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GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Seventh Semester – Regular) Examinations, November – 2022

BPECS7032 / BPECT7022 – Big Data and Visualization

(CSE & CST)

Time: 3 hrs

Maximum: 70 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)

(1 x 10 = 10 Marks)

Q.1. Answer ALL questions

[CO#] [PO#]

- | | | |
|---|---|---|
| a. Data visualization is also an element of the broader _____. | 1 | 1 |
| (i) deliver presentation architecture | | |
| (ii) data presentation architecture | | |
| (iii) dataset presentation architecture | | |
| (iv) data process architecture | | |
| b. Which method shows hierarchical data in a nested format? | 2 | 2 |
| (i) Treemaps | | |
| (ii) Scatter plots | | |
| (iii) Population pyramids | | |
| (iv) Area charts | | |
| c. Which is used to query and edit graphical settings? | 2 | 1 |
| (i) cum() | | |
| (ii) plot() | | |
| (iii) par() | | |
| (iv) anova() | | |
| d. Common use cases for data visualization include? | 4 | 1 |
| (i) Politics | | |
| (ii) Sales and marketing | | |
| (iii) Healthcare | | |
| (iv) All of the above | | |
| e. Which of the following plots are often used for checking randomness in time series? | 3 | 2 |
| (i) Autocausation | | |
| (ii) Autorank | | |
| (iii) Autocorrelation | | |
| (iv) None of the above | | |
| f. Big Data is generally characterised by three Vs that stand for _____, _____ and _____. | 1 | 1 |
| (i) Volume; Viscosity; Variety | | |
| (ii) Variety; Velocity; Vivid | | |
| (iii) Viscosity; Volume; Velocity | | |
| (iv) Volume; Variety; Velocity | | |
| g. Which step is executed by the data scientist after obtaining the data? | 1 | 1 |
| (i) Data Replication | | |
| (ii) Data Cleansing | | |
| (iii) Data Integration | | |
| (iv) Data Normalization | | |
| h. How you cannot optimize the performance of a dashboard? | 3 | 2 |
| (i) By increasing number of filters | | |
| (ii) Use context filter | | |
| (iii) Use Boolean Calculations | | |
| (iv) Remove unneeded dimension | | |
| i. How do you identify continues field in Tableau? | 2 | 2 |
| (i) By a blue pill in the visualization. | | |
| (ii) By a green pill in a visualization. | | |
| (iii) Preceded by a # Symbol in the data | | |
| (iv) It produces distinct values in visualization | | |
| j. Which function cannot be used to import a CSV file in R? | 1 | 1 |
| (i) read.table() | | |
| (ii) read.csv() | | |
| (iii) read.excel() | | |
| (iv) None of these | | |

PART – B: (Short Answer Questions)**(2 x 10=20 Marks)**Q.2. Answer ALL questions

	[CO#]	[PO#]
a. How to deal with outliers in a dataset?	1	2
b. Name any four tools used in Big Data Visualization?	1	1
c. Differentiate between comparison and contrasts?	2	2
d. Explain about d3.js Scales?	3	2
e. Mention what is the difference between jQuery and d3.js?	2	2
f. What is the difference between a Heat map and Treemap?	4	2
g. Explain different connection types in Tableau?	4	2
h. Differentiate between Exploration versus Explanation	2	2
i. Explain layout and axes with proper example?	1	1
j. Differentiate Comparisons and Contrasts	2	1

PART – C: (Long Answer Questions)**(10 x 4=40 Marks)**Answer ALL questions

	Marks	[CO#]	[PO#]
3. a. Explain the Challenges of big data visualization	5	1	1
b. Describe the common Approaches to big data visualization	5	1	2
(OR)			
c. Explain the categories of data quality	5	1	1
d. Differentiate between Infographics versus Data Visualization	5	1	2
4. a. Why Tableau?	5	2	1
b. State some ways to improve the performance of Tableau	5	3	2
(OR)			
c. Explain how many types of filters are available in Tableau?	5	2	1
d. Do we have any way to handle null values in Tableau?	5	3	2
5. a. Explain the contextual visualization categories, which can be used to augment or increase the value and understanding of data for visualization	5	3	2
b. Describe the need of visual encoding, explain its types?	5	2	2
(OR)			
c. Explain Features of R?	5	2	2
d. Design a pie chart with R with Slice Percentages and Chart Legend			
x <- c(21, 62, 10,53)	5	2	4
labels <- c("London", "New York", "Singapore", "Mumbai")			
6. a. Describe the features and benefits of D3?	5	4	2
b. Explain designing a Bar Chart using D3?	5	4	4
(OR)			
c. Explain DataManager Command Line Options?	5	3	2
d. How datamanager address like data quality?	5	3	3

--- End of Paper ---