

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES
(AUTONOMOUS)
Murukambattu, Chittoor

MCA DEPARTMENT



QUESTION BANK

for

24MCA122- Python Programming

Regulation – R24

Academic Year 2024 – 25

Prepared by

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QUESTION BANK

SUBJECT NAM Python Programming
YEAR & SEM : I & II

SUBJECT CODE : 24MCA122
Academic Year : 2024-25

UNIT – 1: BASICS OF PYTHON

Python and its features, various IDEs of Python, variables and its scope, Input and Output statements, Comments, Operators, Operator Precedence, Selective statements and Iterative statements, Strings

PART –A

Q.No.	Questions	Blooms Taxonomy Level
1	List out python Features	L1
2	List out Python IDE's	L1
3	Differentiate between variable and constant	L2
4	List of Binary Operators	L1
5	List out selective statements	L1
6	List out Looping statements	L1
7	List out Jumping Statements	L1
8	What is meant by operator precedence	L2

PART –B

1	Discuss Python features in detail	L2,L3
2	What are python IDEs and explain how benefits of IDR's over text editors	L1,L2
3	What is variable and illustrate the scope of variable with example	L2,L3
4	Apply types of python operators with examples	L3
5	Explain Python operator precedence in detail	L2
6	Summarize various python selective statement with examples	L2,L3
7	Classify various python iterative statements with examples	L2,L3
8	Apply various python string functions and string slicing with examples	L3

UNIT – II: FUNCTIONS AND PYTHON DATA STRUCTURES :

Functions and Functional Programming , Recursive Functions , Recursive Vs Iterative Functions. Built in Data structures – List,tuple,sets and dictionary.

PART –A

1.	What is Python Function	L1
2.	List out Python function types	L1
3.	What is Recursion	L1,L2
4.	Differentiate between recursion vs iteration	L2,L4
5.	List out Python built in data structures	L1
6.	Write about the List Data structure properties	L2
7.	Differentiate between List and set	L2,L4
8.	Differentiate between List and tuple	L2,L4

PART –B

1.	Explain Functions with and without return statement with an example	L2,L3
2.	Discuss Positional and Keyword Arguments in detail	L2
3.	Briefly explain what is function , how to declare functions and types of functions	L1,L2
4.	Discuss and evaluate List and tuples	L2,L5
5.	Discuss and evaluate List and sets	L2,L5
6.	Discuss and evaluate sets and dictionaries	L2,L5

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7.	What is recursion? Explain the difference between recursion and iteration with example	L2,L3
8.	Discuss about python functions, benefits and its types	L2
UNIT – III: OBJECT ORIENTED CONCEPTS THROUGH PYTHON :		
OOPs Concepts – class, object, Encapsulation, Inheritance, polymorphism, Abstraction . Basic Programs on class-Object, polymorphism and Inheritance. Explore Python Libraries - Math and Random, Create your own Library .		
PART –A		
1.	List out OOP's Concept	L1
2.	Difference between class and object	L2
3.	Explain polymorphism with a real time example	L2,L3
4.	Explain abstraction with a real time example	L2,L3
5.	List out inheritance types	L1
6.	What is encapsulation	L1,L2
7.	List out math library functions	L1
8.	List out random library functions	L1
PART –B		
1.	Explain OOP'S concept in detail	L2
2.	What is polymorphism and how it is implemented in python	L2,L3
3.	Explain briefly about python inheritance	L2
4.	Write a basic class-object program in python	L3
5.	Illustrate Math and Random python Libraries	L3
6.	Explain the Steps of creating your own library	L2,L3
7.	Differentiate between Method Overloading and Method Overriding in detail	L3
8.	Explain inheritance, its benefits and types in detail	L2
UNIT – IV: PANDAS AND NUMPY:		
Introduction to pandas Data Structure, Essential functionality – Reindexing, Indexing ,selection and filtering, reshaping, summarizing and computing descriptive statistics, handling missing data, filter and query methods, grouping, reading and writing data in text format – read_csv,read_table. NumPy Basics- creating Arrays, universal functions – Basic unary and binary functions , File Input and Output with arrays – saving and loading text files, Linear Algebra – commonly used linalg functions		
PART –A		
1.	What is a Pandas Series?	L1
2.	Explain the purpose of reindexing in Pandas.	L2
3.	How do you handle missing data in Pandas?	L1,L2
4.	What is a NumPy array?	L1
5.	Name two functions from the NumPy linalg module.	L1
6.	What is the purpose of the groupby() function in Pandas?	L2
7.	List out the universal functions of Numpy	L1
8.	Write about query() function	L2
PART –B		
1.	Discuss pandas and its essential features like indexing, selection and filtering	L3
2.	Evaluate summarizing and computing descriptive statistics, handling missing data	L5
3.	Explain about reading and writing data in text format	L2
4.	Discuss about Numpy in detail	L2



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5.	Explain how to create arrays and universal functions like unary and binary functions	L3
6..	Write about File Input and output with arrays	L2
7.	Illustrate linalg functions	L3
8.	Explain Numpy in detail	L3

UNIT – V: STREAMLIT -TO DEVELOP AN GUI :

What is Streamlit, Features of Streamlit, Text and Table elements – Text Elements, Titles, Headers, Subheaders ,markdowns, tables, dataframes, Buttons and sliders – Buttons, RadioButton, Checkbox, Dropdown ,Multiselect, Progress bar, Slidder, Forms, Develop an Streamlit Application .

PART –A

1.	What is Streamlit?	L1
2.	Name three core features of Streamlit.	L1
3.	How do you display a Pandas DataFrame in Streamlit?	L1
4.	List few elements that we can create in streamlit	L1
5.	How do you create a button in Streamlit?	L1
6.	What is the purpose of importing the streamlit library as "st"	L2
7.	How do you run a Streamlit application from the command line?	L1
8.	What is the purpose of st.multiselect()	L2

PART –B

1.	Explain the core features of Streamlit and discuss how these features contribute to rapid development of data-driven web applications.	L2
2.	illustrate the different types of input widgets available in Streamlit (buttons, sliders, dropdowns, etc.)	L3
3.	Explain the process of developing a complete Streamlit application, from initial setup to deployment.	L2
4.	Describe the various text and table elements available in Streamlit	L2
5.	Discuss Streamlit Buttons and sliders with example	L2
6.	Explain streamlit multiselect, progress bar,slidder and forms	L2
7.	Illustrate basic streamlit components	L3
8.	Illustrate Header, subheader,markdowns, tables and dataframes	L3

Faculty Incharge

HOD