

# CBCS SCHEME

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16MCA21

Second Semester MCA Degree Examination, Dec.2017/Jan.2018

## Python Programming

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

### Module-1

- 1 a. Explain the two ways to use the Python interpreter. (04 Marks)
- b. Give the outputs of the following expressions:  
i)  $54//17$     ii)  $-17//10$     iii)  $-16\%5$     iv)  $17\% -10$  (04 Marks)
- c. What are the errors that can be detected by Python? Differentiate between them with one example each. (04 Marks)
- d. Discuss about the importance of indenting the code. Give an example. (04 Marks)

OR

- 2 a. Trace the function calls in the following code by using the memory model:  

```
def f(x) :  
    x = 2 * x  
    return x  
  
x = 1  
x = f(x + 1) + f(x + 2)
```

 (10 Marks)
- b. Demonstrate any 4 operations on strings. (04 Marks)
- c. Explain the usage of keyword arguments "end" and "sep". (02 Marks)

### Module-2

- 3 a. Discuss about the process of combining comparisons. Write a short note on short circuit evaluation performed by Python when evaluating combined comparisons. (08 Marks)
- b. Elaborate the process of designing your own modules with a clear example. (08 Marks)

OR

- 4 a. Describe the steps to test your code semi automatically with an example. (08 Marks)
- b. List any four methods in class str to demonstrate calling methods in the object-oriented way. (08 Marks)

### Module-3

- 5 a. "Lists are Heterogeneous". Support the statement with an example. (04 Marks)
- b. Explain the process of modifying lists by using the memory model. (12 Marks)

OR

- 6 a. Consider the following list:  
 $li = [1, 7, 9, 12, 16]$  Give the outputs of the following commands:  
(i)  $li[0:3]$     (ii)  $li[0:-1]$     (iii)  $li[:: -1]$   
(iv)  $li[-1: -4]$     (v)  $li[:]$     (vi)  $li[:4]$  (06 Marks)
- b. Explain in detail about processing lists using indices. (10 Marks)

**Module-4**

- 7 Discuss about the 4 techniques for reading files in detail. (16 Marks)

**OR**

- 8 a. Demonstrate any 6 set operations with examples. (06 Marks)  
b. Describe the process of storing and accessing data using Dictionaries. (10 Marks)

**Module-5**

- 9 a. List out and explain the phases involved in object-oriented programming. (10 Marks)  
b. Explain the process of writing a method in Class Book. (06 Marks)

**OR**

- 10 a. Demonstrate the process of grouping widgets with the frame type. (08 Marks)  
b. Explain about the key elements to build larger GUIs – The Models, Views and Controllers. Give an example. (08 Marks)

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