PARVATHANENI BRAHMAYYA SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada-520010
Re-accredited at 'A+'by the NAAC

Offered to: M.Sc. (Computational Data Science)

CourseName	Data Visualization Lab		**L**	**T**	**P**	**C**	**CIA**	**SEE**	**TM**
CourseCode	22DS4L1		4	0	0	4	30	70	100
Year of Introduction: 2021	**Year of Offering:** 2021	**Year of Revision**: 2022			**Percentage of Revision:** 100				
L-Lecture, T-Tutorial, **P**-Practical, **C**-Credits, **CIA**-InternalMarks, **SEE**-ExternalMarks, **TM**-TotalMarks									

Course Description and Purpose: Data Visualization Lab is a course that illustrates concepts of Tableau Installation, Introduction, Exploring, Data Blending, Uni-variate Charts, Bi-variate Charts, Multi-variate Charts, Trend Line, Word cloud, Bubble Chart, Creating a Simple Dash Board, Creating Maps, Creating a Dash Board, Creating a Story and Data Munging, Importing Graphs, Group and Aggregate Data, Create a Dash Board in Power BI.

Course Objectives: The Data Visualization Lab course aims to provide comprehensive knowledge and practical skills in Tableau and Power BI, covering installation, data exploration, visualization techniques, dashboard creation, and data munging, enabling students to proficiently analyze and present complex data sets.

Course Outcomes:
Upon successful completion of the course, the student will be able to:

CO1: Understand tableau *Installation*, *Introduction*, *Exploring*.

CO2: Choose *Data Blending.*

CO3: Apply *Uni-variate Charts***,** *Bi-variate Charts***,** *Multi-variate Charts.*

CO4: Classify *Trend Line*, *Word Cloud, Bubble Chart.*

CO5: Create a *Simple Dash Board*, *Creating Maps*, *Creating a Dash Board*, *Creating a Story* and Data Munging, Importing Graphs, Group and Aggregate Data, Create a *Dash Board* in *Power BI.*

CO-PO MATRIX								
COURSE CODE	**CO-PO**	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**
22DS4L1	**CO1**	M						M
	CO2			M			M	
	CO3					M		
	CO4		M				**M**	
	CO5					M		

1. Tableau installation. (CO1,L1)

2. Tableau Introduction / Exploring Tableau. (CO1,L1)

3. Data Blending. (CO2,L3)

4. Creating Univariate charts

   a.Bar Chart. (CO3,L3)

   b.Pie Chart. (CO3,L3)

   c. Line Charts

   d. Box plots

5. Dual Axis Chart. (CO3,L3)

6. Shared Axis. (CO3,L3)

7. Creating Bivariate Charts

   a. Cross Tab. (CO3,L3)

   b. Scatter Plot. (CO3,L3)

   c. Trend Line. (CO3,L3)

8. Creating Multi-variate Charts

a. Dual Axis Chart. (CO3,L3)

b. Area charts(CO3,L3)

9. Word Cloud. (CO4,L3)

10. Bubble Chart. (CO4,L3)

11. Creating a Simple Dash Board. (CO5,L3)

12. Creating Maps. (CO5, L3)

13. Creating a Dash Board. (CO5, L3)

14. Creating a Story. (CO5, L3)

Power BI:

15. Getting data from web. (CO4, L3)
16. Natural Language Queries. (CO4, L3)
17. Importing Data from Northwind ODATA feed T3_IMF. (CO4, L3)
18. Functions & list Dates in Power Bi.(CO4, L3)
19. Group By and unpivot in Power Bi. (CO4, L3)
20. Merging Queries in Power Bi. (CO4, L3)
21. IPL Statistics in Power Bi. (CO4, L3)
22. Merging Queries in Power Bi. (CO4, L3)
23. Append Query in Power Bi. (CO4, L3)
24. Charts in Power Bi (CO5,L3)
25. Data Modeling in Power Bi.(CO5,L3)
26. Dashboard for Corona Cases Analysis. (CO5,L3)

Note: The list of experiments is not limited to the above list. If the existing laboratory experiments completed in advance, the additional laboratory programs can added , and to be executed in the laboratory.

Question Paper Pattern for Practical Course

SEE (LAB) Model Question Paper
22DS4L1: Data Visualization Lab
M.Sc. (Computational Data Science)
Max. Marks: 70 **Max. Time: 3Hrs**
Pass. Min: 28

(A)	**Evaluation Procedure**		**70 Marks**
	I	Experiments (Exam & Execution)	50 Marks
	II	Viva	**10 Marks**
	III	Record	**10 Marks**

(B) CONTINUOUS ASSESMENT: 30 MARKS

30 marks for the continuous assessment (Day to day work in the laboratory shall be evaluated for 30 marks by the concerned laboratory teacher based on the regularity/ record/viva). Laboratory teachers are mandated to ensure that every student completes 80%-90% of the lab assessments.

TOTAL: (A)+(B) = 100 MARKS