



Mangalmay Institute of Management Technology
Greater Noida (U.P.)



Add on Certification Program on “Tableau”

BBA 1st Year Students

Date: 13 March 2023 to 7 April 2023

Venue: B Block, Computer Lab

Time: 3:00 PM- 5:00 PM

Coordinator:
Ms. Neha Dhingra

Resource Person:
CS Tanay Ojha

Toll-Free : 1800 103 3797 | www.mangalmay.net.in
Plot No. 8 & 9, Knowledge Park-II, Greater Noida, Delhi-NCR, India



SYLLABUS

Tableau

Duration: 32 Hours

BBAI Semester

ADD ON CERTIFICATION PROGRAM ON TABLEAU (32 HOURS)

1: Introduction to Tableau (Sessions 1-4)

Session 1:

- Overview of Tableau and its applications
- Installing Tableau Desktop
- Understanding Tableau product suite

Session 2:

- Connecting to various data sources (Excel, CSV, databases)
- Data source connection options

Session 3:

- Introduction to Tableau interface
- Navigation and layout of Tableau Desktop
- Data pane, shelves, and cards

Session 4:

- Building basic visualizations: bar charts, line charts, scatter plots
- Adding dimensions and measures to the view
- Basic formatting and customization options

2: Data Connections and Transformations (Sessions 5-8)

Session 5:

- Advanced data connections: joining and blending data sources
- Data source filters and limitations

Session 6:

- Data types and dimensions in Tableau
- Working with geographic data and spatial files

Session 7:



- Data cleaning and transformations in Tableau
- Introduction to Tableau Prep for advanced data preparation

Session 8:

- Introduction to calculated fields and parameters
- Creating calculated fields for custom analysis

3: Advanced Visualizations (Sessions 9-12)

Session 9:

- Advanced chart types: histograms, box plots, treemaps
- Working with dual-axis charts and combined axes

Session 10:

- Sets, groups, and hierarchies in Tableau
- Creating and utilizing sets for advanced analysis

Session 11:

- Geographic mapping and spatial analysis in Tableau
- Customizing maps with layers and backgrounds

Session 12:

- Formatting options for visualizations
- Adding annotations and reference lines for context

4: Intermediate Calculations and Analysis (Sessions 13-16)

Session 13: -

- Understanding Tableau calculations: aggregations, LOD expressions - Building calculated fields for complex analysis

Session 14:

- Table calculations and advanced calculations
- Understanding level of detail (LOD) expressions

Session 15:

- Advanced filtering and sorting techniques
- Creating dynamic filters and parameter-driven analysis

Session 16:



- Trend analysis and forecasting in Tableau
- Utilizing statistical functions for predictive analysis

5: Dashboard Design and Interactivity (Sessions 17-20)

Session 17:

- Introduction to dashboard design principles
- Layout and formatting options for dashboards

Session 18:

- Creating interactive dashboards with Tableau
- Adding actions and filters for interactivity

Session 19:

- Utilizing parameters to enhance dashboard functionality
- Dynamic dashboards and parameter-driven actions

Session 20:

- Publishing and sharing dashboards on Tableau Server or Tableau Public
- Access control and permissions management

6: Advanced Topics (Sessions 21-24)

Session 21:

- Introduction to advanced analytics with Tableau
- Integrating R and Python scripts for advanced analysis

Session 22:

- Working with data blending and data extracts
- Optimization techniques for performance improvement

Session 23:

- Introduction to Tableau Server administration and deployment
- Server architecture and deployment options

Session 24:

- Version control and workbook management in Tableau Server
- Best practices for Tableau Server administration

7: Case Studies and Applications (Sessions 25-28)



Session 25:

- Analyzing real-world datasets with Tableau
- Case studies from different industries (finance, healthcare, marketing)

Session 26:

- Group projects: designing and presenting a Tableau dashboard
- Team collaboration and project management

Session 27:

