Enrolment No: _____   Name of Student: _____

Department/ School: _____

END TERM 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   35 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) **Avoid making stories. Be crisp in your answers.**

b) **In section C, you can apply all your understanding towards industry you are choosing. However, evaluation will be done specifically on your strategy, detailing of steps, and relevance of your conclusion.**

SECTION A

1) List 4 types of Plots which you can make with the help of Matplotlib. Draw their representation and denote their python command.   **(3 Marks)**

2) Explain regular expression? How do you write a regular expression for: **(3 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.   **(3 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.   **(4 Marks)**

2) Explain the term 'Hypothesis'. Explain one tailed (left or right) and both tailed hypothesis with an example.   **(4 Marks)**

3) 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. **(4 Marks)**

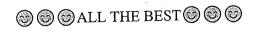| Temperature °C	Ice Cream Sales
14.2°	$215
16.4°	$325
11.9°	$185
15.2°	$332
18.5°	$406
22.1°	$522

4) The marks of data analysis subject of two groups are given. Compute the T statistics using student's t test: **(4 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 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 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). **(10 Marks)**

☺☺☺ALL THE BEST☺☺☺

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