

PYTHON PROGRAMMING
QUESTION BANK

UNIT 1	
Q. No.	Questions
1	Explain in brief different types of Operators in Python.
2	Which are the built-in data types in Python and how we can declare them in the program?
3	Write a Program to find area and circumference of circle by giving the radius as input from user end.
4	Write a Python Program using Function to calculate the factorial of a number.
5	What are the different loop control statements available in Python? Explain with suitable examples.
6	Differentiate between Method Overloading and Method Overriding.
7	Write Python code to determine whether the given string is a Palindrome or not.
8	Explain the difference between function and module.
UNIT 2	
1	What is meant by inheritance and explain different types of inheritance.
2	Write a Python program to create a calculator class. Include methods for basic arithmetic operations.
3	Write a Python program to create a person class. Include attributes like name, country and date of birth. Implement a method to determine the person's age.
4	What is the lambda function? Write the characteristics of a lambda function. Explain the same with an example.
5	What do you mean by a constructor? List and describe various constructors used for converting to different data types.
6	Write a Python program to create a class representing a Circle. Include methods to calculate its area and perimeter.
7	Write short note on (any 3)
	i. Inheritance ii. Encapsulation iii. Polymorphism iv. Abstraction
UNIT 3	
1	Explain in detail what are the operations to be performed on arrays using numpy library.

2	What are the attributes of pandas series, explain with examples.
3	Write a programme to draw a line in a diagram from position (0,0) to position (6,250) in Python.
4	Interpret Data Visualization with Seaborns in Python.
5	Explain the following functions of Numpy library with the help of examples
	i. max() ii. min() iii. sum() iv. mean() v. std()
6	Create the following NumPy arrays:
	i. 1-D array called zeros having 10 elements and all the elements are set to zero.
	ii. 1-D array called vowels having the elements 'a', 'e', 'i', 'o' and 'u'.
	iii. 2-D array called ones having 2 rows and 5 columns and all the elements are set to 1 and dtype as int.
7	Write difference between Pandas series and NumPy arrays
8	Explain any 5 attributes of data frames in pandas
UNIT 4	
1	What is flask framework and explain in details.
2	Interpret Flask Extension for database integration Concept in Python.
3	State the Benefit of using Flask framework.
4	Differenece between Django and Flask .
5	Write the installation process of flask setup and discuss the advantages of Flask Framework
6	Explain the following commands
	i. app.run(host, port, debug, options)
	ii. @app.route('/home')
7	Explain the following Flask HTTP methods
	i. GET ii. HEAD iii. POST iv. PUT v. DELETE
8	Design a code to print the table of 10 by Embedding Python statements in HTML
UNIT 5	
9	Distinguish between Supervised And Unsupervised learning.
10	Justify Regression Algorithms in Python
11	Explain Naïve Bayes Algorithm along with the example
12	Diffrentiate between regression and classification algorithms.

13	Explain any one regression algorithm
	i. Simple Linear Regression
	ii. Multiple Linear Regression
	iii. Support Vector Regression
	iv. Random Forest Regression

SOME EXTRA QUESTIONS

UNIT 3

1. Define Python Pandas?
2. Mention different types of Data Structures in Panda?
3. Explain different ways of creating Data Frames in Panda?
4. Build a Numpy array filled with all zeros.
5. Reverse a Numpy array.
6. Find the number of occurrences of a sequence in a NumPy array.
7. Analyse the simple working of an algorithm in Tensor Flow?
8. Describe steps involved in making plots. Explain plotting two or more lines on the same plot with an example.
9. Develop a Python program to plot two or more lines with legends, different widths and colours.
10. Describe anatomy of a plot. Explain steps involved in making plots.
11. Characterize the Data Frames in Pandas?
12. Explain the following:
 - a. Matplotlib
 - b. Seaborn
 - c. Plotly
 - d. ggplot
13. Explain the Applications of SciPy, Scrappy, Scikit-learn, PyGame, PyTorch, PyBrain and Keras.
14. List the advantages NumPy Arrays have over (nested) Python lists?
15. Briefly explain the use of finalise method in python.
16. Explain the use of init function in python.
17. Explain Python's static methods.
18. Explain Python's Nested Class.
19. List the advantages of using OOPs.
20. Explain access specifiers in python.
21. Can a parent class be called without first creating an instance of it? Explain.
22. How can you determine whether a class is a subclass of another class?
23. How do you make a Python class that is empty?
24. Explain a class object or instance in python
25. Can you call the base class method without creating an instance? Explain.
26. What is the difference between a class and a structure?

27. Write a Python program to import a built-in array module and display the namespace of the said module.
28. Write a Python class named Circle constructed from a radius and two methods that will compute the area and the perimeter of a circle.
29. Are class and structure the same? If not, what's the difference between a class and a structure?

UNIT 4

1. What is Pyplot module in python?
2. What do you mean by data visualization?
3. Name the library used for data visualization in python.
4. Write commands to install Matplotlib and Pandas library?
5. Write commands to import Matplotlib and Pandas library?
6. Write command to use pyplot in your computer for data visualization.
7. Explain package installation via PIP

UNIT 5

1. What are the important objectives of machine learning?
2. What are the basic design issues and approaches to machine learning?
3. Differentiate between Training data and Testing Data
4. Differentiate between Supervised, Unsupervised and Reinforcement Learning
5. What is Reinforcement Learning?