- Peer review and feedback session for group projects
- Iterative design and improvement process

Session 28:

- Presentation of group projects to the class
- Q&A and discussion on project insights

8: Final Project and Review (Sessions 29-32)

Session 29:

Individual or group final projects using Tableau

Session 30:

Designing and presenting comprehensive dashboards

Session 31:

Peer evaluation and feedback session for final projects

Reflection on learning outcomes and future applications

Session 32:

Course review and discussion



Schedule

<u>Session</u>	<u>Content</u>	<u>Time</u>	<u>Date</u>
<u>S 1</u>	<ul style="list-style-type: none">• Overview of Tableau and its applications• Installing Tableau Desktop• Understanding Tableau product suite• Connecting to various data sources (Excel, CSV, databases)• Data source connection options	<u>03.00pm-05.00 pm</u>	<u>13/03/2023</u>
<u>S 2</u>	<ul style="list-style-type: none">• Introduction to Tableau interface• Navigation and layout of Tableau Desktop• Data pane, shelves, and cards• Building basic visualizations: bar charts, line charts, scatter plots• Adding dimensions and measures to the view• Basic formatting and customization options	<u>03.00pm-05.00 pm</u>	<u>14/03/2023</u>
<u>S 3</u>	<ul style="list-style-type: none">• Advanced data connections: joining and blending data sources• Data source filters and limitations• Data types and dimensions in Tableau• Working with geographic data and spatial files	<u>03.00pm-05.00 pm</u>	<u>15/03/2023</u>
<u>S 4</u>	<ul style="list-style-type: none">• Data cleaning and transformations in Tableau• Introduction to Tableau Prep for advanced data preparation• Introduction to calculated fields and parameters• Creating calculated fields for custom analysis	<u>03.00pm-05.00 pm</u>	<u>16/03/2023</u>
<u>S 5</u>	<ul style="list-style-type: none">• Advanced chart types: histograms, box plots, treemaps• Working with dual-axis charts and combined axes	<u>03.00pm-05.00 pm</u>	<u>17/03/2023</u>



	<ul style="list-style-type: none">• Sets, groups, and hierarchies in Tableau• Creating and utilizing sets for advanced analysis		
<u>S 6</u>	<ul style="list-style-type: none">• Geographic mapping and spatial analysis in Tableau• Customizing maps with layers and backgrounds• Formatting options for visualizations• Adding annotations and reference lines for context	<u>03.00pm-05.00 pm</u>	<u>20/03/2023</u>
<u>S 7</u>	<ul style="list-style-type: none">• Understanding Tableau calculations: aggregations, LOD expressions - Building calculated fields for complex analysis• Table calculations and advanced calculations• Understanding level of detail (LOD) expressions	<u>03.00pm-05.00 pm</u>	<u>21/03/2023</u>
<u>S 8</u>	<ul style="list-style-type: none">• Advanced filtering and sorting techniques• Creating dynamic filters and parameter-driven analysis• Trend analysis and forecasting in Tableau• Utilizing statistical functions for predictive analysis	<u>03.00pm-05.00 pm</u>	<u>22/03/2023</u>
<u>S 9</u>	<ul style="list-style-type: none">• Introduction to dashboard design principles• Layout and formatting options for dashboards• Creating interactive dashboards with Tableau• Adding actions and filters for interactivity	<u>03.00pm-05.00 pm</u>	<u>23/03/2023</u>
<u>S 10</u>	<ul style="list-style-type: none">• Utilizing parameters to enhance dashboard functionality• Dynamic dashboards and parameter-driven actions• Publishing and sharing dashboards	<u>03.00pm-05.00 pm</u>	<u>27/03/2023</u>



