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| 1. | What is the primary purpose of data visualization? [CO1, K1] | | | | | | | [ ] |
| 1. To make data analysis more complicated. | | | B. To hide important information within complex graphics. | | C. To present data in a visually understandable format. | | D. To limit accessibility of data to a select few individuals. | |
| 2. | What is the purpose of data preprocessing in the context of data foundation? [CO1, K1] | | | | | | | [ ] |
| A. To remove irrelevant information from the dataset. | | | B. To make the data more complex and difficult to understand. | | C. To complicate the data further. | | D. To add noise to the dataset for better visualization. | |
| 3. | Which type of plot is commonly used to visualize the relationship between two variables in a dataset? [CO1, K2] | | | | | | | [ ] |
| A. Bar chart | | | B. Line plot | | C. Scatter plot | | D. Pie chart | |
| 4. | In which field does visualization aid in strategic planning, risk assessment, and resource allocation? [CO1, K2] | | | | | | | [ ] |
| A. Healthcare | | | B. Engineering | | C. Business Decision-Making | | D. Education | |
| 5. | Data visualization is also an element of the broader \_\_\_\_\_\_\_\_\_\_\_\_\_. [CO1, K1] | | | | | | | [ ] |
| 1. Deliver presentation architecture | | | B. data presentation architecture | | C. dataset presentation architecture | | D. data process architecture | |
| 6. | What is the process of cleaning and formatting raw data into a stable format called?  [CO1, K2] | | | | | | | [ ] |
| A.Data Visualization | | | B. Data Extraction | | C. Data Integration | | D. Data Cleaning | |
| 7. | What is the Process of transforming categorical data into numerical values called? [CO1, K2] | | | | | | | [ ] |
| A. Data Encoding | | | B. Data Imputation | | C. Data Transformation | | D. Data Standardzation | |
| 8. | Which type of data visualization is suitable for comparing the proportion of different categories in a whole? [CO1, K2] | | | | | | | [ ] |
| A. Pie chart | | | B. Line chart | | C. Bar chart | | D. Scatter plot | |
| 9. | What are some conventions commonly used in pseudo code? [CO1, K2] | | | | | | | [ ] |
| A. There are no conventions for writing pseudo code. | | B. Pseudo code should always be written in plain English with no symbols. | | C. Pseudo code conventions involve using indentation, descriptive variable names, and control structures. | | D. Pseudo code conventions include using a specific programming language syntax. | | |
| 10. | How does visualization contribute to scientific research? [CO1, K1] | | | | | | | [ ] |
| A. It aids in representing and communicating findings. | | B. It simplifies the research process. | | C. It generates data automatically. | | D. It replaces peer-reviewed publications. | | |

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| 1. | Which of the following is one of the Eight Visual Variables commonly used in data visualization? [CO2, K1] | | | | | | | [ ] |
| A. Sound | | | B. Taste | | C. Smell | | D. Texture | |
| 2. | Which of the following is NOT one of the stages of visualization? [CO2, K1] | | | | | | | [ ] |
| A. Data collection | | | B. Data storage | | C. Data interpretation | | D. Data processing | |
| 3. | What visual variable can represent different categories or groups by using distinct shapes? [CO2, K1] | | | | | | | [ ] |
| A.Size | | | B. Color | | C. Shape | | D. Texture | |
| 4. | Experimental Semiotics is based on the theories of: [CO2, K2] | | | | | | | [ ] |
| A.Gestalt psychology | | | B. Perception Gibson's Affordance theory | | C. Behaviorism | | D. Structuralism | |
| 5. | In Gibson's Affordance theory, what role do environmental cues play in perception? [CO2 K1] | | | | | | | [ ] |
| A. They provide cultural context for interpreting symbols. | | | B. They shape the affordances or action possibilities of objects. | | C. They serve as arbitrary signs with assigned meanings. | | D. They are irrelevant to the process of perception. | |
| 6. | Semiology of Graphical Symbols refers to the study of: [CO2, K1] | | | | | | | [ ] |
| A. The psychology of color perception | | | B. The history of data visualization techniques | | C. Mathematical patterns in data visualization | | D. The meaning and interpretation of graphical elements | |
| 7. | What does Gibson's Affordance theory primarily emphasize in the context of perception? [CO2 K1] | | | | | | | [ ] |
| A. The role of cultural symbols in understanding perception | | | B. The influence of past experiences on perceptual interpretation | | C. The relationship between environmental cues and action possibilities | | D. The importance of language in shaping perceptual processes | |
| 8. | What is the role of visualization in storytelling? [CO2, K1] | | | | | | | [ ] |
| A. It replaces text entirely in narratives. | | | B. It complements storytelling by providing visual elements. | | C. It only appeals to technical audiences. | | D. It eliminates the need for a narrative structure. | |
| 9. | Techniques that emphasize visualizing interconnected data points or nodes are known as\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Techniques. [CO1, K2] | | | | | | | [ ] |
| A. Network | | B. Data Extraction | | C. Line chart | | D. Data Integration | | |
| 10. | What visualization technique is commonly used to represent two-dimensional spatial data?  [CO1, K2] | | | | | | | [ ] |
| A. Heatmap | | B. Box plot | | C. Line graph | | D. Bar chart | | |

