

KADI SARVA VISHWAVIDYALAYA

B.E. SEMESTER - VI EXAMINATION - DECEMBER - 2023

Subject Code: - CE602-N

Date: - 18/12/2023

Time: - 12:00 pm to 03:00 pm

Subject Name: - Python Programming

Total Marks: - 70

Instructions:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Indicate clearly, the options you attempt along with its respective question number.
- 4) Use the last page of the main supplementary for rough work.

Section-I

Q-1 (A) What is printed by the following Python code?

5

```
1. print(list(range(3)))
2. print('2' + '3')
3. for i in range(4):
    print(i)
4. def func(x):
    print(2*x)
    func(5)
    func(4)
5. x = 2.5679
   y = 9.0
   print('Answers {:.3f} and {:.3f}'.format(x, y))
```

(B) List all types of Python Operators.

5

(C) Write a python program for Binary Search.

5

OR

(C) Write a python program to find Sum of Negative, Positive Even and Positive Odd numbers in a List

Q-2 (A) Explain python break, continue, pass statements with example.

5

(B) Write a python program to count Even and Odd numbers in a List.

5

OR

Q-2 (A) What is file? Explain access modes of file.

5

(B) Write a python program to sort the data using Bubble Sort.

5

Q-3 (A) What is tuple? What is the difference between list and tuple?

5

(B) Explain Instance Method, Class Method, and Static Method in python.

5

OR

Q-3 (A) List some few common Exception types and explain when they occur.

5

(B) Explain in details about namespaces and scoping

5

[P.T.O.]

Section-II

- Q-4 (A) What is printed by the Python code?
1. `print(24//4, 24%4, 24.0/4)`
 2. `def func(x):
 return x - 1
 print(func(3) * func(5))`
 3. `print('how\nis it\nnow')`
 4. `for z in [2, 4, 7, 9]:
 print(z - 1)`
 5. `def s(x): #1
 return x*x #2
 for n in [1, 2, 10]: #3
 print(s(n))`

- (B) What is indexing and negative indexing in String? Explain with example.
- (C) Explain sys module and input output operations using sys module.

OR

- (C) Explain time module and at least five functions of the time module.

- Q-5 (A) What is meant by module in python? List some built in modules in python. Explain with example how to create a user defined module and how to use it.
- (B) What is Comprehension? What is List comprehension? Illustrate it with example.

OR

- Q-5 (A) What is Comprehension? What is Dictionary comprehension? Illustrate it with example.
- (B) What is the Mutable and Immutable Data Types? Explain them with example.

- Q-6 (A) What are packages? Give an example of package creation in Python.
- (B) What are the built-in functions that are used in Tuple?

OR

- Q-6 (A) Explain the types of arguments in python
- (B) How to pass two dictionaries to the function and add elements of one dictionary to another. Write the code for it.

KADI SARVA VISHWAVIDYALAYA
B.E. SEMESTER - VI EXAMINATION – APRIL – 2023

Subject Code: - CE602-N

Date: - 10/04/2023

Time: - 10:00 am to 01:00 pm

Subject Name: - Python Programming

Total Marks: - 70

Instructions:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Indicate clearly, the options you attempt along with its respective question number.
- 4) Use the last page of the main supplementary for rough work.

Section-I

Q-1 (A) What is tuple? What is the difference between list and tuple? 5

(B) Do as directed: 5

1. Which of the following statement is correct?

- A. Class attributes are the variables defined directly in the class that is shared by all objects of the class.
- B. Class attributes are the variables defined inside the class method.
- C. Class attributes are objects of the class.
- D. None of the above

2. How to define a property in the class in Python?

- A. Using property() function
- B. Using @property decorator
- C. Using get(), set() methods
- D. using @classmethod decorator

3. Match the following:

- | | |
|-----------------------|--|
| A. Information Hiding | I. Protecting state (data) in objects |
| B. Inheritance | II. Contract-based programming |
| C. Polymorphism | III. Packaging data and methods together |
| D. Encapsulation | IV. Allows code reuse |

4. Which of following objects is not a valid declaration for dictionary?

- A. dict = {(1,2):10} B. dict=[1, 2]:10} C. dict={1:10}
D. None of the above

5. What does pip stand for python?

- A. Pip Installs Python B. Pip Installs Packages
C. Preferred Installer Program D. All of the mentioned

(C) What is Comprehension? What is List comprehension? Illustrate it with example. 5

OR

(C) What is Comprehension? What is Dictionary comprehension? Illustrate it with example.