	<p>on Tableau Server or Tableau Public</p> <ul style="list-style-type: none">• Access control and permissions management		
<u>S 11</u>	<ul style="list-style-type: none">• Introduction to advanced analytics with Tableau• Integrating R and Python scripts for advanced analysis• Working with data blending and data extracts• Optimization techniques for performance improvement	<u>03.00pm-05.00 pm</u>	<u>28/03/2023</u>
<u>S 12</u>	<ul style="list-style-type: none">• Introduction to Tableau Server administration and deployment• Server architecture and deployment options• Version control and workbook management in Tableau Server• Best practices for Tableau Server administration	<u>03.00pm-05.00 pm</u>	<u>29/03/2023</u>
<u>S 13</u>	<ul style="list-style-type: none">• Analyzing real-world datasets with Tableau• Case studies from different industries (finance, healthcare, marketing)• Group projects: designing and presenting a Tableau dashboard• Team collaboration and project management	<u>03.00pm-05.00 pm</u>	<u>31/03/2023</u>
<u>S 14</u>	<ul style="list-style-type: none">• Peer review and feedback session for group projects• Iterative design and improvement process <p>Session 28:</p> <ul style="list-style-type: none">• Presentation of group projects to the class• Q&A and discussion on project insights	<u>03.00pm-05.00 pm</u>	<u>03/04/2023</u>
<u>S 15</u>	Individual or group final projects using Tableau	<u>03.00pm-05.00 pm</u>	<u>04/04/2023</u>



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	Designing and presenting comprehensive dashboards		
<u>S 16</u>	Peer evaluation and feedback session for final projects Reflection on learning outcomes and future applications Session 32: Course review and discussion	<u>03.00pm-05.00 pm</u>	<u>07/04/2023</u>



Name of Activity	Tableau
Name of Expert	CSTanay Ojha
Beneficiary	B.B.A. I semester Students (74)
Activity Convener	Ms.Neha Dhigra
Objective	<p>Tableau certification aims to:</p> <ol style="list-style-type: none">1. Validate proficiency: It verifies that individuals have the necessary skills and knowledge to effectively use Tableau in a professional setting.2. Enhance career prospects: Certification can enhance one's resume and make them more attractive to potential employers looking for Tableau expertise.3. Increase productivity: Certified individuals are likely to be more efficient in using Tableau, leading to increased productivity in data analysis and visualization tasks.4. Standardize skill level: Certification provides a standardized benchmark for Tableau skills, allowing employers to assess candidates' capabilities more easily.5. Stay updated: Tableau certification often requires candidates to demonstrate knowledge of the latest features and best practices, helping them stay current in the field of data visualization and analytics. <p>Overall, the aim is to empower individuals with the skills needed to leverage Tableau effectively for data-driven decision-making and analysis in various industries and domains.</p>
Content	<p>Expanding the Tableau course to 32 days allows for a more in-depth exploration of each topic and ample time for hands-on practice and project work. Here's a detailed breakdown of content for a 32-day Tableau course:</p> <p>Week 1: Introduction to Tableau and Basic Visualization Techniques</p> <p>Day 1: Introduction to Tableau</p> <ul style="list-style-type: none">• Overview of Tableau products and features• Installation and setup• Interface tour and navigation



- Connecting to various data sources

Day 2: Basic Visualization Techniques

- Building basic charts (bar, line, scatter, pie)
- Customizing visualizations (color, size, labels)
- Introduction to filters and parameters
- Best practices for effective data visualization

Intermediate Visualization Techniques and Data Preparation

Day 3: Intermediate Visualization Techniques

- Exploring additional chart types (tree maps, heat maps, dual-axis)
- Using sets, groups, and hierarchies
- Creating advanced calculations (IF statements, logical functions)
- Dashboard fundamentals

Day 4: Data Preparation and Management

- Data cleansing techniques
- Joining and blending data sources
- Data reshaping and pivoting
- Working with date fields and time series data

Advanced Visualization Techniques and Dashboard Design

Day 5: Advanced Visualization Techniques

- Implementing advanced analytics (trend lines, reference lines)
- Using table calculations for dynamic visualizations
- Mapping and spatial analysis
- Introduction to custom geocoding

