Assignment 1

Durga prasad, 21MCMT27

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1 Documentation

'mathplotlib' is a library of python which is used to plot dataset in 2D or 3D. In most cases it is used in correspondence with 'numpy' library. numpy' library is used for constructing datasets which in turn can be used for ploting. We have to import these libraries using an identifier. Ex:import mathplotlib.pytplot as plt ..#here we are importing sublibraries as plt is the identifiler.

2 Input dataset

Input table for Sample 4 for CO, CO2 and O2 is shown in the 'Table 1'

3 Code for ploting

```
import matplotlib.pyplot as plt
#Ploting sample 4
position=[0, 20, 40, 60, 80, 100] #x-axis list for Load in percentage
y1=[0.11,0.07,0.04,0.03,0.03,0.03] #y-axis list for CO in g/Km(Vol)
y2=[1.5,1.7,2,2.4,2.6,3.4]#y-axis list for CO2 in g/Km(Vol)
y3=[18.69,18.42,18.05,17.36,17.13,16.04]#y-axis for O2 in g/Km(Vol)
#Ploting 3 graphs in the same plot plt.plot(position,y1,color='r',label='CO')
plt.plot(position,y2,color='g',label='CO2')
plt.plot(position,y3,color='b',label='O2')
plt.title("Sample 4 plot for CO, O2, CO2")
```

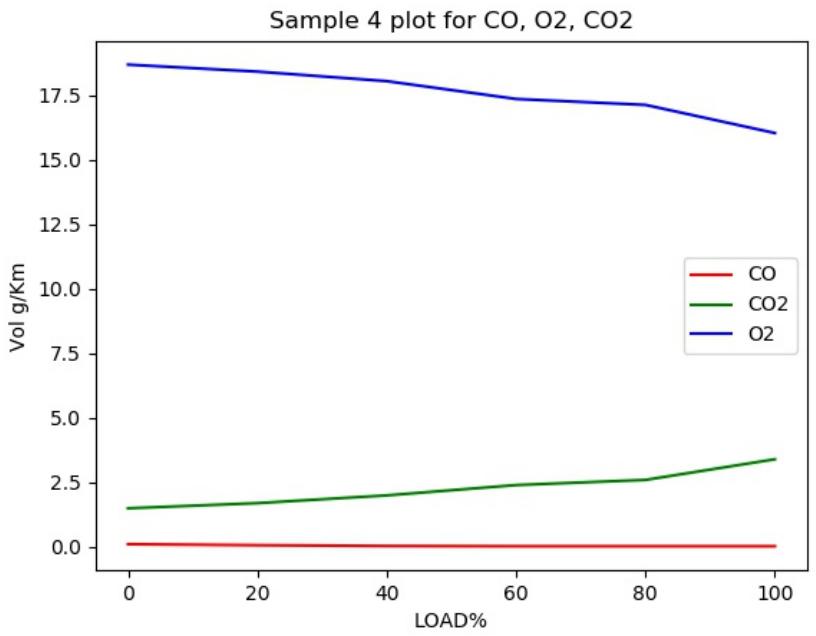
0	0.11	1.5	18.69
20	0.07	1.7	18.42
40	0.04	2	18.05
60	0.03	2.4	17.36
80	0.03	2.6	17.13
100	0.03	3.4	16.04

Table 1:

plt.xlabel('LOAD') #Naming x-axis
plt.ylabel('Vol g/Km') #Naming y-axis
plt.legend() #dispalying the lables of graphs
plt.show() #displayin the plot

4 Output

Ploted graph with x-axis units as percengate of LOAD and y-axis units as Vol (g/Km)



5 Conclusion

In the sample 4 Volume for CO gas is much Higher compare to CO2 and O2. O2 Ouccupies least volume and doesn't change with respective to Load. Volume for CO and O2 decreases but for CO2 it increases with respective to increase in the Load percentage.