**Course Code:** 20CS0511 **R20**

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR (AUTONOMOUS)**

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**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code:** Python Programming (20CS0511) **Course & Branch**: B.Tech & CSM

**Year & Sem:** II & I **Regulation:** R20

# UNIT –I
# INTRODUCTION

| | | | |
|---|---|---|---|
| 1 | a) Write history of Python. | [L3][CO1] | [4M] |
| | b) List features and applications of Python. | [L1][CO1] | [8M] |
| 2 | a) Justify the REPL in python? | [L5][CO1] | [4M] |
| | b) Define Variable and mention rules for choosing names of Variable with example. | [L1][CO1] | [8M] |
| 3 | a) What is Indentation? Explain with example. | [L1][CO1] | [6M] |
| | b) Explain variable assignment with suitable example. | [L2][CO1] | [6M] |
| 4 | a) Illustrate the input and output statements with example. | [L2][CO1] | [6M] |
| | b) Implement the python program to calculate total and average marks based on input. | [L3][CO1] | [6M] |
| 5 | What is data type? List out the data types with example. | [L1][CO2] | [12M] |
| 6 | a) Explain about the Single-Valued data types in python. | [L2][CO2] | [6M] |
| | b) What is Set? Explain set Operations. | [L1][CO2] | [6M] |
| 7 | Discriminate about the Multi-Valued Data types with example. | [L6][CO2] | [12M] |
| 8 | Describe the list and its methods with example. | [L6][CO2] | [12M] |
| 9 | a) Discuss the basic Tuple operations with examples. | [L2][CO2] | [6M] |
| | b) What is dictionary? Explain the methods available in dictionary. | [L1][CO2] | [6M] |
| 10 | Elucidate the string and its methods with example. | [L2][CO2] | [12M] |

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**UNIT –II**

## OPERATORS AND EXPRESSIONS

| | | | |
|---|---|---|---|
| 1 | Classify various types of operators in Python and write any 4 types of operators. | [L2][CO2] | [12M] |
| 2 | a) What is an expression in Python? Explain order of evaluation with example. | [L1][CO2] | [8M] |
| | b) Write a python program to find whether a given number is even or odd. | [L3][CO1] | [4M] |
| 3 | a) Discuss the Membership and Identity operators with example. | [L2][CO2] | [6M] |
| | b) Write a python program to find biggest number among three numbers. | [L3][CO1] | [6M] |
| 4 | a) List and explain different arithmetic operators supported by Python. | [L1][CO2] | [6M] |
| | b) Explain the Bitwise operators with example. | [L2][CO2] | [6M] |
| 5 | List different conditional statements in python with appropriate examples. | [L1][C01] | [12M] |
| 6 | Examine the syntax of the following statements with example program.<br>i) for loop<br>ii) while loop<br>iii) if-elif-else | [L3][CO1] | <br>[4M]<br>[4M]<br>[4M] |
| 7 | a) What is Range in Python? and Write a for loop that prints numbers from 0 to 17, using range function. | [L1][CO1] | [4M] |
| | b) Explain break and continue statement with the help of for loop with an example. | [L2][CO1] | [8M] |
| 8 | a) What are the different loop control statements available in Python? Explain with suitable examples. | [L1][CO1] | [6M] |
| | b) Write a Python program to find sum of natural numbers. | [L3][CO1] | [6M] |
| 9 | a) Describe Python jump statements with examples. | [L6][CO1] | [8M] |
| | b) Create a python program to generate the multiplication table based on user input. | [L6][CO1] | [4M] |
| 10 | a) Create a Python program to display Fibonacci series. | [L6][CO1] | [6M] |
| | b) Develop a Python program to Swapping of two numbers with and without using temporary variable. | [L6][CO1] | [6M] |

