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

Q1. Demonstrate Variables in Python [10]

A. Create string and float variables for the given values (**5555.98, BANGALORE**)

```
var1 = 5555.98
var2 = "BANGALORE"
```

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

```
print(var1)
print(var2)
```

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

```
type(var1)
type(var2)
```

D. Multiply the float variable with **100**, and display the revised value.

```
var2= var1 * 100
print(var2)
```

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

```
var2 = 'Bengaluru, Karnataka'
print(var2)
```

Q2. Demonstrate Python user defined functions [10]

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

```
def  sub(a,b,c):
    y=(a-b-c)
    return y
```

- Call the function by passing three values **(50, 10, 20)** [3]

```
res = sub(50, 10, 20)
```

- Display the result [2]

```
print(res)
```

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

Write conditional statement to check whether variable contains Positive values.

```
var= 100
if var >= 0:
   print("the var is positive"),
else:
   print ("the var is negative")
```

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

- Create Set for the given element Python **1, 1, 20, 50, 60, 1, 2, 20 , "A", "B", "A", "B"** [3]

```
set = {1, 1, 20, 50, 60, 1, 2, 20 , "A", "B", "A", "B"}
```

- Display the values [2]

```
print(set)
```

Q4. Demonstrate Tuple Data Structures in Python [10]

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

```
tuple_a =(10,20,30,40,50,50,60,70,80,90,100)
```

B. Display Tuple element using Print function

```
print(tuple_a)
```

C. Replace the 2nd element in a Tuple Q4[A] with new value **404**

```
tuple_a[1] = 404
```

D. Display the last three element of the Tuple

```
tuple_a[-3: ]
```

E. Create another Tuple with element **21, 22, 23** and combine with the Tuple created in Q4[A].

```
tuple_b = (21, 22, 23)
print(tuple_a + tuple_b )
```

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

A. Import VEHICLE_PARK.csv files in Python

```
import pandas as pd
data = pd.read_csv("VEHICLE_PARK.csv")
```

B. Display frequency count for AGE_GROUP and BRAND

```
pd.cross_tab(data['AGE_GROUP'], data['BRAND'])
```

C. Display quick summary for the VEHICLE PARK data for only numeric variables

```
data.describe()
```

D. Get the total number of vehicles by BRAND

```
data\
.groupby("BRAND")\
.agg({"VEHICLE_COUNT": "sum"})
```

E. Display average Age for the vehicles in VEHICLE_PARK data

```
data["VEHICLE_COUNT"].mean()
```