

**GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY****(AN AUTONOMOUS INSTITUTION)****(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)****(Accredited by NAAC with "A" Grade, NBA (EEE,ECE & ME) & ISO9001:2008 Certified Institution)****QUESTION BANK (DESCRIPTIVE)****DATA VISUALIZATION****A.Y2024-25****Subject Name with Code: 22A3206T****Branch: CSE(DS)****Year& Semester:III-II****Regulation:RG22****UNIT – I**

Data Visualization: Introduction, A Brief History of Data Visualization, Good Graphics - Scientific Design Choices in Data Visualization, Static Graphics- Complete Plots, Customization, Data Visualization Through Their Graph Representations, High-dimensional Data Visualization, Linked Data Views.

UNIT-1: Data Visualization

S. No.	Question	[BT Level] [CO] [Marks]
Descriptive Questions (Long)		
1	What is Data Visualization? Briefly explain about its overview with a neat sketch?	L2/CO1/10M
2	Write a short note on good graphics and static graphics in real time?and explain them with a neat sketch?	L2/CO1/10M
3	Explain briefly about the history of Data visualization in various domains/platforms in real time?	L2/CO1/10M
4	Write a short note on customization and complete plots in real time ?Explain them with an example?	L2/CO1/10M
5	Explain briefly about the how data visualization represented through their graph in real time ?with a neat sketch?	L2/CO1/10M
6	Explain briefly about the scientific design choices in Data Visualization with a neat sketch?	L2/CO1/10M
7	Explain briefly about the high dimensional data visualization in real time?with a neat sketch	L2/CO1/10M
8	Write a short note on Adjacency matrix &Adjacency list in data visualization?Explain them with an example?	L2/CO1/10M
9	Write a short note on linked data views and Art &science in data visualization?	L2/CO1/10M
10	Write a short note on PCA&UMAP in data visualization with a neat sketch?	L2/CO1/10M
11	How data is converted /getting started with data visualization through programming language ? Briefly explain about it?	L2/CO1/10M
12	Write a short note on RBFNS &T-SNE in data visualization with a neat sketch?	L2/CO1/10M

UNIT - II

Methodologies-I: Interactive Linked Micro Map Plots for the Display of Geographically Referenced Statistical Data, Manual Controls.

Regression by Parts: Fitting Visually Interpretable Models with guide, Smoothing Techniques for Visualization

UNIT-2. Methodologies-I

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1.	What is Micro map? Explain briefly about the interactive micro map plots in data visualization? with an example?	L2/CO2/10M
2.	Explain briefly about the manual controls in data visualization with neat sketch?	L2/CO2/10M
3.	Explain how display of geographically referenced statistical data is occurred in data visualization with examples?	L2/CO2/10M
4.	Write a short on Regression by plots in data visualization with neat sketch?	L2/CO2/10M
5.	Explain briefly about the smoothing techniques for data visualization in real time ?with an example?	L2/CO2/10M
6.	Explain briefly about how visually fitting interpretable models is Occurred in data visualization with guide? with a neat sketch?	L2/CO2/10M
7.	What is meant by yellow brick tool?&explain briefly about them with a neat sketch?	L2/CO2/10M
8.	What is meant by Regression &explain briefly about the types of regression techniques in data visualization?	L2/CO2/10M
9.	Write a short note on geospatial data &geographical information system in data visualization?	L2/CO2/10M
10.	Write a short note on methodologies & reporting in data visualization?	L2/CO2/10M

UNIT – III

Visualizing Cluster Analysis and Finite Mixture Models, Mosaic Plots and Their Variants, Matrix Visualization, Visualization in Bayesian Data Analysis.

UNIT-3 Methodologies-II

S. No.	Question	[BT Level] [CO][Marks]
1.	What is meant by Cluster analysis? Explain how visually cluster analysis is occurred in data visualization?.	L2/CO3/10M
2.	What is mean by mosaic plots? Explain how mosaic plots is linked with their variants in real time?	L2/CO3/10M
3.	Explain briefly about the finite combination models in data visualization with a neat sketch?	L2/CO3/10M
4.	Explain how visualization is occurred in Bayesian data analysis in real time	L2/CO3/10M
5.	Explain briefly about the matrix visualization in data visualization with a neat sketch?	L2/CO3/10M
6.	Write a short note on hierarchial clustering &dendrogram in data visualization with a neat sketch?	L2/CO3/10M
7.	Explain briefly about the practical implementation of mosaic plots &it steps in data visualization in real time?	L2/CO3/10M
8.	Write a short on guassian &Bayesian mixture models in the data visualization?	L2/CO3/10M
9	Differentiate Between Bayesian and Guassian plots in Data Visualization?with a neat Sketch?	L2/CO3/10M

10	Explain Briefly About the Bayesian Belief Networks in Data Visualisation?with a neat Sketch?	L2/CO3/10M
11	Write a short note on Advanced Customization of Mosaic plots in Data visualization?with an Example?	L2/CO3/10M