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## UNIT –III
## FUNCTIONS

| | | | |
|---|---|---|---|
| 1 | a) Define function and explain the types of functions with an example. | [L1][CO3] | [6M] |
| | b) Express function to do all arithmetic operations. | [L2][CO3] | [6M] |
| 2 | Explain about different types of arguments in Python. | [L2][CO3] | [12M] |
| 3 | a) Describe about default arguments with suitable program. | [L2][CO3] | [6M] |
| | b) Create recursive function to find factorial of a number. | [L5][CO3] | [6M] |
| 4 | a) Define Variable-length arguments? Explain with example. | [L1][CO3] | [8M] |
| | b) Explain about fruitful functions with examples. | [L2][CO3] | [4M] |
| 5 | a) Illustrate lambda function with example. | [L3][CO3] | [6M] |
| | b) Discuss about key word arguments with example. | [L2][CO3] | [6M] |
| 6 | a) Narrate scope of a variable in a function. | [L3][CO3] | [6M] |
| | b) Write a function to return right most digit in the entered number | [L3][CO3] | [6M] |
| 7 | a) Define class and object with example code. | [L1][CO4] | [6M] |
| | b) Write about self-variable with code. | [L3][CO4] | [6M] |
| 8 | What is inheritance? Illustrate types of inheritance with python code. | [L2][CO4] | [12M] |
| 9 | a) Describe about class constructor (_init_()) with example. | [L2][CO4] | [6M] |
| | b) What is method overriding in Python? | [L2][CO4] | [6M] |
| 10 | a) Demonstrate implementation of hierarchical inheritance in Python, with a program. | [L3][CO4] | [6M] |
| | b) How can we achieve method overloading? | [L1][CO4] | [6M] |

## UNIT –IV

# MODULES

| | | | |
|---|---|---|---|
| 1 | What is Module in Python? Explain, how can you use Modules in your program explain with an example code. | [L5][CO3] | [12M] |
| 2 | a) Describe about name spacing. | [L2][CO3] | [6M] |
| | b) Explain about the import statement in modules. | [L2][CO3] | [6M] |
| 3 | a) Describe the types of namespaces in Python? | [L2][CO3] | [6M] |
| | b) Explain about the from import statement in modules. | [L5][CO3] | [6M] |
| 4 | Write a brief note on PIP. Explain installing packages via PIP. | [L3][CO6] | [12M] |
| 5 | a) What is package in Python? Explain, how can you use package in your program with an example code? | [L3][CO6] | [6M] |
| | b) Explain try except block in detail. | [L2][CO4] | [6M] |
| 6 | Explain Python Built-in Exceptions? | [L5][CO4] | [12M] |
| 7 | a) Write about Errors and Exception Handling in Python programming? | [L3][CO4] | [6M] |
| | b) Elaborate user defined exceptions in Python? | [L1][CO4] | [6M] |
| 8 | a) Create code to illustrate try and except statements in Python. | [L6][CO4] | [6M] |
| | b) What is a Raising Exception with an example? | [L1][CO4] | [6M] |
| 9 | a) How to handle an exception using try except block? Explain with the help of a program. | [L1][CO4] | [6M] |
| | b) Illustrate searching with example program. | [L4][CO5] | [6M] |
| 10 | a) Write a small code using try-except-else-finally statement in python. | [L3][CO4] | [6M] |
| | b) Illustrate matching with example program. | [L4][CO5] | [6M] |

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## UNIT –V
# FUNCTIONAL PROGRAMMING

| | | | |
|---|---|---|---|
| 1 | Describe in detail about Iterators and Generators with an example. | [L2][CO6] | [12M] |
| 2 | a) Discuss about maps in python. | [L2][CO6] | [6M] |
| | b) Discuss about filters in python. | [L2][CO6] | [6M] |
| 3 | Explain about Functional Programming. | [L4][CO6] | [12M] |
| 4 | Explain in detail about Python Files, its types, functions and operations that can be performed on files with examples. | [L4][CO2] | [12M] |
| 5 | a) Illustrate about Command line arguments. | [L3][CO4] | [6M] |
| | b) Explain about the reading files in python. | [L2][CO2] | [6M] |
| 6 | a) Write about Dates and Times. | [L3][CO5] | [6M] |
| | b) Write about the writing files in python. | [L3][CO2] | [6M] |
| 7 | a) Explain about colors and filled shapes. | [L2][CO4] | [6M] |
| | b) Illustrate about Python Runtime Services and Data Compression. | [L3][CO4] | [6M] |
| 8 | Express about Mathematics functions in python. | [L2][CO5] | [12M] |
| 9 | Demonstrate about the GUI programming in Python<br>a) Triangle<br>b) Rectangle | [L3][CO6] | [6+6M] |
| 10 | a) What is Data Management and Object Persistence? | [L1][CO5] | [6M] |
| | b) Draw Circle in Python using Turtle. | [L4][CO4] | [6M] |

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