

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- V EXAMINATION-SUMMER 2023****Subject Code: 3150713****Date: 23/06/2023****Subject Name: Python for Data Science****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

- Q.1 (a)** Write a single line code to get the value of "type" from the given dictionary in such a way that it does not produce any error or exception even if any key from the dictionary is misspelled. e.g. batters is misspelled as bateers. Still, your code must traverse the dictionary and fetch the value "Regular" of the key "type". **03**
- ```
{
 "batters": {
 "batter": [
 {
 "batter": [
 {
 "batter": [{"
 "type": "Regular"
 }]}
]}
]}
]}
 }
```
- (b)** What is chi-square test? why it is necessary in data analysis? **04**
- (c)** Explain following string functions with suitable example. **07**  
len, count, title, lower, upper, find, rfind, replace
- Q.2 (a)** List and explain the reasons which make python programming popular in Data Science. **03**
- (b)** Differentiate: Dictionary and List **04**
- (c)** What do you mean by Exploratory Data Analysis? List and explain the task which needs to be performed in EDA. **07**
- OR**
- (c)** Define Standardization. Explain Z-score standardization with suitable example. **07**
- Q.3 (a)** Depict steps to create a scatter plot with example. **03**
- (b)** Establish relationship between AI, data science and big data. **04**
- (c)** Provide explanations on the importance of Graphs in Data Science. **07**
- OR**
- Q.3 (a)** Define correlation and explain its importance in Data Science. **03**
- (b)** Provide duties performed by a Data Scientist with suitable example **04**
- (c)** Elaborate Graphs along with its types. **07**
- Q.4 (a)** Differentiate: Bar graph vs. Histogram **03**
- (b)** Explain Training and Testing with suitable example. **04**
- (c)** Elaborate a bag of word concept in detail. **07**

**OR**

- Q.4** (a) Why data visualization is important in Data Science? **03**  
(b) Explain HTML parsing using Beautiful soup. **04**  
(c) Explain stemming in detail with relatable example. **07**

- Q.5** (a) Provide your views on Data wrangling with suitable example. **03**  
(b) Define covariance and explain its importance with appropriate example. **04**  
(c) Elaborate XPath in detail with relatable example. **07**

**OR**

- Q.5** (a) Explain Hashing Tricks and its importance with suitable example. **03**  
(b) Explain importance of Legends, Labels and Annotations in Graphs. **04**  
(c) Describe sampling along with its types in detail with suitable example. **07**

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