```

ii) Rewrite the following **while** using **for** : (2)

```
num=1
while num <=50:
    print(num)
    if num % 4 ==0:
        break
    num+=5
else:
    print("done")
```

iii) Represent the following code using a **flowchart** (3)

Read Salary from the user. Calculate the Bonus based on the following data and finally print the total pay as Salary+ Bonus:

Salary	Bonus
>=50000	10% of Salary
> = 25000	7% of Salary
< 25000	5% of Salary

iv) Rewrite the following using **nested if**: (2)

```
if expr >= 20:
    num_project = 7
elif expr >= 10 :
    num_project  = 5
elif expr >=5:
    num_project = 3
else:
    num_project = 1
```

V Write Python codes for the following:

a) Read class and stream from the user and display the fees to be paid based on the following specifications: (3)

CLASS	STREAM	FEES
11	COMPUTERSCIENCE	50,000
	BIOLOGY	45,000
	COMMERCE	48,000
12	COMPUTERSCIENCE	60,000
	BIOLOGY	55,000
	COMMERCE	57,500

If the user inputs any other class or stream display Invalid input.

b) Display the prime numbers in the 1st 15 numbers of the Fibonacci series (4)

c) Accept a number and display the octal equivalent of the given decimal number. Consider the input as a whole number without fractional part (3)

d) Generate the following pattern, accepting a character from the user: (3)

(eg) if the input is F, output should be:

A
AB
ABC
ABCD
ABCDE
ABCDEF

e) Find the sum of the following series: (3)

(1!) + (1!+2!) + (1!+2!+3!) + ……(1!+2!+3!+……n!)

f) Read a string and check if it's a palindrome that starts and end with a vowel . If it is display "YES" else display "NO" (2)

(eg) EVE ATTA

g) Read strings from the user repeatedly till the user enters "quit" and display the longest word entered (3)

h) Generate Armstrong number between 2 given limits (3)