Question Bank

Unit-1

1. What is Data Science.
2. Who invented Python.
3. List and explain features of Python.
4. Explain Application for Data Science.
5. List and explain Data Science Component.
6. Explain Data Science process.
7. List tools of Data Science.
8. Difference between Data Science and BI (Business Intelligence)

Unit-2

1. Write a python program to take 2 numbers from the user and perform Arithmetic Operations.
2. Write a python program to calculate the area of a circle.
3. Explain list and its methods append (), extend (), insert () and pop () with Example.
4. Explain following function with example: isalpha( ), isdigit( ), islower(), isupper( )
5. Explain how to create a Set in Python by giving example.
6. Explain how to create a tuple in Python by giving example.
7. Explain how to create a dictionary in Python.
8. Write a Python program to display only keys in a dictionary.
9. Write a Python program to calculate the length of a string.
10. Print "famous city" word from below text using string slicing.
    "Rajkot is very famous city"
11. Write a Python program which counts how many times word 'raj' available in below list.
    ['raj','karan','rajkot','raj','pari','raj']
12. Write a python program to print the last element of a given list.
13. Remove all occurrences of a specific item from a list.
14. Add new item to list after a specified item
15. Concatenate two lists.
16. Check if a value exists in a dictionary
17. Counts the number of occurrences of items 50 from a tuple
    (10,30,50,20,50.10)

18. Explain any 3 datatypes with example
19. Explain Identity Operator with example.
20. Explain Frozenset with Example.
21. Explain Membership Operator with example.
22. Explain Comparison operator with example.

Unit-3

1. Write a python program to check whether the entered number is positive, negative or zero.

2. Write a program to check if input value is odd or even.
3. Write a python program to find maximum from 3 numbers.
4. Display numbers from a list using loop.
5. Display numbers from 10 to 1 using for loop.
6. Explain while looping with syntax and example.
7. Calculate the cube of all numbers from 1 to 5 number
8. Explain break, continue and pass statement with example.
9. Write a program to take 2 integer arguments from command line and print its sum.
10. Explain for loop and nest for loop with syntax and example.
11. Iterate the given list of numbers and print only those numbers which are divisible by 5
12. List out different types of control statements in python and explain anyone.
13. Write a program to create an array of 5 integer element and access first 3 elements using indexes.
14. Write a program to find the largest number in an array.
15. Write a python function to sum all numbers in a list.
16. Build python code that performs three arithmetic operations.
17. Explain if and if-else statement with a suitable example.
18. Create a Python program to display the following patterns using loop concept.

    1
    2 2
    3 3 3
    4 4 4 4
    5 5 5 5 5
19. Create a Python program to display the following patterns using loop concept.

    5
    5 4
    5 4 3
    5 4 3 2
    5 4 3 2 1

20. Create a Python program to display the following patterns using loop concept.

    1
    1 2
    1 2 3
    1 2 3 4
    1 2 3 4 5
21. Explain the user-defined function of Python with a suitable example.
22. Write a function to calculate the factorial of a number. the function accepts the number as an argument.
23. Create a function with arguments with return.
24. Create a function with no arguments no return.
25. Return multiple values from a function.

Unit-4

1. NumPy stands for……
2. What is NumPy?
3. Who created NumPy Library?

4. NumPy library was created in which year?
5. Write a program to check NumPy version.
6. Explain NumPy ndarray with example.
7. Write an example to check the number of dimensions in array
8. Access first element of ndarray.
9. Slice elements from index 1 to index 5 from the following array [1,2,3,4,5,6,7,8,9] using NumPy.
10. Access last element of array using negative indexing.
11. Write a program to change data types from float to integer.
12. Write a program to check the number of dimensions in array and number of elements in each dimension.
13. How do you check datatype of array in NumPy?
14. How do I convert the array of datatype float to integer value?
15. Explain Reshape attribute of array with example.
16. Write a program NumPy join () method with example.
17. Example of spliting0 array with example.
18. Explain search and sort method with example.
19. Write a NumPy program to create a new array of given shape (5,6) and type, filled with zeros.
20. Write a NumPy program to reverse an array (first element becomes last)

Unit-5

1. List advantages of Pandas.
2. What is data structure in pandas?
3. What is a Series in Pandas?
4. Who is the developer of Pandas library?
5. Who created Matplotlib?
6. What is matplotlib?
7. What is installation command for Pandas?
8. What is installation command for matplotlib?
9. Example to print below data using Pandas Series.
10. [45,55,65,75,85]
11. Example to print below data using Data Frame.

Country	State
India	Gujarat
Japan	Kansai
United States	Florida
China	Yunnan

12. First create excel file [d1.csv] with 5 rows and 2 columns & then Import data from csv file.
13. Export below data to Excel csv file.

Festival	Season
Holi	Summer
Diwali	Winter
Janmashtami	Monsoon

14. Draw a graph as per given co-ordinate using matplotlib.
    X = [0,6]

Y = [0,255]

15. Draw graph as per given co-ordinates using matplotlib.
    X = [1,3,5,7,9,11]
    Y = [95,42,69,35,82]