DAV PUBLIC SCHOOL, SRESHTHA VIHAR DELHI
HOLIDAYS HOMEWORK
CLASS XI-COMPUTER SCIENCE

Q1. MULTIPLE CHOICE QUESTIONS

i.   Is python case sensitive when dealing with identifiers?
        a. Yes   c. No
        b. Machine dependent   d. none of the mentioned

ii.   Which of the following is an invalid variable?
        a. My_day_2   c. 2nd_day
        b. Day_two   d. _2

iii.   Which of the following is not a keyword?
        a. eval   c. nonlocal
        b. assert   d. pass

iv.   Following set of commands is executed in shell, what will be the output?
        >>> str="DAV Public School"
        >>> str[:2]
        a. DA   c. AV
        b. DAV   d. DV

v.   Carefully observe the code and give the answer.
        def function1(a):
           a=a+'1'
             a=a*2
        function1("hello")
        a. Indentation error   c. hello2
        b. Cannot perform mathematical operation on strings   d. hello2hello2

vi.   Which type of error occurs when you execute the following code
        fragments?
        A. >>> fruit=apple
        B. >>> 1=6

C. >>> 'abc'+4-4
D. >>> a1=2
    >>> a12+1
E. >>> int('11.23')

a. SyntaxError   c. ValueError
b. NameError   d. TypeError

vii. How would you write x^y in python as an expression?
a. x^y   c. x**y
b. x^^y   d. None of the above

viii. What is the value of this expression: 22%3
a. 7   c. 1.0
b. 1   d. 7.0

ix. What is the output of this expression: 3*1**3
a. 27   c. 3
b. 9   d. 1

x. What is the output of this expression: 3**3**1
a. 27   c. 3
b. 9   d. 1

xi. What is the output of this expression: 3*3**1
a. 27   c. 3
b. 9   d. 1

xii. What is the value of the expression?
14+13%15
a. 14   c.12
b. 27   d.0

xiii. Evaluate the expression given below if A=16 and B=15.
A%B//A
a. 0.0   c. 1.0
b. 0   d. 1

xiv. What is the value of x?

x=int(13.25+4/2)

a. 17   c. 15

b. 14   d. 23

xv. What is the value of the following expression?

3+3.00, 3**3.0

a. (6.0, 27.0)   c. (6.0,9.00)

b. (6,27)   d. [6.0,27.0]

xvi. The expression 8/4/2 will evaluate equivalent to which of the following expressions:

a. 8/(4/2)   b. (8/4)/2

xvii. What is the value of the following expression?

21//4+6/3

a. 7   c. 7.25

b. 7.0   d. 7.33

xviii. What is the output of following code segment:

```
>>> str1="my"
>>> str2="school"
>>> print(str1,str2)
```

a. my school   c. myschool

b. school   d. my

xix. What is the output of following code segment:

```
>>> str1="my"
>>> str2="school"
>>> print(str1+str2)
```

a. my school   c. myschool

b. school   d. my

xx. List a is defined as follows:

a=[1,2,3,4,5]

Which of the following statements removes the middle element 3 from it so that the list a equals [1,2,4,5]?

a. del a[2]   c. a[2:3]=[]

b. a[2:2]=[]   d. a[2]=[]   e. a.remove(3)

xxi.   What is the output of this code?

>>> int("3"+ "4")

a. "7"   c. 34

b. "34"   d. 24

Q2. Very Short Answer Questions

i.   What are tokens in Python? How many types of tokens are allowed in python? Exemplify your answer.

ii.   What is the difference between a keyword and an identifier?

iii.   Is the following statement valid? Why?

>>>a= "a"

iv.   Is the following statement valid? Why?

>>>"a"== a

v.   How are string liters represented and implemented in Python?

vi.   What will be the output produced by following code?

```
>>> grade1=80
>>> grade2=90
>>> average1=(grade1+grade2)/2
>>> average2=grade1+grade2/2
>>> average1,average2
```

vii.   What is the output of the following code?

```
>>> a=2**(3**2)
>>> b=(2**3)**2
>>> c=2**3**2
>>> a,b,c
```

viii.   Predict the output of the following programs:

```
a.  count=0
    while count<10:
       print("Hello")
       count+=1
```

b.
```python
x=10
y=0
while x>y:
    print(x,y)
    x=x-1
    y=y+1
```
c.
```python
keepgoing=True
x=100
while keepgoing:
    print(x)
    x=x-10
    if x<50:
        keepgoing=False
```
d.
```python
for x in [1,2,3,4,5]:
    print(x)
```
e.
```python
for p in range(1,10):
    print(p)
```
f.
```python
for z in range(-500,500,100):
    print(z)
```
g.
```python
for x in 'lamp':
    print(str.upper(x))
```
h.
```python
i=9
while True:
if (i+1)%4==0:
        break
print(i,end=' ')
i=i+1
```
i.
```python
x='abcd'
for i in x:
        print(i,end=' ')
        i.upper()
```
g.
```python
x='abcd'
for i in x:
        print(i.upper(),end=' ')
```

h. x='abcd'
```
x='abcd'
for i in range(len(x)):
        print(i,end=' ')
```

Q3.(i) Write a Program to print one of the words negative, zero, or positive, according to whether variable x is less than zero, zero, or greater than zero respectively.

