P P SAVANI UNIVERSITY

Third Semester of B. Tech. Examination
November-December 2021
SECE2060 Programming with Python

17.12.2021, Friday   Time: 9:00 a.m. To 11:30 a.m.   Maximum Marks: 60

Instructions:
1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

Q - 1	Answer the Following: (Any Five)	[05]
(i)	What is the output of following code snippet? str= "Python Programming" print(str[0: len(str)-1:3])	
(ii)	What is the output of the following code? print(5//2)	
(iii)	A Python list can hold a mixture of integers and strings (True/False).	
(iv)	Explain any one method of list	
(v)	Define: Lambda	
(vi)	What is a FrozenSet?	
Q - 2 (a)	Explain in detail different features of Python language.	[05]
Q - 2 (b)	Write a recursive function 'factorial' to find factorial of a number.	[05]

OR

Q - 2 (a)	Differentiate between mutability and immutability. Give example of each.	[05]
Q - 2 (b)	What is list in Python? Differentiate between list, tuple, string and dictionary data type in Python.	[05]
Q - 3 (a)	Explain anonymous functions with appropriate examples.	[05]
Q - 3 (b)	Write a Python program to remove duplicates from a list.	[05]

OR

Q - 3 (a)	What is Dictionary? Write a program to sort the elements of a dictionary based on a key or value.	[05]
Q - 3 (b)	Write a program that takes a set of words as input and returns longest word from that set.	[05]
Q - 4	Attempt any one.	[05]
(i)	Explain the usage of functions supported by numpy package with appropriate example.	
(ii)	What are Python modules? Name some commonly used built-in modules in Python?	

SECTION – II

Q - 1	Answer the Following: (Any Five)	[05]
(i)	What will be the output of following code: x=10 y=8 assert x>y, 'X too small	
(ii)	Write an example of a class in Python having private data member.	
(iii)	What is the use of super keyword in Python?	
(iv)	rmdir() belongs to _____ module	
(v)	Differentiate between read() and readlines().	
(vi)	What is Accessor and Mutator in Python	
(vii)	What is the output of the following code: value = [1, 2, 3, 4, 5]	

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try:
    value = value[5]/0
except (IndexError, ZeroDivisionError):
    print('PPSU ', end = '')
else:
    print('ITCS', end = '')
finally:
    print('Kosamba ', end = '')
```

Q - 2 (a) What is a constructor? Explain constructors in Python with suitable example. [05]

Q - 2 (b) Explain the following terms in Python with example: [05]
    a) Class methods
    b) Encapsulation
    c) Polymorphism
    d) Destructor
    e) methods

OR

Q - 2 (a) Create a Python class called BankAccount which represents a bank account, having as [05]
attributes: accountNumber (numeric type), name (name of the account owner as string
type), balance.
    a) Create a constructor with parameters: accountNumber, name, balance.
    b) Create a Deposit() method which manages the deposit actions.
    c) Create a Withdrawal() method which manages withdrawals actions.
    d) Create an bankFees() method to apply the bank fees with a percentage of 5% of the
        balance account.
    e) Create a display() method to display account details.
    f) Give the complete code for the BankAccount class.

Q - 2 (b) Explain following functions with example: rstrip(), startswith() and getcwd() [05]

Q - 3 (a) Write a Python program to search a literals string in a string and also find the location [05]
within the original string where the pattern occurs (use re module).

Q - 3 (b) Explain the following Python Regular Expression functions with an example: match(), [05]
search(), findall(), split() and sub().

OR

Q - 3 (a) Write a Python program to copy the contents of a file to another file. [05]

Q - 3 (b) What is operator overloading? Is it supported in Python? Justify with example. [05]

Q - 4 Attempt any one. [05]
  (i) Explain Inheritance in Python.
  (ii) Explain Exception handling in Python.

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