



# CBCS SCHEME

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21EC643

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025

## Python Programming

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Explain for loop with respect to the range function with the help of an example. (08 Marks)
- b. List out the boolean and comparison operators with their functions. (07 Marks)
- c. Write a program to accept only the integer from the user and to classify the accepted input as even or odd number. Include try and except for input validation. (05 Marks)

OR

- 2 a. List any three built-in functions. Explain the definition and function call of the user defined functions along with parameter and return statements with example. (08 Marks)
- b. List out the rules to be followed while creating the variables. Explain the significance of global statement with an example. (07 Marks)
- c. Write a program to find the factorial of a number using function. (05 Marks)

### Module-2

- 3 a. Explain the following with respect to lists with an example for each:  
(i) Negative indexing (ii) Slicing  
(iii) Concatenation (iv) Replication (08 Marks)
- b. Explain the following dictionary methods with an example:  
(i) keys(), values(), items()  
(ii) get()  
(iii) setdefault() (07 Marks)
- c. Write a program using lists to store N numbers accepted from the user and to display the list average. (05 Marks)

OR

- 4 a. Explain any four list methods with an example for each. (08 Marks)
- b. Explain all the is X string methods with an example for each. (07 Marks)
- c. Write a program to create a dictionary of 10 items (USN: Marks) pairs by accepting the inputs from the user. Display the item with the maximum and minimum marks. (05 Marks)

### Module-3

- 5 a. List out the steps involved in matching a regular expression. (08 Marks)
- b. With the help of an example explain the variable saving process with shelve module. (07 Marks)
- c. Write a program to find the total size of all the files in a directory. (05 Marks)

OR

- 6 a. Briefly explain character classes in Regular expression module. (08 Marks)
- b. Explain the methods related to the absolute and relative paths. (07 Marks)
- c. Write a program to search for lines having '@' sign between characters in a read text file. (05 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.

**Module-4**

- 7 a. Explain pure and modifier functions with an example for each. (08 Marks)  
b. Explain operator overloading with an example. (07 Marks)  
c. Write a program that uses class to store the name and marks of students. Use list to store the marks in 3 subjects. (05 Marks)

**OR**

- 8 a. Explain classes, objects and attributes with an example. Show that objects are mutable with the help of a snippet. (08 Marks)  
b. Explain `__init__` and `__str__` methods with an example. (07 Marks)  
c. Write a program to create two objects of the class point with x and y coordinates as attributes. Pass these two objects to a function which computes and displays the distance between the two points. (05 Marks)

**Module-5**

- 9 a. Explain HTML parsing using BeautifulSoup with the help of an example. (08 Marks)  
b. Explain XML parsing with the help of an example. (07 Marks)  
c. Write a program to retrieve a text document from the web using urllib. (05 Marks)

**OR**

- 10 a. Explain JSON parsing with the help of an example. (08 Marks)  
b. Explain the creation of a database table with the help of an example. (07 Marks)  
c. Briefly explain the three kinds of keys used in database model. (05 Marks)

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