<u>General Instructions</u> :
   1. All questions are compulsory. Programming language : Python
   2. Write the correct serial number of the question before attempting it.

Q1. Select the appropriate option: [3]

A) **Identify invalid variable names from the following:-**
   1. 12class
   2. final-exam
   3. Class
   4. For
   5. subjects
   6. percentage%

B) Which of the following is valid arithmetic operator in Python:

   (i) //   (ii) ?

   (iii) <   (iv) and

C) Which is the correct form of declaration of dictionary?

   (i)   Day={1:'monday',2:'tuesday',3:'wednesday'}
   (ii)   Day=(1;'monday',2;'tuesday',3;'wednesday')
   (iii)   Day=[1:'monday',2:'tuesday',3:'wednesday']
   (iv)   Day={1'monday',2'tuesday',3'wednesday']

D) Which of the following are not valid string in Python?

(i) "Hello" (ii) 'Hello'
(iii) "Hello' (iv) {Hello}

Q2. Name the Python Library modules which need to be imported to invoke the   [2]
   following functions :
1. sqrt()
2. mean()
3. fabs( )
4. randint( )

Q3. What is the difference between: [3]
   a) System Software and Application Software
   b) Compiler vs Interpreter.

Q4. Rewrite the following code in Python after removing all syntax errors(s).   [3]

   a)   for Name in [Amar, Shveta, Parag]
        if Name [0] = 's':
        Print (Name)
   b) if (a>b)
        print a:
        else if (a<b)
        print b:
        else
        print "both are equal"

Q5. Give the output of following with rough working on right side.   [6]
   i)   x = 3
       x+ = x-x
       print x

   ii) x,y= 10,20
       if (x>y):
         print x+y
       else:
         print x-y

   iii) print "Python is an \n interpreted \t Language"
   iv) x, y = 7, 12
       x, y, x = x+4, y+2, x+12
       print (x, y)

Q6. Write Python programs for the following: [12]
   a) Write a program to print the sum of the following series :
       $1+ x + x^2 + x^3.....x^n$.
       Where value of x and n is given by the user.
   b) Write a program to input n number of integers from the user. Print the sum of all
       numbers which are divisible by 5.
   c) Write a program to print the following series using a for loop:
       54321
       5432
       543
       54
       5
   d) Write a program to print all odd number from 1 to 50, in descending order.

Q7. What will the following statements evaluate to (true or false):   [2]

   i.   ((0 < 6) or (not(10 = = 6) and (10<0)))
   ii.   (10 != 9 and 20 >= 20)
   iii. (10 + 6 * 2 ** 2 != 9//4 -3 and 29 >= 29/9)

iv.   (5 % 10 + 10 < 50 and 29 <= 29)

Q8. Convert the Following as Directed   [4]

    (i) $(53.325)_{10} = (\ )_2$
    (ii) $(A4)_{16} = (\ )_{10}$
    (iii) $(11011.1101)_2 = (\ )_{10}$
    (iv) $(72.25)_8 = (\ )_2$

Q9. Find out the Addition of the Following :   [1]

    $(10111)_2 + (11001)_2 = (?)_2$

Q10. Write the following expressions into valid Python statements :   [2]

  i) $\sqrt{a^2 + b^2 + c^2}$

  ii) $(p + q) / (r+s)^4$

Q11. Name any two different types of errors in python.   [1]

Q12. Give the measuring unit of the following :   [1]

        i. 4 bits = _____
        ii. 1024 bytes = _____