Enrolment No: _____   Name of Student: _____

Department/ School: _____

SUPPLEMENTRY EXAMINATION ODD SEMESTER 2022-23

COURSE CODE	CSET214	**MAX. DURATION**	2 HRS
COURSE TITLE	Data Analysis Using Python		
COURSE CREDIT	2-0-4	**TOTAL MARKS**	100 Marks

GENERAL INSTRUCTIONS: -

1. Do not write anything on the question paper except **name, enrolment number** and **department/school.**

2. Carrying mobile phone, smart watch and any other non-permissible materials in the examination hall is an act of **UFM.**

COURSE INSTRUCTIONS:

a) There are three sections in the paper. Section A carry 30 marks, section B carries 50 marks, and section C carries 20 Marks. You need to attempt all three sections.

b) Avoid making stories. Be crisp in your answers.

SECTION A

1) List 7 types of Plots which you can make with the help of Matplotlib. Draw their representation and denote their python command. **(10 Marks)**

2) Explain regular expression? How do you write a regular expression for: **(10 Marks)**
   a) Validating an email address
   b) A Landline number having STD code of greater Noida (0120).

3) If we are interested in the probability of rolling exactly three fours in six rolls of a fair die, write down n, m, n − m, p, 1 − p, and calculate the probability. **(10 Marks)**

SECTION B

1) Elaborate is the purpose of experimentation? Differentiate sample and population with example. Differentiate statistics and parameter with example. Differentiate descriptive and inferential statistics with example. **(10 Marks)**

2) Explain Normal distribution with its graph, properties, and equation. Write the formula for z score and identify the importance of normalization. **(10 Marks)**

3) Explain the term 'Hypothesis'. Explain one tailed (left or right) and both tailed hypothesis with an example.(**10 Marks**)

4) A table of temperature and ice cream sales has been give. Out of 1, how much you are confident that increased temperature results in more sales. (**10 Marks**)

Temperature °C	Ice Cream Sales
14.2°	$215
16.4°	$325
11.9°	$185
15.2°	$332
18.5°	$406
22.1°	$522

5) The marks of data analysis subject of two groups are given. Compute the T statistics using student's t test: (**10 Marks**)

Group1	Group 2
90	75
82	77
87	81
84	72
85	70
76	72

SECTION C

1) Suppose you have joined your dream company which makes products/services of your choice (be it beauty products, airline services, stocks or any other). As a data scientist, you are asked to study the that company data for last 10 years. It is expected that you will come up with conclusions/insight which will benefit the company in future. Explain your strategy for the study. Explain each stage of data analysis with your motivation towards it. Make your final conclusion/insight in 3 points. (Since it's the company of your choice, you can also pick the data fields as per your convenience but it must be related to the product/service of the company). (**20 Marks**)

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