

COURSE CONTENT

RATHNAVEL SUBRAMANIAM COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

SULUR, COIMBATORE

SCHOOL OF COMPUTER SCIENCE – PG

BATCH: 2022

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| Course Title: ELECTIVE II -BUSINESS INTELLIGENCE USING TABLEAU | Course Code : |
| Semester: III | Course Group : |
| Teaching Scheme in Hrs. (L: T:P): 4: 0:4 | Credits : 6 Credits |
| Map Code: | .Total Contact Hours: 120 |
| CIA: 50 Marks | SEE # : 50 Marks |
| Programme: M.Sc. (CS) | # - Semester End Exam |

| No. | Course Outcome | POs & PSOs | Cl. Ses | CL |
|-----|--|-----------------|----------|----|
| CO1 | Discuss the basic concepts of Data Visualization, Tableau and Visual Analytics | PO1, PSO1 | 12L +12P | Ap |
| CO2 | Explain the Visual Analytics using Highlighting, sorting and Filtering | PO1, PSO1 | 12L+12P | Ap |
| CO3 | Implement Dashboard using tableau | PO1, PSO1 | 12L+12P | Ap |
| CO4 | Draw Maps using Polygon Map and Background Images | PO1, PSO1 | 12L +12P | Ap |
| CO5 | Prepare Reports using Calculation | PO1, PSO1, PSO2 | 6L+6P | Ap |
| CO6 | Prepare Charts using Tableau | PO1, PSO1, PSO2 | 6L+6P | Ap |

UNIT: I

TOTAL HOURS: 24

Data Visualization: Why Data Visualization? (Data visualization example, Power of Data visualization,)- BI tool and comparison (Popular Data Visualization tools)

Introducing Tableau: Why Tableau?(Products of Tableau, Tableau Architecture, Tableau server Architecture, Gateway/load balancer)- Tableau’s Technology(Vizql)- Tableau Hands-on(Tableau Hands-on)- Tableau’s UI Components(Tableau’s UI – show me, Fit Axes, Data type, File Types)- Joins and Union(Types of joins, Perform join in Tableau, Cross join in tableau)- Data Blending(Data Blending in tableau, Data joining Vs Data Blending, when to use Data Blending)

Visual Analytics: Managing Extracts (Managing Extracts-What? Managing Extracts-Why? Managing Extracts-How?)- Meta Data (Understanding Meta data, Meta data in BI, Data and Meta data in Tableau, managing metadata- Hierarchy example, managing meta data- creating folder, Managing meta data-Changing Data types)

UNIT: II**TOTAL HOURS: 24**

Visual Analytics: Visual Analytics (What is visual analytics?, why use Visual Analytics?, Scope of Visual Analytics, Aggregating and Disaggregating Data)- Data Granularity(Data Granularity, Mark card in tableau, Data Granularity in Tableau-shapes, Data Granularity in tableau- colors, Data Granularity in tableau-size)- Highlighting(Highlighting-using legend, Highlighting Problem, highlighting solution, Highlighting power, Bar Graph, Line Graph, Pie chart, Dual axis Graph, Area graph with Dual axis)

Visual Analytics in Depth I: Sorting (Quick Sort, Sorting-Measures, Sorting-Headers and Legend, Sorting-Solution using Pill)- Filtering (Interactive Filter, Grouping- Data Window, Grouping –visual group, Grouping-Calculated Group (Static), Calculated Group (Dynamic))- Graphical Visualization (Heat Maps, Circle Plots, Scatter Plot, Tree Maps)

UNIT: III**TOTAL HOURS: 24**

Visual Analytics in Depth II : Sets(Sets in tableau, Sets- Marks, Sets- Computation)- Forecasting(Forecasting, Forecasting-Length, Forecasting- source Data, Forecasting –Model, Forecasting- Summary box, Forecasting – Problem, Forecasting – Precision Range)- Clustering, Trend Lines(Clustering, Trend lines- Types, Trend lines- Benefit of color)- Reference Lines and Parameter(Reference Lines, Reference Lines- Aggregating options, Reference Lines-Labels, Parameter-in depth, Parameter- Filters)

Introduction to Dashboard: Dashboards and Dashboard Layout-Building a Dashboard-opening, building a Dashboard- Add Sheets, building a Dashboard-Add objects, Dashboard layout-size, Dashboard Layout-Formatting, Dashboard layout- Adding Filter, Dashboard layout – Containers

UNIT: IV**TOTAL HOURS: 24**

Dashboard Interactivity: Dashboard Interactivity (Dashboard Interactivity-actions, Dashboard Interactivity-Filter Action, Dashboard Interactivity- Highlighting Action, Dashboard Interactivity- URL)

Introduction to Mapping: Mapping(Mapping-coordinate points, Mapping – Plotting Geographic Data, Mapping-symbol, Mapping- layered view)- Editing unrecognized location(Ambiguous Geographic Data, Editing locations)- Polygon Maps(Polygon Maps-Filled Map, Polygon Map-custom Territory, Polygon Map- Custom Maps, Polygon Map-Required Data, Building a Polygon Map)- Background Images(Background Images, Adding an Image, Background Images-Generating coordinates, Background Images- Plotting Points)

UNIT: V**TOTAL HOURS: 24**

Calculation: Introduction to Calculation (Creating a Calculated Field, Number Functions, Numeric Functions-Calculation, Numeric Functions- Solution, String Functions, String Functions-Calculation, Date Functions, Date Functions-Calculation, Logical Functions, Logical Functions-Procedures, Aggregate Functions)- Introduction to Table Calculation (Table Calculation, Quick table calculation)- Introduction to LOD Expression (LOD Expression, LOD Expression-Types)

Charts: Charts (Box and Whisker's Plot, Gantt Chart, Water fall chart, Pareto Chart, Control chart, Funnel chart)

Text Book:

1. "Business Intelligence Master's Program", "Online Certification", <https://learning.edureka.co/mycourses>

References:

1. "Mastering Tableau", Packt Publishing, David Baldwin Nore (2016)
2. "Tableau Questions & Answers guide to Tableau Concepts & FAQs", Chandraish Sinha, 2016

3. "Kimball Dimensional Modeling Techniques" ,Ralph Kimball, Margy Ross 2013, Kimball University
4. Decision support and Business Intelligence systems Edition: 1 Pearson . Efraim Turban, Ramesh Sharda and Dursun Delen (2014)
5. "Tableau 10.0 Best Practices" , Packt Publishing, Jenny Zhang (2016)