

Total No. of Questions : 9]

SEAT No. :

P6995

[Total No. of Pages : 4

[5868]-107

F.E. (Semester - I & II)

**110005 : PROGRAMMING AND PROBLEM SOLVING**  
**(2019 Pattern) (Common)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Question one is compulsory.
- 2) Solve Q2 or Q3, Q4 or Q5, Q6 or Q7, Q8 or Q9.
- 3) Neat diagrams must be wherever necessary.
- 4) Assume suitable data wherever necessary.

**Q1)** i) Which one of the following is the correct way of calling a function?

- |                    |                      |
|--------------------|----------------------|
| a) f_name()        | b) call f_name()     |
| c) return f_name() | d) function f_name() |

ii) What is the correct file extension for Python files?

- |        |         |
|--------|---------|
| a) .pt | b) .pyt |
| c) .py | d) .cpp |

iii) Which function is used to convert a numeric value to a character?

- |            |             |
|------------|-------------|
| a) ord()   | b) chr()    |
| c) input() | d) output() |

iv) Which is the default access mode in the open () function for files in Python?

- |      |       |
|------|-------|
| a) w | b) r  |
| c) a | d) w+ |

v) Which method can be used to return a string in upper case letters?

- |                |                  |
|----------------|------------------|
| a) toupper()   | b) upper()       |
| c) uppercase() | d) touppercase() |

P.T.O.

- vi) Which method is automatically executed when an object of a class is created?
- a) `_init_()`                      b) `_call_()`  
c) `_repr_()`                      d) `_del_()`
- vii) You can use Python for
- a) Application programming      b) Web programming  
c) Artificial intelligence          d) All of these
- viii) Which of the following keyword is used in user defined function header in Python?
- a) `define`                              b) `def`  
c) `function`                          d) `fun`
- ix) What does `open()` function return?
- a) function                              b) variable  
c) file object                          d) none of these
- x) Which of the following is the correct way of closing a file?
- a) `close(file)`                      b) `close("file")`  
c) `file.closed()`                      d) `file.close()`

- Q2)** a) Define a function. Explain function definition and function call with suitable example. [6]  
b) What is a lambda function? Explain with a suitable example. [5]  
c) What are the good Python programming practices? [4]

OR

- Q3)** a) Explain the following types of function arguments with examples: [6]  
i) Required arguments  
ii) Keyword arguments  
b) What do you mean by local and global variables? Explain it with example. [5]  
c) Write a program to swap two numbers using a function. [4]

**Q4)** a) Explain the following string operations with suitable example. [6]

i) Concatenation

ii) Appending

iii) String repetition

b) Explain indexing and slicing operation on string with suitable example. [5]

c) Write a program to count the number of characters and words in the given string. [4]

s = "Welcome to the world of python programming"

OR

**Q5)** a) Explain following string methods with example. [6]

i) strip()

ii) index()

iii) isdigit()

b) What is a string? Explain with example iterating strings. [5]

c) Explain ord() and chr() functions with suitable examples. [4]

**Q6)** a) Explain any three programming paradigms. [6]

b) Define a class in Python. Explain \_\_init\_\_() method with suitable example. [5]

c) Explain the concept of a class and an object in OOP. [4]

OR

**Q7)** a) Explain the following features of Object Oriented Programming. [6]

i) Data encapsulation

ii) Data abstraction

iii) Polymorphism

- b) Explain class variables and object variable with suitable example. [5]
- c) Write a program to create a class 'Employee' with two attributes. Display the details of two employees. [4]

- Q8)**
- a) What is a file? Explain different access modes for opening files. [6]
  - b) What is a dictionary? How to create, access and modify dictionary elements. [5]
  - c) Explain relative and absolute path of a file. [4]

OR

- Q9)**
- a) Explain any three methods for reading and writing files. [6]
  - b) Explain different directory methods with suitable examples. [5]
  - c) Write a program to read first 10 characters from the file and display it. [4]

