

Total No. of Questions : 8]

SEAT No. :

P-9073

[Total No. Of Pages : 3

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F.E.

**Programming and Problem Solving
(2019 Pattern) (Semester - I) (110005)**

Time : 2½ Hours]

[Max. Marks : 70

Instructions: 1) *Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*

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

3) *Neat Diagrams must be wherever necessary.*

4) *Assume suitable data wherever necessary.*

- Q1)** a) Define a function with suitable example? Explain need for a function. [6]
b) Differentiate between local and global variables. [6]
c) Write a program using function to find square of a number. [5]

OR

- Q2)** a) Explain the following types of function arguments with examples: [6]
i) default arguments ii) keyword arguments
b) Explain user defined module and package in Python. [6]
c) Write a program to perform addition of two numbers using lambda function. [5]

- Q3)** a) Explain string indexing and slicing with suitable example. [6]
b) Explain the following with suitable example. [6]
i) ord() and chr() function ii) in and not in operators on string
c) What is the output of the following statement for the given string?
st = "Python is an interpreted programming language" [5]
i) print(st[12:20])
ii) print(st[::-1])
iii) print("an" not in st)
iv) print(st[17])
v) print(st[0:23])

P.T.O.

OR

- Q4)** a) Explain string format method with suitable example. [6]
- b) Explain following string methods with example. [6]
- i) title()
 - ii) capitalize()
 - iii) lower()
- c) Write a program to display a string and count characters in the string using a loop. [5]

- Q5)** a) What is programming paradigm? Explain the following Programming Paradigms in detail [6]
- i) Monolithic Programming
 - ii) Procedural Programming
- b) Explain the following concepts with example. [6]
- i) Object variable
 - ii) class variable
- c) Write a python program to create a class Employee with the attributes Name, emp_id, and salary and display data of 2 employees. [6]

OR

- Q6)** a) Explain the following features [6]
- i) Class
 - ii) Inheritance
 - iii) Polymorphism
- b) Explain class method and self-object with suitable example. [6]
- c) Write a program to create class Car with two attributes name and cost. Create 3 objects and display information. [6]

- Q7)** a) What is a file? Explain relative and absolute path of a file. [6]
- b) Explain the following file handling methods. [6]
- i) write()
 - ii) tell()
 - iii) seek()
- c) Explain the following file access modes [6]
- i) r ii) w iii) a iv) rb v) wb vi) r+

OR

- Q8)** a) Explain any 3 directory methods with example. [6]
- b) Explain text and binary files with example. [6]
- c) Explain any 3 dictionary methods with example. [6]

