

Total No. of Questions : 8]

**PB3593**

SEAT No. :

[Total No. of Pages : 3

[6260]-8

**F.E.**

**PROGRAMMING AND PROBLEM SOLVING**  
**(2019 Pattern) (Credit System) (Semester - I/II) (110005)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Assume suitable data wherever necessary.

- Q1)** a) Write a short note on modules and package in python. [6]  
b) Explain how we can pass command line arguments in python with a suitable example. [6]  
c) Write a program to check whether a number is Armstrong number or not using a function. [5]

OR

- Q2)** a) Write syntax of function definition and function call. Give a suitable example for the same. [6]  
b) Explain the following types of function arguments with examples. [6]  
i) variable length arguments  
ii) default arguments  
c) Write a program using lambda function to print a message 'even' if number is even and 'odd' if number is odd. [5]

- Q3)** a) Explain the following string operations with examples. [6]  
i) concatenation  
ii) appending  
iii) string multiplication  
b) Explain string formatting operator with suitable example. [6]  
c) Write a program that finds whether a given character is present in a string or not. In case it is present it prints the index in which it is present. Do not use built-in find functions to search it. [5]

OR

*P.T.O.*

- Q4)** a) Explain string module in python. [6]  
b) Explain following string methods with example. [6]  
i) split()  
ii) zfill()  
iii) replace()  
c) Write a program to reverse a string without using slicing operator. [5]

- Q5)** a) Explain the following programming Paradigms in detail. [6]  
i) Procedural  
ii) Structured  
iii) Object Oriented  
b) Differentiate between class variable and object variable. [6]  
c) Write a program to create a class 'Book' with members, title, author, publisher, and ISBN number. The functions of the class should read and display the data. [6]

OR

- Q6)** a) Explain the following features of OOP [6]  
i) Classes and Objects  
ii) Methods and Message Passing  
iii) Inheritance  
b) Explain class methods with suitable example. [6]  
c) Write a program to calculate area of square and rectangle using a class. [6]

- Q7)** a) What is a file? Explain different Access Modes. [6]  
b) Explain the following file handling methods. [6]  
i) seek()  
ii) writelines()  
iii) readline()  
c) Write a program that reads text from a file and writes in into another file but in the reverse order. (Hint: Make the first line in the original file as the last line in the copied file). [6]

OR

- Q8) a)** Explain the following method with suitable example [6]
- i) `getcwd()`
  - ii) `rmtree()`
  - iii) `makedirs()`
- b) What is a file path? Explain absolute path and relative path. [6]
- c) Explain the following dictionary methods. [6]
- i) `fromkeys()`
  - ii) `setdefault()`
  - iii) `update()`