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| 1. | What visualization technique is commonly used to represent two-dimensional spatial data? [CO3, K2] | | | | [ ] |
| A. Box plot | | B. Heatmap | C. Line graph | D. Bar chart | |
| 2. | Which visualization method is appropriate for representing three-dimensional spatial data? [CO3, K2] | | | | [ ] |
| A. Scatter plot | | B. Contour plot | C. Choropleth map | D. Stacked bar chart | |
| 3. | Which technique is appropriate for visualizing a river or road network on a map? [CO3, K2] | | | | [ ] |
| A.Point-based visualization | | B. Line-based visualization | C. Area-based visualization | D. Cartogram | |
| 4. | What type of visualization technique is best suited for representing variations in population density across different states or countries?[CO3, K1] | | | | [ ] |
| A. Scatter plot | | B. Contour plot | C. Choropleth map | D. Stacked bar chart | |
| 5. | Which visualization technique is used to distort geographical boundaries based on a specific variable other than geographical area? [CO3, K1] | | | | [ ] |

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| 1. | Visualization is a powerful tool that enhances communication and understanding of  complex data in various \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [CO1, K1] |
| 2. | In data science, visualization assists in conveying insights to both technical and non-  technical stakeholders, facilitating better data\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [CO1, K1] |
| 3. | One of the key aspects of visualization is its ability to simplify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_making  it accessible to a wider audience. [CO1, K2] |
| 4. | In healthcare, visualization aids in conveying medical information to patients, simplifying  complex diagnoses and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [CO1, K2] |
| 5. | The Scatter plot is a type of visualization technique used to represent the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ relationship between two variables. [CO1, K2] |
| 6. | Data Foundation encompasses the understanding of different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and their characteristics. [CO1, K1] |
| 7. | Scatter plots are often used to identify patterns or relationships between variables in \_\_\_\_\_\_\_\_.  [CO1, K2] |
| 8. | Within and between Records refers to the organization and \_\_\_\_\_\_\_\_ of data within individual data entries and across multiple data entries. [CO1 K2] |
| 9. | Data visualization is also an element of the broader \_\_\_\_\_\_\_\_\_\_\_\_\_. [CO1, K1] |
| 10. | The primary use of data cleaning is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ [CO1, K1] |

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| 1. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is used to query and edit graphical settings.[CO2, K1] |
| 2. | The choice of the most suitable visualization technique depends on the  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the specific insights being sought. [CO2, K1] |
| 3. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_helps in designing effective tables and charts for data visualization. [CO2, K2] |
| 4. | Visualization is particularly effective in simplifying \_\_\_\_\_\_\_\_\_\_\_\_ and presenting it in a  more intuitive and accessible format. [CO2, K1] |
| 5. | One of the key objectives of visualization is to reveal patterns, trends, and insights that might not be apparent from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ alone [CO2, K1] |
| 6. | A data visualization tool that updates in real time and gives multiple outputs is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_[CO2, K1] |
| 7. | A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a line that provides an approximation of the relationship between the variables. [CO2, K2] |
| 8. | Visualization is a technique that uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to Enhances the communication and understanding of data. [CO2, K1] |
| 9. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_is used to query and edit graphical settings. [CO1, K2] |
| 10. | Visualization is a technique that uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to Enhances the communication and understanding of data. [CO1, K1] |

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| Techniques that emphasize visualizing interconnected data points or nodes are known as  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Techniques. [CO3, K1] |
| A technique for representing data evolving over time is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Data Visualization. [CO3, K1] |
| Techniques that emphasize visualizing interconnected data points or nodes are known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Techniques. [CO3, K1] |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -Dimensional data involves data that can be represented on a plane, such as scatter plots and bubble charts. [CO3, K1] |
| Visualization of individual data points on a map is achieved using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Visualization [CO3, K2] |