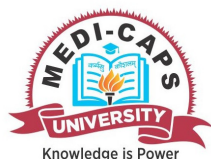


Total No. of Questions: 6

Total No. of Printed Pages: 2

Enrollment No.....



Faculty of Engineering
End Sem Examination Dec-2023
CS3ED03 Data Visualization

Programme: B.Tech.

Branch/Specialisation: CSE All

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Data can be visualized using- 1
 (a) Graphs (b) Charts (c) Maps (d) All of these
- ii. Which are pros of data visualization? 1
 (a) It can be accessed quickly by a wider audience
 (b) It can misrepresent information
 (c) It can be distracting
 (d) None of these
- iii. Which is used to query and edit graphical settings? 1
 (a) anova() (b) par() (c) plot() (d) cum()
- iv. Which of the following plots are often used for checking randomness in time series? 1
 (a) Autocausation (b) Autorank
 (c) Autocorrelation (d) None of these
- v. The purpose of fisher.test() is _____ test for contingency table. 1
 (a) Chisq (b) Fisher (c) Prop (d) Stem
- vi. Which are cons of data visualization? 1
 (a) It conveys a lot of information in a small space
 (b) It makes your report more visually appealing
 (c) visual data is distorted or excessively used
 (d) None of these
- vii. Which method shows hierarchical data in a nested format? 1
 (a) Treemaps (b) Scatter plots
 (c) Population pyramids (d) Area charts

- viii. Data visualization is also an element of the broader _____. 1
 (a) Deliver presentation architecture
 (b) Data presentation architecture
 (c) Dataset presentation architecture
 (d) Data process architecture
- ix. Common use cases for data visualization include- 1
 (a) Politics (b) Sales and marketing
 (c) Healthcare (d) All of these
- x. Which one of the following is most basic and commonly used techniques? 1
 (a) Line charts (b) Scatter plots
 (c) Population pyramids (d) Area charts
- Q.2 i. What is data visualization? Explain it with example. 2
 ii. What are the three main goals of data visualization? 3
 iii. What are the advantages of data visualization? 5
 OR iv. Explain basic principles of data visualization. 5
- Q.3 i. What is information spaces? 2
 ii. Explain Fisheye Views – applications and non-linear magnification. 8
 OR iii. Write short notes- 8
 (a) Abstraction in computer graphics
 (b) Abstraction in user interfaces
- Q.4 i. How do you use color in your visualizations? 3
 ii. Explain translation, rotation and scaling of objects in 2 dimensions. 7
 OR iii. Define the terms legend, interval, axes, scales in a chart. 7
- Q.5 i. Explain discrete event visualization. 4
 ii. Explain interactive 3D illustrations with images and text. 6
 OR iii. Explain continuous time-series visualization. 6
- Q.6 Attempt any two:
 i. Explain animation in D3.js with example. 5
 ii. What is scalar vector graphics? Explain. 5
 iii. What are data visualization techniques? Explain in detail. 5

Scheme of Marking

Data Visualisation- CS3ED03 (T)

Q.1	i)	d. All of the above	1
	ii)	a. It can be accessed quickly by a wider audience.	1
	iii)	b. par()	1
	iv)	c. Autocorrelation	1
	v)	b.Fisher	1
	vi)	c. visual data is distorted or excessively used.	1
	vii)	a.Treemaps	1
	viii)	b. data presentation architecture	1
	ix)	d. All of the above	1
	x)	a. Line charts	1

Q.2	i.	Definition	1 mark	2
		Example	1 mark	
	ii.	Each goal	1 mark	3
	iii.	Advantages Each point	(1mark*5)	5
OR	iv.	Basic principles of Data Visualization	(1mark*5)	5

Q.3	i.	Definition	2 mark	2
	ii.	Fisheye Views – Applications Non-Linear Magnification	4 marks 4 marks	
OR	iii.	a) Abstraction in Computer Graphics b) Abstraction in User Interfaces.	4 Marks 4 Marks	8

Q.4	i.	Use color in your visualizations	(As per explanation)	3
	ii.	Translation	2.5 marks	7
		Rotation	2.5 marks	
		Scaling	2 marks	
OR	iii.	Legend	2 marks	7
		Interval	2 marks	
		Axes	2 marks	
		Scales	1 marks	
Q.5	i.	Description	2 marks	4
		Example	2 marks	
	ii.	3D illustrations with Images and Text	(As per explanation)	6
OR	iii.	Description	3 marks	6
		Example	3 marks	
Q.6		Attempt any two:		
	i.	Description	3 marks	5
		Example	2 marks	
	ii.	Description	3 marks	5
		Example	2 marks	
	iii.	Each point	1 mark	5
