S.No. : 645 ITBC3201

No. of Printed Pages : 4

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 34002 Roll No. 1 2 2 0 4 4 0 0 3 8

B. Tech Examination 2022-23

(Even Semester)

DATA VISUALIZATION WITH PYTHON

Time : Three Hours] *[Maximum Marks :60*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following : $1 \times 8 = 8$

   (a) Why python is an interpreted language?

   (b) What is the purpose of a scatter plot?

   (c) What is a boxplot?

   (d) Define axex() function.

   (e) What do you understand by data visualization?

   (f) Explain the term gradient descent.

[P. T. O.

(g) What is difference between string and variable?

(h) How can we visualize more than three dimensions of data in a single chart?

SECTION – B

2. Attempt any two parts of the following. $6 \times 2 = 12$

(a) What are vectors? Define various operations of vectors with suitable example.

(b) Write a python program to do arithmetical operations addition, multiplication and division.

(c) Define following terms :

(i) 3D plot

(ii) Histogram

(iii) Bubble plot

(iv) ax.plot

(v) Function

(d) Discuss built-in data types available in python with suitable example.

SECTION – C

3. Attempt any two parts from each question. Each part carry equal marks. $8 \times 5 = 40$

   (a) Write a python program to generate a random number.

   (b) What do you understand by data analysis? Explain 1-D data and 2-D data exploring with suitable example.

   (c) Define matplot lib. Explain the architecture of matplot lib.

4. (a) Explain following terms :

      (i) Python

      (ii) ggplot

      (iii) Sine and cosine functions

   (b) Write a python program to find the area of a rectangle.

   (c) What do you understand by advanced data visualization? And how it differs from tranditional data visualization?

[P. T. O.

5. (a) Write a python program to swap two variables.

(b) Define terms maps with markers and choropleth maps with suitable example.

(c) What do you understand by hypothesis and implementation of hypothesis in python with suitable example?

6. (a) Write a python program to check that given number is armstrong number or not.

(b) Define following terms :

(i) Dirt plot

(ii) Strip plot

(iii) Swarm plot

(iv) Pair plot

(c) Explain pie chart and area plots. How pie chart is differ from area chart?

⌘⌘⌘