P P SAVANI UNIVERSITY

Fourth Semester of B. Tech. Examination
November 2022
SECE2090 Introduction to Data Science

24.11.2022, Thursday   Time: 01:00 p.m. To 03:30 p.m.   Maximum Marks: 60

Instructions:
1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

			CO	BTL
Q - 1	**Answer the Following:**	[05]		
(i)	What do you understand by term data science?		1	1
(ii)	Define term data pre-processing.		2	1
(iii)	A heat map is a two-dimensional representation of information with the help of colors. (T/F)		3	1
(iv)	What is the role of Data Analyst?		1	1
(v)	_____ is the process of bringing data from disparate sources together to provide users with a unified view.		2	1
Q - 2 (a)	State down different applications of Data Science and elaborate one in detail.	[05]	1	3
Q - 2 (b)	Explain the data cleaning process.	[05]	2	3
Q - 3	What is Pivot Table? Explain with example	[05]	3	3
Q - 4	The owner of the Ches Tahoe restaurant is interested in how much people spend at the restaurant. He examines 10 randomly selected receipts for parties of four and writes down the following data.	[10]	3	3

44, 50, 38, 96, 42, 47, 40, 39, 46, 50

Find the variance and the standard deviation for above data.

SECTION-II

Q - 1	**Answer the Following:**	[05]		
(i)	Define Simple Regression		4	1
(ii)	Following chart is an example of,		2	3
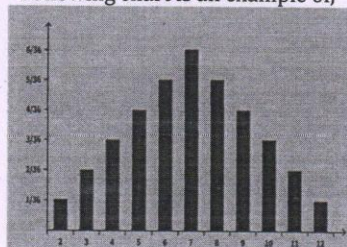
a) Probability Distribution Chart
b) Line chart
c) Pie chart
d) All of the mentioned above

(iii)	What is ANNOVA?		3 1
(iv)	State down difference between Underfit and Overfit.		5 3
(v)	What do you understand by word "Prediction"?		5 1
Q - 2 (a)	Write down the steps to implement Grid Search in python	[05]	5 3
Q - 2 (b)	Explain, how Prediction takes place using Ridge Regression.	[05]	5 2
Q - 3	Differentiate between Simple and Multiple Regression.	[05]	4 3
Q - 4	What is Model Visualization? explain Different types of Model Visualization	[10]	5 3

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CO: Course Outcome Number   BTL: Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create