Day 6: Dashboard Design Best Practices

- Principles of effective dashboard design
- Layout containers and formatting options
- Dashboard actions and interactivity



- Building interactive dashboards with parameters

Advanced Topics, Collaboration, and Certification Preparation

Day 7: Advanced Calculations and Analytics

- Understanding LOD expressions (FIXED, INCLUDE, EXCLUDE)
- Advanced calculations for trend analysis and forecasting
- Working with R and Python integration
- Introduction to predictive analytics with Tableau

Day 8: Data Blending, Performance Optimization, and Review

- Advanced data blending techniques
- Performance optimization strategies (extracts, aggregations)
- Review of key concepts and techniques
- Practice exercises and troubleshooting

Collaboration, Sharing, and Real-world Projects

Day 9-10: Collaboration and Sharing

- Publishing to Tableau Server or Tableau Online
- Setting permissions and access controls
- Version control and workbook management

Day 11-12: Real-world Projects

- Working on guided projects or case studies
- Applying Tableau skills to real datasets
- Presenting and sharing project findings

Project Work, Certification Preparation, and Final Review

Day 13-14 Project Work and Certification Preparation

- Dedicated time for project development
- One-on-one support and feedback sessions
- Reviewing Tableau certification exam topics

Day 15-16: Final Review



	<ul style="list-style-type: none">• Final review of course material• Mock certification exam• Practice exams and quizzes <p>This extended 32-day Tableau course offers a comprehensive learning journey covering foundational concepts to advanced techniques, culminating in real-world projects and certification preparation. Adjustments can be made based on the audience's background and specific learning objectives.</p>
<u>Outcome of Activity</u>	<p>Tableau proficiency enables dynamic data visualization, fostering informed decision-making and insightful analysis across industries. Users craft compelling reports and dashboards, enhancing communication and driving productivity. Valued in careers spanning data analysis to business intelligence, Tableau skills empower individuals to leverage data effectively, gaining a competitive edge in today's data-driven world.</p>



Mangalmay Institute of Management Technology Greater Noida (U.P.)



 **GPS Map Camera**



Google

Greater Noida, Uttar Pradesh, India
8, Knowledge Park 1 Knowledge Park 2 Rd, Knowledge Park II, Greater
Noida, Uttar Pradesh 201310, India
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Long 77.493578°
13/03/23 04:06 PM GMT +05:30



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 **GPS Map Camera**



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Lat 28.459145°
Long 77.493583°
07/04/23 03:57 PM GMT +05:30

Photograph



Resource Person's Profile

CS TanayOjha

He is qualified company secretary and an eminent member of Institute of Company Secretaries of India (ICSI). He has vast experience in the fields of corporate consultancy. As an expert of Company Law matters he possess specialization in the field of corporate legal liasioning, Legal matters related to different class of companies and Listing Agreement related clauses. He is also having a decade of experience in Financial and Investment Management. As a professional he has worked on the post of Secretarial Auditor and scrutinizer for various listed entities. He is having expertise in company formation, liquidation and change in management. He is having over 10 years of experience as practising company secretary and he is the owner of Ojha and Associates (A Corporate Consultancy Firm). Besides his professional expertise, he has keen interest in research activities and Algorithmic trading. He has presented different research papers in the field of corporate strategies and growth at national and International conferences. He is the Author of 3 books on the matters of Self Discipline.

He is also speaker on the topics related with Self Descipline, Attitude Building and Ethics. He is associated with Bosch India for his Attitude Building Sessions under CSR activities.



