

II B. Tech I Semester Regular Examinations, March - 2021**PYTHON PROGRAMMING****(Common ECE and EEE)****Time : 3 Hours****Max. Marks : 60****Note : Answer ONE question from each unit (5 × 12 = 60 Marks)**
~~~~~**UNIT-I**

1. a) What is data type? Define different type of data types with example. Why we use different data types in the Python programming language? [6M]
- b) Write a python program to print all the numbers from 1 to 1000 that are not divisible by 2, 3, 5, 7, 11, 13, 17 and 19. [6M]

**(OR)**

2. a) What are operators in Python? Describe specifically about identity and membership operator? [6M]
- b) Write a Python program that prompts user to enter numbers. The process will repeat until user enters 0. Finally, the program prints sum of the numbers entered by the user. [6M]

**UNIT-II**

3. a) What is dictionary? Write a python program to create following dictionary (Language Inventors) and print all keys and values of the dictionary? [6M]

| Language | Name             |
|----------|------------------|
| C        | Dennis Ritchie   |
| CPP      | James Gosling    |
| Python   | Guido van Rossum |

- b) Write a program to create a list of each digit as a element in a list from a number. [6M]  
Example: Input: 5467, Output: [5, 4, 6, 7]

**(OR)**

4. a) Write a Python script to generate and print a dictionary that contains a number (between 1 and n) in the form (x, x \* x). [6M]  
Sample Dictionary ( n = 5 ) :  
Expected Output : { 1 : 1, 2 : 4, 3 : 9, 4 : 16, 5 : 25 }
- b) What are immutable and mutable data types? Explain the differences between immutable and mutable data types with suitable examples [6M]

**UNIT-III**

5. a) What is the difference between a class and an object? Explain with suitable examples. [6M]
- b) Explain different types of Inheritance with an example. [6M]

**(OR)**

6. a) Explain how exceptions can be handled in Python. What is the exception handling mechanism behind the process? [6M]
- b) What are differences between user defined functions and built-in functions in the python programing. Explain with suitable examples. [6M]

**UNIT-IV**

7. a) What are different types of Data Handling Packages in python? [6M]
- b) Explain various plots which can be created using python matplotlib with an example. [6M]

**(OR)**

8. a) Explain how to modifying the tick marks in python with an example. [6M]
- b) Explain files concept in python with an example. [6M]

**UNIT-V**

9. a) What is Raspberry Pi? Explain different features between Raspberry Pi2B, Raspberry Pi3B, Raspberry Pi3B+ and Raspberry Pi4B. [6M]
- b) What are the different components of a Raspberry Pi board? [6M]

**(OR)**

10. a) Can Raspberry Pi be used as a “Single Board Computer”? Justify your answer. [5M]
- b) Explain the interfacing of the camera with Raspberry Pi. [7M]

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