PRESIDENCY UNIVERSITY

BENGALURU

Make Up Examinations – December 2025

Date: 26 – 12- 2025   **Time:** 1.00pm to 04.00pm

School : SOCSE	Program: Computer Science and Engineering	
Course Code: CSE2015	Course Name: Data Analysis and Visualization	
Semester: MK	Max Marks: 100	Weightage: 50%

CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	8	4	6	2	-

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.   **10Q x 2M=20M**

1.	Narrate the use of Data Pre Processing in data analysis and visualization	2 Marks	L1	CO1
2.	Define Obtrusive method of data collection with examples	2 Marks	L1	CO1
3.	Name the good measure of data in terms of reliable	2 Marks	L1	CO1
4.	Define the Participatory Methods in data collection	2 Marks	L1	CO1
5.	Relate the use of transfer function in data visualization	2 Marks	L1	CO2
6.	Mention the methods how to Handle Noisy Data	2 Marks	L1	CO2
7.	What is Explanation?	2 Marks	L1	CO3
8.	Mention the libraries used to analyze and visualize the time series data	2 Marks	L1	CO3
9.	Mention the examples of text data visualization.	2 Marks	L1	CO3
10.	Narrate the Characteristics of Data streams	2 Marks	L1	CO4

Part B

11.	a.	Compare and contrast rule-based, AI-based, and conversational AI assistants, providing examples for each type.	10 Marks	L2	CO 1
	b.	Explain how Conversational UX design enhances user experience in AI assistants.	10 Marks	L2	CO 1
Or				
12.	a.	Explain the functioning of NLP chatbots in detail, focusing on their processes and key components.	10 Marks	L2	CO 1
	b.	Recognize and discuss the features provided by popular chatbot development platforms (IBM Watson Assistant, Rasa, Google Dialogflow, Microsoft Bot Framework).	10 Marks	L2	CO 1

13.	a.	Describe the NLP techniques used in chatbots such as tokenization, stemming, lemmatization, POS tagging, and NER.	10 Marks	L2	CO 2
	b.	Explain the process of Intent Classification using Machine Learning by outlining its workflow and commonly used algorithms.	10 Marks	L2	CO 2
Or				
14.	a.	Discuss how API and database integration functions in chatbot architecture and summarize the steps involved.	10 Marks	L2	CO 2
	b.	Interpret the core components of chatbot architecture and illustrate them using a neat block diagram.	10 Marks	L2	CO 2

15.	a.	Apply the concept of monitoring tools by illustrating how Prometheus and Grafana can be integrated with chatbot systems.	10 Marks	L3	CO 3
	b.	Illustrate the working of Prometheus architecture by applying its components to a real-world monitoring scenario.	10 Marks	L3	CO 3
Or				
16.	a.	Use GitHub/GitLab bot integrations to show how they support DevOps processes and improve workflow efficiency.	10 Marks	L3	CO 3
	b.	Demonstrate how a Slack or MS Teams chatbot can trigger Jenkins pipelines, supporting your explanation with an appropriate diagram.	10 Marks	L3	CO 3

17.	a.	Demonstrate how LLMs (such as ChatGPT) can be applied in DevOps automation by using real-time examples.	10 Marks	L3	CO 4
	b.	Use a suitable framework to illustrate voicebot architecture and show how it differs from chatbot architecture.	10 Marks	L3	CO 4
Or					
18.	a.	Apply the concept of AI-based alert triage to explain how anomaly detection supports DevOps processes.	10 Marks	L3	CO 4
	b.	Illustrate how ChatOps pipelines can be implemented to automate incident response with practical examples.	10 Marks	L3	CO 4