Q-2 (A) Explain the types of arguments in python 5

(B) What is indexing and negative indexing in String? Explain with example. 5

OR

[P.T.O.]

Q-2 (A) How to pass two dictionaries to the function and add elements of one dictionary to another. Write the code for it. 5

(B) What are the built-in functions that are used in Tuple? 5

Q-3 (A) What are packages? Give an example of package creation in Python. 5

(B) Explain time module and at least five functions of the time module. 5

OR

Q-3 (A) What is meant by module in python? List some built in modules in python. Explain with example how to create a user defined module and how to use it. 5

(B) Explain sys module and input output operations using sys module. 5

Section-II

Q-4 (A) What is the Mutable and Immutable Data Types? Explain them with example. 5

(B) Write the output of following: 5

1. for z in [2, 4, 7, 9]: print(z - 1)

2. print('2' + '3')

3. print(list(range(3)))

4. print(14//4, 14%4, 14.0/4)

5. def func():

 print('Yes')

 print('No')

 func()

(C) Explain in details about namespaces and scoping 5

OR

(C) What is file? Explain access modes of file. 5

Q-5 (A) List some few common Exception types and explain when they occur. 5

(B) Explain python break, continue, pass statements with example. 5

OR

(A) Explain Instance Method, Class Method, and Static Method in python. 5

(B) List all types of Python Operators. 5

Q-6 (A) Write a python program to count Even and Odd numbers in a List. 5

(B) Write a python program for Binary Search 5

OR

(A) Write a python program to find Sum of Negative, Positive Even and Positive Odd numbers in a List 5

(B) Write a python program to sort the data using Bubble Sort. 5

KADI SARVA VISHWAVIDYALAYA
B.E. 6th SEMESTER EXAMINATION DECEMBER 2022

Date : 16/12/2022

Branch : CE

Subject Name & Code: Python Programming (CE602-N)

Semester : 6

Time : 10:00 AM to 1:00 PM

Marks : 70

Instructions:

1. Answer each section in separate Answer sheet.
2. Use of scientific calculator is permitted.
3. All questions are **Compulsory**.
4. Indicate **clearly**, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of **rough work**.

Section - I

Q-1. (All compulsory)

(A) How to declare class and object in Python? [5]

(B) Write a python program to generate reverse number of given number. [5]

(C) Explain working of garbage collection in python. [5]

OR

(C) Give syntax and example of following set functions: [5]

i. discard() ii. clear()

Q-2. Answer the following questions.

(A) Give the output of following. [5]

[1]

seq=['1a','2b','3','4','5']

j = "000".join(seq)

print (j)

[2]

l = [[1] ,5, 6, 7]

l [: (len (l) - 1 * 8)] = [[0,0] *5]

print (l)

[3]

d = {"Virat":40, "Michel":45, "Thomas":1}

print (str (tuple (list(d.keys()))))

[4]

print (type(100/101))

[5]

print (list(filter(lambda x : x%2 , range(-10,11))))

(B) Explain following set functions with its syntax and example: i. capitalize() ii.rstrip() [5]

OR(A) How **append()** and **extend()** are different with reference to list in Python? [5](B) What is the difference between **==** and **is** operator in Python? [5]

Q-3. Answer the following questions.

- (A) Explain custom exception with the help of an example. [5]
- (B) Write a Python program to create class KSV with attributes like class variable cnt, instance variables x and y, instance methods get_value and print_value. [5]

OR

- (A) Discuss the working of map and filter using suitable example. [5]
- (B) Give the syntax, use and example of difference() and symmetric_difference(). [5]

Section – II

Q-4. (All compulsory)

- (A) Write a python program to remove duplicate values using user defined function. [5]
- (B) Write a python program to find whether the given number is armstrong or not. [5]
- (C) Write a program that accepts a sentence and calculate the number of letters and digits. Suppose the following input is supplied to the program: Hello world! 123
Then, the output should be: LETTERS 10 [5]

OR

- (C) Write a Python program to find the element which has highest occurrence in a list
For Example : Input : [1, 2, 3, 4, 5, 5, 5, 5, 5, 5, 6] Output : 5 [5]

Note: The majority element is the element that appears more than $n/2$ times where n is the number of elements in the list.

