



SIDDHARTH GROUP OF INSTITUTIONS:: PUTTUR (AUTONOMOUS)

Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: PYTHON PROGRAMMING (25MC9112)

Course & Branch: MCA

Year & Sem: I-MCA & II-Sem

Regulation: R25

UNIT –I

BASICS OF PYTHON PROGRAMMING, OPERATORS AND EXPRESSIONS

1	a)	Describe various features of a python.	[L2][CO1]	[8M]
	b)	Why do we need Python programming?	[L2][CO1]	[4M]
2		List and explain various data types in python. With example.	[L2][CO1]	[12M]
3	a)	Explain variables in Python with suitable examples.	[L2][CO1]	[6M]
	b)	Describe constants in Python and explain how they differ from variables.	[L4][CO1]	[6M]
4	a)	What are identifiers? Explain the rules for naming identifiers with examples.	[L2][CO1]	[6M]
	b)	State the purpose of reserved words in Python.	[L1][CO1]	[6M]
5	a)	Explain arithmetic operators in Python with suitable examples.	[L2][CO1]	[6M]
	b)	Design a python program to demonstrate logical operator.	[L3][CO1]	[6M]
6	a)	Discuss indentation in Python with a suitable example.	[L2][CO1]	[6M]
	b)	Describe the steps involved in writing and executing a Python program.	[L2][CO1]	[6M]
7		Compare and explain the following operators with an example i) Assignment ii) Membership iii) Identity Operators	[L4][CO1]	[12M]
8	a)	Explain bitwise and shift operators in Python with examples.	[L2][CO1]	[6M]
	b)	Write a Python program to show the use of comparison operators.	[L3][CO1]	[6M]
9	a)	Discuss the concept of expressions in Python with examples.	[L2][CO1]	[6M]
	b)	Evaluate the expression $a + b * c / d$ in Python where values are taken from the user.	[L3][CO1]	[6M]
10	a)	What is a string in Python? How do you create a string in Python?	[L1][CO1]	[6M]
	b)	Explain the various operations that can be performed on strings in Python.	[L2][CO1]	[6M]

UNIT -II**DECISION CONTROL STATEMENTS, ITERATIVE STATEMENTS**

1	a)	Describe the if statement in Python with syntax and suitable examples.	[L2][CO2]	[6M]
	b)	Develop a python program to find largest of two numbers.	[L3][CO2]	[6M]
2		Explain various conditional statements in python with syntax and examples.	[L2][CO2]	[12M]
3	a)	Explain the working of the if-else statement with an example program.	[L2][CO2]	[6M]
	b)	Develop a python program to Check Whether a Number is Even or Odd.	[L3][CO2]	[6M]
4		Explain various looping statements in python.	[L2][CO2]	[12M]
5	a)	Demonstrate for and while statements in python with example.	[L2][CO2]	[6M]
	b)	Build a python program to check given number is positive or negative or zero.	[L3][CO2]	[6M]
6		What is a nested if statement? Explain its working with a flowchart and example.	[L2][CO2]	[12M]
7	a)	Write a short note on the use of break and continue in nested loops.	[L2][CO2]	[6M]
	b)	Develop a python program to demonstrate break and continue statements.	[L3][CO2]	[6M]
8	a)	Discuss the if-elif-else ladder. How is it different from multiple if statements?	[L4][CO2]	[6M]
	b)	Write a program and explain the logic to check whether a number is prime using control flow statements.	[L3][CO2]	[6M]
9	a)	Illustrate the concept of nested loops in Python using an example.	[L3][CO2]	[6M]
	b)	Write a Python program to design a simple calculator.	[L3][CO2]	[6M]
10	a)	Explain why the pass statement is called a null statement and where it is used.	[L2][CO2]	[6M]
	b)	Develop a program in Python to display a calendar.	[L3][CO2]	[6M]

