Course Code: 23AM6T02

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(AUTONOMOUS)

III - B.Tech II-Semester Regular Examinations (BR23), April- 2026

DATA VISUALIZATION(COMMON TO CSE-AI&DS,AIML)

Time: 3 hours Max. Marks: 70

Question Paper consists of Part-A and Part-B

*Answer **ALL** the question in **Part-A andPart-B***

PART–A (10X2 = 20M)

		Marks	CO	BL
1. a)	Define data visualization.	(2M)	CO1	BL1
b)	Define Gestalt principles in visualization.	(2M)	CO1	BL1
c)	Define visualization reference model.	(2M)	CO2	BL1
d)	Explain the concept of visual mapping.	(2M)	CO2	BL2
e)	List two interaction techniques used in visualization systems.	(2M)	CO3	BL1
f)	Illustrate the visualization of multidimensional data.	(2M)	CO3	BL3
g)	Identify any two visualization techniques used for graphs or networks.	(2M)	CO4	BL1
h)	Define metaphorical visualization.	(2M)	CO4	BL1
i)	Define GIS in data visualization.	(2M)	CO5	BL1
j)	Classify recent trends in data visualization techniques	(2M)	CO5	BL4

PART–B (5X10 = 50M)

2a.	Illustrate the visualization process with a neat diagram.	5(M)	CO1	BL3
b.	Explain visual perception and its significance in designing visualizations.	5(M)	CO1	BL2
	(OR)			
3a.	Evaluate information overload problems and methods to reduce it in visualization.	5(M)	CO1	BL5
b.	Explain Gestalt principles with examples relevant to visualization.	5(M)	CO1	BL2

4a.	Explain the visualization reference model with suitable diagram.	5(M)	CO2	BL2
b.	Illustrate the process of designing a visualization application using visual analytics.	5(M)	CO2	BL3
	(OR)			
5a.	Compare visual analytics with traditional data analysis techniques.	5(M)	CO2	BL5
b.	Evaluate the effectiveness of a visualization design in conveying data insights.	5(M)	CO2	BL5

6a.	Explain the classification of visualization systems with examples.	5(M)	CO3	BL2
b.	Analyze one-dimensional, two-dimensional, and multi-dimensional data visualization techniques.	5(M)	CO3	BL4
	(OR)			
7a.	Differentiate between text visualization and document visualization.	5(M)	CO3	BL2
b.	Evaluate the effectiveness of interaction techniques for complex data analysis.	5(M)	CO3	BL5

8a.	Explain visualization techniques for trees and graphs with suitable examples.	5(M)	CO4	BL2
b.	Analyze cluster and network visualization techniques.	5(M)	CO4	BL4
	(OR)			
9a.	Compare group visualization and metaphorical visualization techniques.	5(M)	CO4	BL5
b.	Evaluate the role of software visualization in understanding complex systems.	5(M)	CO4	BL5

10a	Illustrate the visualization of volumetric data and vector fields.	5(M)	CO5	BL3
b.	Analyze the role of GIS systems in geographic visualization.	5(M)	CO5	BL4
	(OR)			
11a	Explain collaborative visualization and its applications.	5(M)	CO5	BL2
b.	Evaluate recent trends and evaluation techniques in data visualization.	5(M)	CO5	BL5

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Faculty in- charge

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