USCS102 - PYTHON

(2½ Hours)   [Total Marks : 75

N.B. : (1) **All** the questions are **compulsory.**

(2) **Figures** to the **right** indicate full **marks.**

(3) Illustrations, in-depth answers and diagrams will be appreciated.

(4) Mixing of sub-questions is not allowed.

1. Attempt All (Each of **5 Marks**)   15

   (a) Multiple choice questions :

   (1) Which of these in not a core data type ?

       (i) List   (ii) Dictionary

       (iii) Typle   (iv) Class

   (2) Python is _____ language.

       (i) Compiled   (ii) Procedure

       (iii) Interpreted   (iv) Non-Interactive

   (3) To add a new element to a list we use which command ?

       (i) list1.add (5)   (ii) list1.append (5)

       (iii) list1.addLast (5)   (iv) list1.addEnd (5)

   (4) Which of the following is a python typle ?

       (i) [1, 2, 3]   (ii) (1, 2, 3)

       (iii) {1, 2, 3}   (iv) { }

   (5) What gets printed ? Assuming python version 3.4.3
       print (type (1/2)).

       (i) <type 'int'>   (ii) <type 'number'>

       (iii) <type 'tuple'>   (iv) <type 'float'>

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(b) Fill in the blanks .

    (1)   What is the average value of the code that is executed below
        _____ ?

```
>>> grade1 = 80
>>> grade2 = 90
>>> average = (grade1 + grade2) /2
```

    (2)   What is the output of the following _____ ?
```
X = [ 'ab' , 'cd']
for i in X :
    i.upper ( )
print (X)
```

    (3)   What data type is the object below _____ ?
```
L = [ 1, 23, 'hello' , 1 ]
```

    (4)   In order to store values in terms of key and value we use what core data type ? _____ .

    (5)   What is the output when following statement is executed
        _____ ?
```
>>>  "a" + "bc"
```

(c)   Short notes :
    (1)   What is comment in python programming ?
    (2)   Explain ** operator.
    (3)   What is the use of del statement ?
    (4)   Explain interpreter.
    (5)   Write any two methods of Dictionary datatype.

2. Answer **any three** from the following : (**Each of 5Marks**)   15

   (a)   What are the reasons for python being the first programming language of learners ?

   (b)   What are the arithmetic operators in python ? Explain with example.

   (c)   Explain tuple with example.

   (d)   What is the role of indentation in python ? Provide example to support your answer.

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(e) Write a python program to calculate area of rectangle and circle and print the result .Take input from user (length. breadth and radius)

(f) Write a python program to swap two numbers without temporary variable.

3. Answer **any three** from the following : (**Each of 5Marks**)   15

(a) Explain if-elif condition. When do we use it ? Explain with example.

(b) Explain break and continue statements when do we use it ?

(c) What is nested loop ? Explain with example.

(d) What is user defined function ? How can we pass parameters in user defined function ?

(e) Illustrate the use of range () in python along with an example.

(f) Write a python program to print table of number, Take number from user.

4. Answer **any three** from the following : (**Each of 5Marks**)   15

(a) Write a short note on class in object - oriented programming.

(b) Discuss anonymous function.

(c) What is List ? Explain with example.

(d) Explain map () function with example.

(e) Write a python program to create a user defined function to calculate square of number and square root of number. Take number from user.

(f) Write a program in python to create a function using lambda to add two numbers.

5. Answer **any three** from the following : (**Each of 5 Marks**)   15

(a) What is variable ? Why we use it ? What does mean by implicit declaration of variables ?

(b) How to create Dictionary in python ? Give example.

(c) How does function return a value ? Give example.

(d) Write a python program to take a string from user and count number of vowel present in it.

(e) Explain Random module and its function.