UNIT –III**FUNCTION, LAMBDA FUNCTIONS, MODULES**

1	a)	What is a function? Explain how we can create a function.	[L2][CO3]	[6M]
	b)	Discuss the advantages of using functions in Python programming.	[L2][CO3]	[6M]
2		Distinguish various types of arguments with example program in python.	[L4][CO3]	[12M]
3	a)	Explain the return statement in Python.	[L2][CO3]	[6M]
	b)	Write a python program to find factorial of a number using functions.	[L3][CO3]	[6M]
4		Explain the concept of variable scope and lifetime in functions with suitable examples.	[L2][CO3]	[12M]
5	a)	Describe required arguments in Python functions with suitable examples.	[L2][CO3]	[6M]
	b)	Write a python program find the square root of a number using functions.	[L2][CO3]	[6M]
6	a)	Discuss default arguments in Python functions with examples.	[L2][CO3]	[6M]
	b)	Explain variable-length arguments in Python.	[L2][CO3]	[6M]
7	a)	Illustrate the use of Lambda Functions in Python with examples.	[L3][CO3]	[6M]
	b)	Explain recursive functions in Python with examples..	[L2][CO3]	[6M]
8		Illustrate modules in python with an example	[L3][CO3]	[12M]
9	a)	Explain the import and from ... import statements with examples.	[L2][CO3]	[6M]
	b)	Explain the dir() function and its role in exploring module contents.	[L2][CO3]	[6M]
10		Define Python packages and distinguish them from modules with examples.	[L4][CO3]	[12M]

UNIT –IV**DATA STRUCTURES-LISTS,TOUPLE,SETS AND DICTIONARIES**

1	a)	How can we create and access the list in python.	[L2][CO4]	[6M]
	b)	Identify various methods to perform on list.	[L1][CO4]	[6M]
2		Compare and explain various data structures in python with examples.	[L4][CO4]	[12M]
3	a)	How can we create and access the tuple in python.	[L2][CO4]	[6M]
	b)	Describe the operations performed on tuples in Python.	[L2][CO4]	[6M]
4	a)	Illustrate the creation and access of sets in Python with examples.	[L3][CO4]	[6M]
	b)	Identify various methods to perform on set.	[L1][CO4]	[6M]
5		Describe built-in functions and methods used for list manipulation in Python.	[L2][CO4]	[12M]
6		Define dictionaries in Python. Explain dictionary creation and key–value pair concepts.	[L2][CO4]	[12M]
7	a)	Explain the applications and advantages of using tuples over lists.	[L4][CO4]	[6M]
	b)	Write a python program to perform various operations on List Data Structure.	[L3][CO4]	[6M]
8	a)	Explain different ways to access values in a dictionary.	[L2][CO4]	[6M]
	b)	Explain the role of mutable and immutable data structures in Python programming.	[L4][CO4]	[6M]
9	a)	Explain important built-in dictionary methods and their uses.	[L2][CO4]	[6M]
	b)	Write a python program to perform various operations on Dictionary Data Structure.	[L3][CO4]	[6M]
10		Compare lists, tuples, sets, and dictionaries in Python.	[L4][CO4]	[12M]

UNIT –V**OOP, CLASSES AND OBJECTS, ERROR AND EXCEPTION HANDLING**

1		Explain the features of Object-Oriented Programming in Python.	[L2][CO5]	[12M]
2	a)	Define classes and objects.	[L1][CO5]	[4M]
	b)	Explain how classes are defined and objects are created in Python.	[L2][CO5]	[8M]
3		Explain class methods and instance methods in Python with examples.	[L2][CO5]	[12M]
4	a)	Discuss the merits and demerits of OOP with suitable examples.	[L4][CO5]	[6M]
	b)	Differentiate between inheritance and polymorphism.	[L4][CO5]	[6M]
5	a)	Define inheritance in Python and explain its types with examples.	[L2][CO5]	[8M]
	b)	Write a python program to demonstrate the concept of Inheritance.	[L3][CO5]	[4M]
6		Explain method overriding with an example program.	[L3][CO5]	[12M]
7		Explain public and private members in Python. How is data encapsulation achieved?	[L4][CO5]	[12M]
8	a)	Explain polymorphism in Python. How is it achieved?	[L2][CO5]	[6M]
	b)	Write a python program to demonstrate the concept of Polymorphism.	[L4][CO5]	[6M]
9	a)	Write an essay on user-defined exceptions with examples.	[L3][CO6]	[6M]
	b)	Explain how to raise exceptions in Python using the raise keyword.	[L3][CO6]	[6M]
10		Explain the need for exception handling in Python programs.	[L5][CO6]	[12M]

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