**Data Visualization Exam Questions:**

**Unit 1:**

1. What is visualization, advantages, usage and why.
2. What is visual perception. Why do we need this.
3. Explain the Gestalt principles. Explain in detail.
4. What is Data Abstraction. Why it is needed.
5. What is Visual Encodings. Explain Mask and Channel in Visual Encoding. (fig)
6. Short description on use of colors. Identify color Issues.
7. Visual Representation of Data.

**Unit 2:**

1. Explain about visual Reference Model. (Stages explain) - 6 marks
2. Techniques of Visual Mapping (short)
3. What is visual analytics and why.

**Unit 3:**

1. Explain about data types and variables. - 3 marks
2. Definition: 1-D, 2-D, multi-dimension - 3 marks - (fig, example)
3. What kind of plot is used in quantitative values
4. Separate, Order and Align.
5. Time series data, characteristics.

**Unit 4:**

1. What is Spatial Data Visualization. Why needed.
2. Types of Spatial Data Types. (Geometric data, geographic data)
3. What is projection. Why needed. - 3 marks
4. Spatial Scalar Field - 6 marks - iso-contours (def, characteristics) and direct volume rendering (steps).