Add-On Course: Tableau

Name of the Student : _____ Roll No. _____

Sign of Invigilator : _____ Marks _____

Time : 1 Hour

Marks 40 Marks

Note : Each question carry 2 marks

1. What is Tableau?
 - a) **A data visualization tool**
 - b) A programming language
 - c) A database management system
 - d) A web browser
2. Which of the following is NOT a type of visualization that Tableau supports?
 - a) Bar charts
 - b) Scatter plots
 - c) **3D modeling**
 - d) Maps
3. What is the file extension for Tableau workbook files?
 - a) **.twbx**
 - b) .tbl
 - c) .tds
 - d) .tde
4. Which of the following is NOT a data connection option in Tableau?
 - a) Excel
 - b) SQL Server
 - c) Google Sheets
 - d) **Photoshop**
5. Which feature in Tableau allows users to combine multiple data sources?



- a) **Data Blending**
 - b) Data Union
 - c) Data Joins
 - d) Data Aggregation
6. What is the primary purpose of Tableau's "Dashboard" feature?
- a) To visualize data using charts and graphs
 - b) To create interactive presentations
 - c) **To combine multiple visualizations into a single canvas**
 - d) To import data from external sources
7. Which of the following is NOT a type of filter in Tableau?
- a) **Extract Filter**
 - b) Context Filter
 - c) Dimension Filter
 - d) Measure Filter
8. What is a calculated field in Tableau?
- a) **A field derived from existing data fields using a formula**
 - b) A randomly generated field
 - c) A field imported from external sources
 - d) A field created by Tableau automatically
9. In Tableau, what is the purpose of a "parameter"?
- a) To filter data
 - b) **To customize visualizations**
 - c) To define calculated fields
 - d) To create new data connections
10. Which of the following is NOT a type of join in Tableau?
- a) Inner Join



- b) Outer Join
 - c) Left Join
 - d) Merge Join**
11. What is the purpose of the "Story" feature in Tableau?
- a) To narrate data insights through a sequence of visualizations**
 - b) To create interactive games
 - c) To analyze code syntax
 - d) To share datasets with collaborators
12. Which file type is used to store extracted data in Tableau?
- a) .xlsx
 - b) .tds
 - c) .tde**
 - d) .csv
13. What is the primary function of Tableau's "Server" edition?
- a) To collaborate on data visualizations across an organization**
 - b) To play music files
 - c) To edit images
 - d) To write programming code
14. Which of the following is NOT a type of Tableau Server user?
- a) Viewer
 - b) Administrator
 - c) Editor**
 - d) Creator
15. What is Tableau Prep Builder used for?
- a) Data preparation and cleaning**
 - b) Creating visualizations



- c) Designing dashboards
 - d) Writing SQL queries
16. In Tableau, what does the term "aggregation" refer to?
- a) Combining multiple datasets
 - b) Summarizing data to a higher level of detail**
 - c) Filtering out unwanted data
 - d) Creating calculated fields
17. Which of the following is NOT a way to share Tableau visualizations?
- a) Export as an image file
 - b) Publish to Tableau Public
 - c) Share via email attachment
 - d) Print directly from Tableau**
18. What is the purpose of the "Map" feature in Tableau?
- a) To visualize geographical data**
 - b) To edit images
 - c) To compose music
 - d) To analyze text data
19. Which of the following is NOT a formatting option available in Tableau?
- a) Font style and size adjustments
 - b) Adding hyperlinks**
 - c) Background color customization
 - d) Axis scaling
20. What is Tableau's "Show Me" feature used for?
- a) To suggest appropriate visualizations based on the data**
 - b) To play music
 - c) To write code
 - d) To edit images



Add-On Course: Tableau

Name of the Student Abhishek

Invigilator Sign [Signature]

Marks obtained 38

Time : 1 Hour

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CERTIFICATE OF PARTICIPATION

It is to certify that ABHAY BHATI has successfully completed **32 hours** workshop on "Tableau" from **13/03/2023** to **7/04/2023** organized by Mangalmay Institute of Management & Technology, Greater Noida.

VICE CHAIRMAN
Mangalmay Group of
Institutions

IQAC Coordinator
Mangalmay Institute of
Management & Technology

PRINCIPAL
Mangalmay Institute of
Management & Technology