

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



**M.Sc. DEGREE EXAMINATION – DATA SCIENCE**

**FIRST SEMESTER – NOVEMBER 2019**

**PDS 1501 – INTRODUCTION TO DATA SCIENCE**

Date: 30-10-2019

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

**PART-A**

**Answer all Questions: -**

**10 X 2 = 20**

1. Define Data Science.
2. State the 5 different stages involved in a Data Science Project.
3. What do you mean by Data Pre Processing?
4. What are the techniques available to clean data in a excel sheet?
5. What is the need of descriptive statistics in data analysis?
6. Define Heat Map.
7. Differentiate Simple from Multiple regression model.
8. Interpret the model  $Y=25000+3.5X+15X^2$ .
9. Differentiate Training from Testing dataset.
10. Define Cross validation.

**PART-B**

**5 X 8 = 40**

**Answer all Questions:-**

11. a. Briefly explain the role of Data Science in various fields.  
(Or)  
b. Explain the evolution of Data Science.
12. a. Write about the various methods of Data Collection involved in Data Science.  
(Or)  
b. What is data Discretization? Explain with an example.
13. a. Explain the need for Correlation and Regression analysis in Data analysis with an example.  
(Or)  
b. How outliers are identified and handled in variables in a Data Set – Explain.
14. a. How is model evaluation done by using Data Visualization? Give an example.  
(Or)  
b. Explain briefly the various models involved in Regression Analysis.

15. a. Explain how can over fitting and under fitting issues are handled in Regression modeling.

(Or)

b. Explain the procedure of doing prediction analysis using Ridge Regression Model.

**PART-C**

**Answer any TWO Questions: -**

**2 X 20 = 40**

16. (a) Explain the Application of Data Science in various fields.

(b) Explain Data Security issues with an example.

17. (a) Discuss the need of Descriptive Statistics in Data analysis with suitable examples.

(b) Explain the method of decision making through prediction analysis in Data Science Projects.

18. (a) Explain the concept of Data Science with a suitable Case Study.

(b) Explain the use of Grid Search in testing Multiple parameters.

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