

Total No. of Questions : 8]

SEAT No. :

P-3664

[Total No. of Pages : 3

[6001]-4008

F.E. (Semester - II)

PROGRAMMING AND PROBLEM SOLVING

(2019 Pattern) (110005)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates :

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

Q1) a) Explain in-built and user defined functions with syntax and suitable example. [6]

b) Explain the following terms with suitable examples. [6]

- i) local variable
- ii) global variable

c) Write a program to check whether a number is prime or not using function. [5]

OR

Q2) a) Explain the following types of function arguments with examples: [6]

- i) positional arguments
- ii) variable length arguments

b) Explain different ways of importing an in-built module in python with suitable example. [6]

c) Write a program to find cube of a number using lambda function. [5]

Q3) a) Justify strings are immutable with example. [6]

b) Explain the following with suitable example. [6]

- i) ord() and chr() function
- ii) in and not in operators on string

P.T.O.

- c) What is the output of the following statement for the given string? [5]

S = "Programming and Problem Solving"

- i) print(S[:11])
- ii) print(S[::-1])
- iii) print("And" not in S)
- iv) print(S[4])
- v) print(S[0:10])

OR

- Q4)** a) Explain string format operator with suitable example. [6]

- b) Explain following string methods with example. [6]

- i) title()
- ii) startswith()
- iii) zfill()

- c) Write a program to display a string and count characters in the string using a loop. [5]

- Q5)** a) Explain the following Programming Paradigms in detail. [6]

- i) Monolithic Programming
- ii) Structured Programming
- iii) Object Oriented Programming

- b) Explain the following concepts with example. [6]

- i) public members
- ii) private members

- c) Write a python program to create a class Student with the attributes Name, roll no and age and display data of 4 students. [6]

OR

- Q6)** a) Explain any three object oriented features in brief. [6]

- b) Explain class method and class variable with suitable example. [6]

- c) Write a program to calculate area of triangle using a class. [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) writelines()
ii) close()
c) Explain file access modes in brief. [6]

OR

- Q8)** a) Explain different directory methods with example. [6]
b) Differentiate between text and binary files. [6]
c) Explain the following dictionary methods. [6]
i) update()
ii) keys()
iii) pop()

