

# INDIRA UNIVERSITY, PUNE

## SCHOOL OF BUSINESS- MBA

Term End Examination (2025 Pattern) April- May – 2026- Semester – II

Course Name: Visual Analytics  
Course Code: 25MBA2103

Max. Marks: 25  
Time: 1:30 Hrs.

### Instructions

- All questions are **compulsory**.
- Figures to the right indicate **full marks** for each question.
- Draw **neat and labelled diagrams/charts** wherever necessary.
- Assume suitable data if required and **state assumptions clearly**.

| Q.1        | An e-commerce dataset contains information on thousands of customers, including attributes such as age, gender, annual income, purchase frequency and location. Create any two suitable charts to visualize the data. Based on these visualizations, analyze the distribution pattern of customer ages and identify key trends, patterns, and possible insights in relation to the additional attributes provided. <div>[10 Marks]</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CO:4        |                  |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------|-------------|--------------|------------|-----|--------|--------|-----------|----|--------|--------|------------|-----|--------|--------|------------|-----|--------|--------|----------|----|--------|--------|---------|-----|--------|--------|------|
| OR         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                  |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Q.1        | Consider a hospital dataset given below: <div>[10 Marks]</div> <table><tr><th>Department</th><th>Patients Treated</th><th>Revenue (₹)</th><th>Expenses (₹)</th></tr><tr><td>Cardiology</td><td>120</td><td>240000</td><td>150000</td></tr><tr><td>Neurology</td><td>90</td><td>180000</td><td>120000</td></tr><tr><td>Orthopedic</td><td>150</td><td>300000</td><td>200000</td></tr><tr><td>Pediatrics</td><td>110</td><td>220000</td><td>140000</td></tr><tr><td>Oncology</td><td>80</td><td>260000</td><td>170000</td></tr><tr><td>General</td><td>200</td><td>350000</td><td>210000</td></tr></table> <div>a) Construct any two suitable charts to visualize the dataset in tableau.<br/>b) Create a calculated field to find Profit (Revenue – Expenses).<br/>c) Analyse the charts and identify:<br/>    i) Department with highest revenue<br/>    ii) Department with highest profit</div> | Department  | Patients Treated | Revenue (₹) | Expenses (₹) | Cardiology | 120 | 240000 | 150000 | Neurology | 90 | 180000 | 120000 | Orthopedic | 150 | 300000 | 200000 | Pediatrics | 110 | 220000 | 140000 | Oncology | 80 | 260000 | 170000 | General | 200 | 350000 | 210000 | CO:4 |
| Department | Patients Treated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Revenue (₹) | Expenses (₹)     |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Cardiology | 120                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 240000      | 150000           |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Neurology  | 90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 180000      | 120000           |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Orthopedic | 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 300000      | 200000           |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Pediatrics | 110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 220000      | 140000           |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Oncology   | 80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 260000      | 170000           |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| General    | 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 350000      | 210000           |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Q.2        | A human resource department wants to visualize employee performance, attrition, and department-wise distribution. Create a dashboard and evaluate its design by selecting appropriate charts, adding dashboard actions, and ensuring clarity for management analysis. <div>[10 Marks]</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CO:6        |                  |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| OR         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                  |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Q2.        | A retail company wants to present its year-wise sales growth, regional performance, and top-performing products to senior management. Design a Tableau story using multiple views and evaluate how effectively the sequence of dashboards communicates business insights. <div>[10 Marks]</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CO:6        |                  |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |
| Q3.        | Answer Any Two. <div>[5 Marks]</div> <div>a) List any five components of the Tableau interface<br/>b) Explain how to add a join between two tables in Tableau.<br/>c) Describe how trend lines help in data analysis</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | CO:2        |                  |             |              |            |     |        |        |           |    |        |        |            |     |        |        |            |     |        |        |          |    |        |        |         |     |        |        |      |