

# SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

## COLLEGE OF MANAGEMENT

### II MBA-Third Semester

MB18BA01	DATA VISUALIZATION FOR MANAGERS ( Practical Subject )	L	T	P	C
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#### LESSON PLAN

#### LEARNING OBJECTIVES

1. To acquire knowledge on the concepts required for Data Visualization
2. To practice Visualization Design for different types of Data using “Microsoft Power Business Intelligence Tool”
3. To summarise on Story Telling using the Visualization Tool “Tableau”
4. To understand Decision Making using the Data Visualization tool “R”
5. To examine Big Data Visualization using the Data Visualization tool “GEPHI”

#### LEARNING OUTCOMES

1. Recall the concepts of Data Visualization
2. Demonstrate visualization Design using “MS Business Intelligence Tool”
3. Illustrate the design principles of Data Dashboards using “Tableau”
4. Gather practice on Data Mining Patterns using “R Visualization tool”
5. Experiment on Advanced Data Visualization tool “GEPHI”

S.NO	EXERCISES (Total Periods: 50)
Unit :I:	<b>Concepts of Data Visualization</b> (5 Exercises x 2 Periods = 10 Periods )
1	<b>Introduction to Data Visualization</b>
2	<b>The Visualization Imperative</b>
3	<b>Visual Perception</b>
4	<b>Grammar of Graphics</b>
5	<b>Message to Charts</b>

Unit :II:	<b>MS Power Business Intelligence Tool</b>  (5 Exercises x 2 Periods = 10 Periods)
6	<b>Installing Power BI , Menus and Toolbar</b>
7	<b>Creating and Formatting Tables</b>
8	<b>Formatting Dashboard and preparing Reports</b>
9	<b>Designing Insights and Creating custom Reports</b>
10	<b>Creating Maps and Designing Images</b>
Unit :III:	<b>Data Visualization Tool “Tableau”</b>  (5 Exercises x 2 Periods = 10 Periods )
11	<b>Installing Tableau, Menus and Toolbar</b>
12	<b>Converting Excel Data into Tableau Desktop</b>
13	<b>Creating types of Charts</b>
14	<b>Scatter Plots Creation</b>
15	<b>Basic Functions</b>
Unit :IV:	<b>Decision Making using “R Programming Language”</b>  (5 Exercises x 2 Periods = 10 Periods )
16	<b>Installing R Studio</b>
17	<b>Descriptive Statistics in R</b>
18	<b>Data Mining Pattern</b>
19	<b>Scatter Plots</b>
20	<b>Histogram</b>
Unit :V:	<b>Advanced Data Visualization tool “GEPHI”</b>  (5 Exercises x 2 Periods = 10 Periods )
21	<b>Installing “GEPHI”</b>

22	<b>Network Analysis</b>
23	<b>Graphing communication</b>
24	<b>Graphing with node XL</b>
25	<b>Big Data Visualization</b>

## LEARNING RESOURCES

1. J. Hilden J. Koponen, Data Visualization Handbook, 1<sup>st</sup> Edition, 2019, Aalto University
2. Andy Kirk, Data Visualizations: A Handbook for Data Driven Design, , 1<sup>st</sup> Edition, 2019, Sage Publication
3. Kieran Healy, Data Visualization – A Practical Introduction, Ed.1, 2019, Princeton University Press.
4. Claus O. Wilke, Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures, First edition, 2019, O'Reilly
5. Brett Powell, Microsoft Power BI Cookbook: Creating Business Intelligence Solutions, 1<sup>st</sup> Edition,2017, Packt Publishing
6. Abdulkader Aljandali, Multivariate Methods and Forecasting with IBM SPSS Statistics, 1st ed. 2017 Spring
7. Brett Powell, Microsoft Power BI Cookbook: Creating Business Intelligence Solutions, Packt Publishing, 2017.
8. Arshad Khan, Jumpstart Tableau: A Step–By–Step Guide to Better Data Visualization A, Press publication, 2016.
9. Atmajitsinh Gohil, R Data Visulaization Cookbook. Packt Publishing, 2015

## EVALUATION PATTERN

Evaluation pattern for the elective courses offered during the 3<sup>rd</sup> semester as practical course under Management Information Systems (MIS) / Business Analytics (BA).

**Total Class Hours:** (5 Units X 10 Hours): **50 Hours**

**Max Marks: 100**

## MODE OF ASSESSMENT

Internal Marks= 60 Marks

End Semester Practical Exam = 40 Marks

<b>INTERNAL MARKS – SPLIT UP</b>				
<b>S.No</b>	<b>Internal Components</b>	<b>Marks</b>	<b>Description</b>	<b>Question Paper Pattern</b>
1	Pre-Practical Examination	10	UNIT 1 only Test will be conducted for 20 Marks and converted to 10 Marks.	2 Exercises from Unit - I * 10 Marks each = 20 Marks
2	Observation Note book	15	10 Marks to be awarded to each exercise.	The highest marks awarded for the best 15 exercises to be averaged to award 15 Marks
3	Record Note	15		Marks will be awarded on Successful completion of completed record note
4	Model Examination and Viva-voce	20	Exam will be conducted for 40 Marks and converted to 20 Marks	<u>Pattern of Model Exam for 30 Marks</u> Exercises to be given except from first unit. Any 2 Exercises to be attended out of 3, each carries 15 Marks <u>Viva Voce 10 Marks</u>
<b>END SEMESTER UNIVERSITY PRACTICAL EXAM – 40 MARKS</b>				
<b>S.No</b>	<b>Component</b>	<b>Marks</b>	<b>Description</b>	<b>Question Paper Pattern</b>
1	University Practical Examination	30	3 Exercises to be given. Any 2 Exercises to be attended out of 3, each carries 15 Marks	Part A (Exercise for 30 Marks)
2		10	Viva –Voce	Part B (10 Marks)

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COURSE CO-ORDINATOR

**Dr. P. Saravanan**  
HEAD –SYSTEMS

**Dr. V.M. Ponniah**  
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