Q-5. Answer the following questions.

- (A) Write a python program to demonstrate class, local and instance variable. [5]
- (B) Explain any two functions of tuple with an example. [5]

OR

- (A) Explain any two functions of dictionary with an example [5]
- (B) Write a python program to print all prime numbers in given interval. [5]

Q-6. Answer the following questions.

- (A) Explain the features of python. [5]
- (B) Write a Python program to find three numbers from list such that the sum of three numbers equal to zero. [5]
Input : [-1,0,1,2,-1,-4] Output : [[-1, -1, 2] , [-1, 0, 1]]

OR

- (A) Discuss modules with suitable example. [5]
- (B) Write a Python program to find the single element in a list where every element appears three times except for one. Input : [5, 3, 4, 3, 5, 5, 3] Output : 4 [5]

----- All the Best -----

KADI SARVA VISHWAVIDHYALAYA

B.E. Semester VI

CE 602-N – PYTHON PROGRAMMING

Date: 16/04/2022

Time : 12:30 PM to 03:30 PM

TOTAL MARKS: 70

Instructions:

- 1 Answer each section in separate answer sheet.
- 2 Use of scientific calculator is permitted.
- 3 All questions are **Compulsory**.
- 4 Indicate **clearly**, the options you attempt along with its respective question number.
- 5 Use the last page of main supplementary for rough work.

SECTION – I

Q-1 Answer the following questions.

- A You are given two strings s and t. String t is generated by randomly shuffling string s and then adding one more letter at a random position. Return the letter that was added to t. 5

find_the_difference("abcd", "abcde") → "e"

find_the_difference("", "y") → "y"

find_the_difference("ae", "aea") → "a"

- B Create a function based on input and output. 5

secret("p.one.two#three") → "<p class='one two' id='three'></p>"

secret("p.one") → "<p class='one'></p>"

secret("p.four.five") → "<p class='four five'></p>"

- Q-1 C Write a python program to remove duplicate values using user defined function. 5

OR

- Q-1 C Explain features of python. 5

Q-2 Answer the following questions.

- A A number is said to be Disarium if the sum of its digits raised to their respective positions is the number itself. Create a function that determines whether a number is a Disarium or not. 5

is_disarium(75) → False

$7^1 + 5^2 = 7 + 25 = 32$

is_disarium(135) → True

$1^1 + 3^2 + 5^3 = 1 + 9 + 125 = 135$

- B Given a list, return a list with the elements "shifted left by one position" so [1, 2, 3] yields [2, 3, 1]. 5

Example:

[1, 2, 3] → [2, 3, 1]

[5, 11, 9] → [11, 9, 5]

OR

- Q-2 A Write a python program to implement multiple inheritances. 5

B Explain module in python with suitable example. 5

Q-3 Answer the following questions.

A Explain string slicing using suitable example. 5

B Write a python program to demonstrate class variable, instance variable and local variable. 5

OR

Q-3 A Explain the use of global variable using an example. 5

B Create a function that takes a list and string. The function should remove the letters in the string from the list, and return the list. 5

`remove_letters(["s", "t", "r", "l", "n", "g", "w"], "string") → ["w"]`

`remove_letters(["b", "b", "l", "l", "g", "n", "o", "a", "w"], "balloon") → ["b", "g", "w"]`

SECTION – II

Q-4 Answer the following questions.

A Explain the mentioned methods using example: 5

a. `difference_update()` b. `expandtabs()`

B Write a python program to flatten a nested list structure. 5

Example: If `list1 = [1, [2, 3], [4, 5, [6, 7]]]` then try to convert it in 1-dimensional `[1, 2, 3, 4, 5, 6, 7]`

C Explain memory management in python with example of variable. 5

OR

C Explain python garbage mechanism using an example. 5

Q-5 Answer the following questions.

A How dictionary can be created in python? Explain with example. 5

B What is the difference between `=` and `is` operator in Python? Explain with suitable example. 5

OR

Q-5 A Explain sorted method with arguments using an example. 5

B Differentiate between filter and map in Python using example 5

Q-6 Answer the following questions.

