Q.P. Code : 756002

(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.