

# BRAIN INTERNATIONAL SCHOOL

**SUBJECT: I.P.**

**CLASS-XII**

**July,2021**

## **Unit 1: Data Handling using Pandas and Data Visualization : Data Visualization Purpose of Plotting:**

Q1. What is the importance of data visualization? Name the various types of charts supported by pandas.

Q2. Fill in the blanks:

(a) \_\_\_\_\_ is the whole Python package/library used to create 2D graphs and plots by using Python scripts.

(b) \_\_\_\_\_ is a module in matplotlib which supports a very wide variety of graphs and plots.

(c) \_\_\_\_\_ function of pyplot is used to draw the graph.

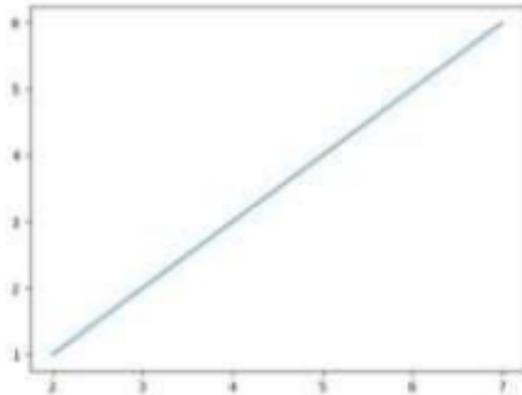
Q3. Write code to plot a line graph showing the relation between channel name and its TRP rating ( 4 channels). Include the titles and formatting of your choice. The font size of the x and y labels should be 15 and font color should be green.

Q4. Write code to create a dataframe to store the city name and the number of tourists who visited those cities in the recent months. Plot a line chart to project the same. The color of the line in the plot must be blue of style dot.

Q5. What will be the output of the following code?

```
import matplotlib.pyplot as p
x=[6,7,8,9,10]
y=[60,40,55,30,70]
p.plot(x,y, linestyle="dashed")
p.title('Secondary Class Strength')
p.xlabel('Class')
p.ylabel('No. of students')
p.show()
```

Q6. Write the code to get the following output:



Q7. WAP to create a data frame to store the name, age, gender and marks in physics, chem and English marks of 4 students. Write code to plot the marks of all the three subjects with names in x axis in line chart.

Q8. Give an example to explain the difference between vertical and Horizontal bar graphs.

Q9. WAP to create a data frame to store the average marks in physics, chem and English subjects of 4 science sections where section names are the indexes. Write code to plot the average marks of all the three subjects as a bar graph.

Q10 What will be the output of the following code:

```
import matplotlib.pyplot as p
city=["Delhi","Mumbai","Bengaluru","Kolkata"]
accident=[60,40,55,30]
p.bar(city,accident, color="orange", edgecolor="black")
p.title('Accident Tally of 4 Metropolitan cities')
p.xlabel('City')
p.ylabel('Accidents')
p.show()
```

Q11. WAP to store the following data in a dataframe, making the city names as the index. And then plot one bar graph to show the number of number of active cases and total cases for all cities and another bar graph to show the active cases and the number of deaths.

<b>Cities</b>	<b>total</b>	<b>active</b>	<b>death</b>
<b>Maharashtra</b>	<b>15,00,000</b>	<b>45000</b>	<b>11,000</b>
<b>Karnataka</b>	<b>12,00,000</b>	<b>38000</b>	<b>8,000</b>
<b>Kerala</b>	<b>8,00,000</b>	<b>25000</b>	<b>10,000</b>

Q12. Fill in the blank with the correct statement to plot a bar graph using a matplotlib method, so that Company ABC can see the graphical presentation of its profit figures for the 2nd quarter of the financial year 2019 (ie, Aug, sep, Oct, Nov).

```
import matplotlib.pyplot as mtp
Months=['AUG','SEP','OCT','NOV']
Profits=[125,220,230,175]
_____
mtp.show()
```