UNIT-4-DATA VISUALIZATION VIA KERNEL MACHINES

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1.	Explain Different types of SVM Functions in Data Visualization?With a Neat Sketch?	L2/CO4/10M
2.	Explain Briefly About the Kernel Principal Component Analysis in Data Visualization?with a neat Sketch?	L2/CO4/10M
3.	Explain Briefly about the Kernel Cluster Analysis in Data Visualization?with an Example?	L2/CO4/10M
4.	Write a short Note on Implementation of Kernel CCA&its Correlation Matrix ?with a Neat Sketch?	L2/CO4/10M
5.	Write a short Note on Different Types of Clustering Analysis &Kernel PCA Implementation with an Example program?	L2/CO4/10M
6.	Explain Briefly about Kernel Machines in Data Visualization?with an Example Program?	L2/CO4/10M
7.	Write a short note on Data Visualization via Kernel Machines&its Implementation?	L2/CO4/10M
8.	Explain Briefly about Different Types of Kernel Machines in Data Visualization?with a neat Sketch?	L2/CO4/10M
9.	Write a short note an Overview of Kernel Machines in Data Visualization?with a neat Sketch?	L2/CO4/10M
10.	Write a short note on kernel Canonical correlation Analysis in Data Visualization?with a neat Sketch?	L2/CO4/10M

UNIT-5-Applications

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1.	Explain Briefly About the Visualizing &Analuzing of Medical Images in Data Visualization?with a neat Sketch?	L2/CO5/10M
2.	Write a short note on Reconstruction of Generic network Visualization ?with a neat sketch?	L2/CO5/10M
3.	Explain Briefly about the generic network Visualization in real time processing ?with a neat sketch?	L2/CO5/10M
4.	Write a short note on Applications of Data Visualization?Explain Briefly about it?	L2/CO5/10M
5.	Explain Briefly about the online E-Auctions in Data Visualization?with a neat sketch?	L2/CO5/10M
6.	Explain Briefly about how functional data is visualizing in Data Visualization?with a neat sketch?	L2/CO6/10M
7.	Write a short note on application with an E-bays online Auction in Data Visualization?with a neat sketch?	L2/CO6/10M
8.	Write a short note on implementation of Medical Images in Data Visualization?with a neat sketch?	L2/CO6/10M
9.	Explain Briefly about Case study implementation on generic networks in Data visualization?with a neat sketch?	L2/CO6/10M
10.	Write a short note on Implementation of E-Commerce/E-Bays online Auctions in Data Visualization?with an Example?	L2/CO6/10M

SHORT ANSWERS:

	UNIT -1	
S.No.	Question	[BT Level] [CO] [Marks]
2 Marks Questions (Short)		
1.	What is Histogram?	[L1] [CO1] [2M]
2.	What is R and R Studio?	[L1] [CO1] [2M]
3.	What is heatmap?	[L1] [CO1] [2M]
4.	Define Outlier?	[L1] [CO1] [2M]
5.	What is Box plot&Scatterplot?	[L1] [CO1] [2M]
6.	List out the Various Types of Charts and Graphs in Data Visualization?	

	UNIT -2	
S.No.	Question	[BT Level] [CO] [Marks]
2 Marks Questions (Short)		
1.	Define Reporting?	[L1] [CO2] [2M]
2.	What is Cluttering?	[L1] [CO2] [2M]
3.	What is regression?	[L1] [CO2] [2M]
4.	Write the Syntax of Yellow Brick Tool?	[L1] [CO2] [2M]
5.	List out the Steps of Smoothing Techniques?	[L1] [CO2] [2M]
6.	Define Tableau?	

	UNIT -3	
S.No.	Question	[BT Level] [CO] [Marks]
2 Marks Questions (Short)		
1.	Define Dendrogram?	[L1] [CO3] [2M]
2.	Write the Syntax of FCM?	[L1] [CO3] [2M]
3.	What is correlation Matrix?	[L1] [CO3] [2M]
4.	Define Cluster Centroids?	[L1] [CO3] [2M]
5.	What is Reduction Dimensionality?	[L1] [CO3] [2M]
6.	Define Sk.learn & Matplotlib?	

	UNIT -4	
S.No.	Question	[BT Level] [CO] [Marks]
2 Marks Questions (Short)		
1.	Draw basic Plot of Kernel in Data Visualization?	[L1] [CO4] [2M]
2.	What is Support Vector Machine?	[L1] [CO4] [2M]
3.	Write the Syntax of Kernel CCA?	[L1] [CO4] [2M]
4.	List out the Elements of Kernel Machines?	[L1] [CO4] [2M]
5.	Write the Syntax of Kernel Machines?	[L1] [CO4] [2M]
6.	List Out the Aspects of Kernel CCA?	

	UNIT -5	
S.No.	Question	[BT Level] [CO] [Marks]
2 Marks Questions (Short)		
1.	List out the Applications of Data Visualization?	[L1] [CO5] [2M]
2.	Define Time mapping Correalation approach?	[L1] [CO5] [2M]
3.	List Out the Challenges of Visualizing Medical Images in Data Visualization?	[L1] [CO5] [2M]
4.	Define Functional Data in Data Visualization?	[L1] [CO6] [2M]
5.	List out the Tools & techniques While Implementing Functional Data in data Visualization?	[L1] [CO6] [2M]
6.	List Out the tools and Softwares in Analysis of Medical Images in Data Visualization?	[L1] [CO6] [2M]
7.	List out the Biological Aspects of Generic Networks in Data Visualization?	[L1] [CO6] [2M]