Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Engineering

End Sem Examination Dec-2023

OE00018 Python Essentials

Programme: B.Tech. Branch/Specialisation: All

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1 i. Which of the following character is used to give single-line comments in Python? **1**

(a) // (b) # (c) ! (d) /*

ii. What will be the value of the following Python expression? **1**

4 + 3 % 5

(a) 7 (b) 2 (c) 4 (d) 1

iii. Which function is called when the following Python program is executed? **1**

f = foo()

format(f)

(a) str() (b) format()

(c) __str__() (d) __format__()

iv. What is output of print(math.pow(3, 2))? **1**

(a) 9.0 (b) None (c) 9 (d) None of these

v. Correct syntax of file.writelines() is- **1**

(a) file.writelines(sequence)

(b) fileObject.writelines()

(c) fileObject.writelines(sequence)

(d) none of the mentioned

vi. To read the entire remaining contents of the file as a string from a file object infile, we use _____. **1**

(a) infile.read(2)

(b) infile.read()

(c) infile.readline()

(d) infile.readlines()

P.T.O.

vii. What will be the output of the following Python code? **1**

```
class Demo:
    def __init__(self):
        self.a = 1
        self.__b = 1
    def get(self):
        return self.__b
obj = Demo()print(obj.get())
```

(a) The program has an error because there isn't any function to return self.a

(b) The program has an error because b is private and display(self) is returning a private member

(c) The program has an error because b is private and hence can't be printed

(d) The program runs fine and 1 is printed

viii. How constructor is written in Python code? **1**

(a) init (b) __ int (c) __ init __() (d) int()

ix. Which of the following is not a standard exception in Python? **1**

(a) NameError (b) IOError

(c) AssignmentError (d) ValueError

x. What will be the output of the following Python code? **1**

```
lst = [1, 2, 3]
lst[3]
```

(a) NameError (b) ValueError

(c) IndexError (d) TypeError

Q.2 i. What are the key features of python? **2**

ii. Write the difference between Python 2 and Python 3. **3**

iii. Explain different operators of Python with suitable example. **5**

OR iv. Write a Python program which accepts the value of all sides for a triangle from the user and compute the semi perimeter and area of triangle. **5**

Q.3 i. Write differences between lists and tuples. **2**

ii. What is recursion? Write a Python program to find factorial of number using recursion. **8**

OR iii. Explain control flow in Python. Write a Python program which find out the number that is entered by user is positive negative or zero. **8**

Q.4 i. What do you mean by file? Explain its operations in Python. **3**

ii. Write a Python program to read entire Python text file and exactly 4 lines from Python text file? Write differences between read(), readline() and readlines(). **7**

OR iii. Describe seek() and tell() in python. Write a Python program to change the position of the pointer to read the File and print the complete file after that and show the pointer current position. **7**

Q.5 i. Write a Python class named Rectangle constructed from length and width and a method that will compute the area of a rectangle. **4**

ii. Explain the concept of Inheritance in Python with an example. Write a Python program for method overriding in Python. **6**

OR iii. Write a Python class named Student with two attributes: student_id, student_name. Add a new attribute: student_class. Create a function to display all attributes and their values in the Student class. **6**

Q.6 Attempt any two:

i. What do you mean by dictionary? Write a Python program to check whether a given key already exists in a dictionary. **5**

ii. Explain exception handling in python. Write a Python program to handle a ZeroDivisionError exception when dividing a number by zero. **5**

iii. Describe random module in Python. Explain its three methods with example. **5**

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