

Roll No.

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May-2026

B.Sc. (Maths/Maths & Comp.) IInd SEMESTER

Basic of Python (OSU-110-V)

Time: 3 Hours]

[Max. Marks : 75

Instructions :

- 1. It is compulsory to answer all the questions (1.5 marks each) of Part-A in short*
- 2. Answer any four questions from Part-B in detail.*
- 3. Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

- (a) List application areas of Python. (1.5)
- (b) Write python code to 20 asterisks in a horizontal line. (1.5)
- (c) Differentiate between .py and .pyc files in python. (1.5)
- (d) Explain any 3 python keywords. (1.5)
- (e) Explain default arguments in Python. (1.5)
- (f) What is self in Python? (1.5)

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- (g) List 3 python libraries. (1.5)
- (h) Explain range() function, (1.5)
- (i) How will you capitalize the first letter of a string in Python? (1.5)
- (j) Write python code to print square of a number using lambda function. (1.5)

PART-B

- 2. (a) Explain, using syntax, various data types supported in Python. (10)
- (b) What are Python modules? List various ways to import a module. (5)
- 3. (a) Write a function to find factorial of a number using recursion. (5)
- (b) What is a class? Write a program to demonstrate the use of multiple inheritance. (10)
- 4. (a) Syntactically explain **pass**, **continue** and **break** in Python. (5)
- (b) What is a Package? How to create a user defined package? (10)
- 5. (a) Differentiate between mutable and non-mutable data types. (5)
- (b) What is an Exception? Explain 3 keywords associated with Exception handling mechanism. (10)

- 6. (a) Explain various operators in Python. (10)
- (b) Write a program to reverse a string. (5)
- 7. What is a constructor? How does it differ from an ordinary function? Write a program to demonstrate the use of a constructor and a docstring in a class. (15)