

Code No: 157EY

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, February - 2025****PYTHON PROGRAMMING****(Common to CE, ME, ECE, MCT, MMT)****Time: 3 Hours****Max.Marks:75****Note:** i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART – A****(25 Marks)**

- 1.a) What are Complex numbers? Provide applications of complex numbers. [2]
- b) Write about Bitwise operators in Python. [3]
- c) What is a module in python? How is it different from package? [2]
- d) Write about command line arguments in python. [3]
- e) Draw the Thread life cycle diagram and briefly describe it. [2]
- f) What is the problem with global interpreter lock in Python? [3]
- g) What is the use of Python CGI programming? [2]
- h) What are Web clients? Give example. [3]
- i) What is the purpose of DB-API in Python? [2]
- j) How database is connected to python? Explain. [3]

**PART – B****(50 Marks)**

- 2.a) What are Built-in functions? Explain any four of them in Python. [4+6]
  - b) Write a Python program to remove duplicates from a list. [4+6]
- OR**
- 3.a) Explain Sets and Tuples with examples. Differentiate them. [4+6]
  - b) Write a Python program to create an intersection of sets. [4+6]
- 4.a) What are User defined Exceptions? What is the need of them? Explain with suitable examples. [5+5]
  - b) Write a Python program that prompts the user to input two numbers and raises a TypeError exception if the inputs are not numerical. [5+5]
- OR**
- 5.a) What is a File? Explain two types of Files. Write syntax of tell() and seek() functions in Python. [4+6]
  - b) Write a Python program to count the frequency of words in a file. [4+6]
- 6.a) How do you use Regular Expressions in Python? Explain. [4+6]
  - b) Write a Python program to count the frequency of words in a file. [4+6]
- OR**
- 7.a) What is Global Interpreter Lock? How does it affect Multi-threading? Explain. [5+5]
  - b) Write a Python program to calculate the factorial of a number using multiple threads. [5+5]

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- 8.a) Explain note book, tree view and progress bar Tkinter widgets along with their syntaxes in Python.
- b) Write the steps in getting User input with Entry Widgets. [5+5]

**OR**

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- 9. Explain how HTTP Request and HTTP Response are created in Python. [10]
- 10. What is ORM? What is the purpose of an object-relational manager in Python? Explain in detail. [10]

**OR**

- 11.a) Write the steps in creating a student database in Python.
- b) Explain select and delete database operations with examples. [5+5]

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