(ii) WAP to enter monthly sale of Salesman and give him commission i.e. if the monthly sale is more than 500000 then commission will be 10% of monthly sale otherwise 5%

(iii) WAP to enter Bill amount and ask the user the payment mode and give the discount based on payment mode. Also display net payable amount

Mode	Discount
Credit Card	10% of bill amount
Debit Card	5% of bill amount
Net Banking	2% of bill amount
Otherwise	0

(iv) Write a Program to enter any number and find its factorial (using for and while loop)

(v) Write a Program to print the following fibonacci series 0, 1, 1, 2, 3, 5, 8,........n terms (using for and while loop)

CHEMISTRY CLASS XI

HOLIDAY HOMEWORK

Some Basic Concepts of Chemistry

Q-1) What mass of sodium chloride would be decomposed by 9.8g of sulphuric acid if 12g of sodium bisulphate and 2.75g of hydrogen chloride were prepared in a reaction assuming law of conservation of mass is true?

Q-2) Carbon combines with hydrogen to form three compounds A,B and C. The percentage of hydrogen in A,B and C are 25,14.3 and 7.7 respectively. Which law of chemical combination is illustrated?

Q-3) Boron has two isotopes boron-10 and boron-11 whose percentage abundances are 19.6% and 80.4% respectively. What is the average atomic mass of Boron?

Q-4) Calculate the mass of a single atom of Sulphur and a single molecule of CO_2.

Q-5) How many molecules of water and oxygen atoms are present in 0.9 g of water?

Q-6) What is the mass of 3.01×10^{22} molecules of ammonia?

Q-7) How many molecules and atoms of oxygen are present in 5.6 litres of oxygen at STP?

Q-8) 6g of carbon was completely burnt in oxygen . What would be the volume of CO_2 produced at STP and how many molelcules would be present in that gas?

Q-9) 250 cm^3 of sulphuric acid solution contain 24.5g H_2SO_4 . If the density of solution is 1.98 g/cm^3, determine : a) Molarity b) Molality.

Q-10) Concentrated aqueous Sulphuric acid is 98% H_2SO_4 by mass and has density of 1.84g/cm^3. What volume of concentrated acid is required to make 5litres of 0.5 M H_2SO_4?

Q-11) Calculate the mole fraction of Benzene(C_6H_6) which is 30% by mass in CCl_4.

Q-12) It is found that 16.50 g of metal combine with oxygen to form 35.6 g metal oxide. Calculate the percentage of metal and oxygen in the compound?

Q-13) Moth balls contain 93.71% carbon and 6.29% Hydrogen. If its molecular mass is 128 g/mol , calculate its molecular formula?

Q-14) Calculate the volume of CO_2 at STP evolved by strong heating of 20g calcium carbonate.

Q-15) Chlorophyll, the green colouring matter of plants contain 2.68% of magnesium by mass. Calculate the number of magnesium atomos in 3.00 g of chlorophyll.

Q-16) 250 cm^3 of sulphuric acid solution contain 24.5 g of H_2SO_4. If the density of solution is 1.98 g cm^{-3}, determine : i) molarity and ii) molality.

Q-17) A sample of $NaNO_3$ weighing 0.38 g is placed in a 50 mL volumetric flask . The flask is then filled with water to mark on the neck . What is the molarity of the solution.

Q-18) Calculate the mass of sodium acetate (CH_3COONa) required to make 500 mL of 0.375 M solution. Given that the molar mass of sodium acetate is 82.

Q-19) Calculate i) number of moles ii) no. of molecules iii) volume of gas at STP in 0.28 g of nitrogen.

Q-20) Calculate the mass percentage of each element present in ethanol.

Q-21) The density of 3 molal solution of NaOH is 1.110 g/L. Calculate the molarity the solution.

Q-22) If the elemental composition of butyric acid is 54.2% C, 9.2% H, 36.6% O and its molecular mass is 88u. What will be the molecular formula of compound ?

Q-23) A sample of NaOH weighing 0.38 g is dissolved in water and the solution is made to 50 mL in volumetric flask. What is the molarity of the resulting solution ?

Q-24) Calculate the molarity of pure water.

Q-25) A compound on analysis gave following percentage composition : C = 57.8%, H = 3.6 % and the remainder is oxygen. The vapour density of the compound is 83.Find the molecular formula of the compound.