BDTM: Big Data Tools for Managers
3rd Internal Question Paper [Set-A]

Q1. Demonstrate Variables in Python [10]

    A. Create numeric, string, float variables for the given values (**100, 99.945, SIT Tumkur**)

```
numeric        = 100
string         = ("SIT Tumkur")
float          = 99.945
```

    B. Display the values for the variable created in Q1[A]

```
print(numeric)
print(string)
print(float)
```

    C. Display the data types for the variable created in Q1[A]

```
type(numeric)
type(string)
type(float)
```

    D. Multiply the numeric variable with **500**, and display the revised value.

```
numeric=numeric*500
print(numeric)
```

    E. Reassign string variable values to **SIT Tumkuru, Karnataka**, and display the revised values.

```
string  = ("SIT Tumkuru, Karnataka")
print(string)
```

Q2. Demonstrate Python user defined functions [10]

    - Create a function to add three integer numbers [5]

```
def add_integers(a,b,c):
        x=a+b+c
        return x
```

    - Call the function by passing three values **(10, 20, 30)** [3]

```
sum=add_integers(10,20,30)
```

    - Display the result [2]

```
print(sum)
```

Q3[A]. Demonstrate Conditional Statement (Simple If) in Python.   [5]

Write conditional statement to check whether variable contains Negative values.

```
y = -10
if (y<0):
        print("Number is negative")
else:
        print("Number is Positive")
```

Q3[B]. Demonstrate Set Data Structures in Python   [5]

- Create Set for the given element Python 'A', 'B', 'C', 'D', 'E', 'F', 'A', 'B', 'C', 'A', 'C'   [3]

```
set1={'A','B','C','D','E','F','A','B','C','A','C'}
```

- Display the values   [2]

```
print(set1)
```

Q4. Demonstrate List Data Structures in Python   [10]

A. Create a list **10,20,30,40,50,60,70,80,90,100**

```
data = [10,20,30,40,50,60,70,80,90,100]
```

B. Display list element using Print function

```
print(data)
```

C. Replace the 2nd element in a list Q4[A] with new value **222**

```
data[1] = 222
```

D. Display the last three element of the list

```
data[-3:]
```

E. Create another list with element **11, 12, 13** and combine with the list created in Q4[A]

```
data2 = [11,12,13]

print(data + data2)
```

Q5. Perform basic data manipulation for the given VEHICLE_PARK.csv data   [10]

    A. Import VEHICLE_PARK.csv files in Python

```
Import panads as pd
data = pd.read_csv("VEHICLE_PARK.csv")
```

    B. Display frequency count for VEHICLE_TYPE and BRAND
```
pd.cross_tab(data['VEHICLE_TYPE'], data['BRAND'])
```

    C. Display quick summary for the VEHICLE PARK data for all the variables
```
data.describe(include='all')
```

    D. Get the total number of vehicles by AGE_GROUP
```
data\
    .groupby("AGE_GROUP")\
    .agg({"VEHICLE_COUNT": "sum"})
```

    E. Display total number of vehicles captured in VEHICLE_PARK data
```
data["VEHICLE_COUNT"].sum()
```