A Discuss the use case of reduce with example. 5

B Write a python program to read a file and identify total no of unique words, total no of words, total number of lines. 5

OR

Q-6 A Write a program to overload `__str__` method for custom exception. 5

B Explain all types of arguments for user defined function using an example. 5

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B.E. SEM - VI (CE) MID SEMESTER EXAM - Feb '23

Marks : 30

- 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Select the best answer for following questions.

[10]

```
T = ("1", "1"+"1", "1"+"1"+"1", "1"+"1"+"1"+"1")
print(T[2])
```

- (a) 111 (b) "3" (c) 3 (d) "111"

```
cgpa = input("Enter your CGPA: ")
perc = 10 * cgpa
print(perc)
```

- (a) 75 (b) error (c) 75.0 (d) 7.57, 57.57, 57.57, 57.57, 57.57, 57.57, 57.57

```
M = {0:0, 1:1, 2:4, 3:9, 4:16}
M[X] = 9
M[5] = 25
print(len(M)) - 5
```

- (a) 5 (b) 6 (c) 7 (d) 12

```
print('pqr', X)
print('pqr')
```

- (a) '#' (b) ~~###~~ (c) end='#' (d) sep='#'

(a) 1024 bytes (b) 2048 bytes (c) 4096 bytes (d) 8192 bytes

(A) What is Sequence in Python? Explain types of sequence in Python.

[5]

(B) What is sets? Explain all set operations? Explain difference and symmetric difference [5]
difference operations on a set.

OR

(A) Explain Required arguments, Keyword arguments and Default arguments of Python function arguments.

[5]

(B) What is Anonymous Functions? Explain with example.

[5]

Que 3:

(A) Select the best answer for following questions.

[5]

- (1) What is the correct way to get the maximum value from Tuple in Python?
(a) ☒ print (max(mytuple)); (b) print (mytuple.max());
(c) print (maximum(mytuple)); (d) print (mytuple.maximum);
- (2) What is the correct way to create a Dictionary in Python?
(a) ☒ mystock = {"Product": "Earphone", "Price": 800, "Quantity": 50}
(b) mystock = {"Product": "Earphone", "Price": 800, "Quantity": 50}
(c) mystock = {Product: Earphone, Price: 800, Quantity: 50}
(d) None of the above
- (3) How to compare two operands in Python and check for equality? Which operator is to be used?
(a) = (b) in operator (c) ☒ == (d) is operator
- (4) What is the correct way to create a list with type float?
(a) ☒ mylist = (5.7, 8.2, 9.3, 8.2, 9) (b) mylist = [5.7, 8.2, 9.3, 8.2, 9]
(c) mylist = {5.7, 8.2, 9.3, 8.2, 9} (d) None of the above
- (5) What will be the output of the following code snippet?

```
print(2**3 + (5 + 6)**(1 + 1))
```


(a) 28 (b) 121 (c) ☒ 129 (d) 127

(B) Write a Python program to remove duplicates from a list.

[5]

OR

(A) Select the best answer for following questions?

[5]

- (1) What does the following code print?

```
nums = [3, 5, 16, 27]
some_nums = list(filter(lambda num: num < 10, nums))
print(some_nums)
```

- (a) [16, 27] (b) ☒ [3, 5] (c) [3, 5, 16, 27] (d) None of above

- (2) What does the following code print?

```
from functools import reduce
numbers = [1, 2, 3, 4]
a = reduce(lambda x, y: x + y, numbers)
print(a)
```

- (a) 10 (b) [1, 2] (c) [3, 4] (d) None of above

- (3) If a is a dictionary with some key-value pairs, what does a.popitem() do?

- (a) Removes an arbitrary element (b) Invalid method for dictionary
(c) Removes all the key-value pairs (d) Removes the key-value pair for the key given as an argument

- (4) What is the output of the following code?

```
dict1 = {"key1": 1, "key2": 2}
dict2 = {"key2": 2, "key1": 1}
print(dict1 == dict2)
```

- (a) True (b) False

- (5) Which of the following statements are true?

- (a) When you open a file for reading, if the file does not exist, an error occurs
(b) When you open a file for writing, if the file does not exist, a new file is created
(c) When you open a file for writing, if the file exists, the existing file is overwritten with the new file
(d) All of the mentioned

(B) Write a python program to make sum of particular range using reduce.

[5]