Name: **Enrolment No:**	

UPES
End Semester Examination, May 2025

Course: System Monitoring
Program: B.Tech CSE
Course Code: CSDV4002P

Semester: VIII
Time : 03 hrs.
Max. Marks: 100

Instructions: Please mention your **specialisation and batch number** on top of your answer sheet.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q1	Analyze how system monitoring contributes to failure prediction and assess its effectiveness.	**4**	**CO1**
Q2	Define failure prevention and examine its relationship with anomalies.	**4**	**CO1**
Q3	Identify and discuss the challenges in generating minimal false alarms in monitoring systems.	**4**	**CO2**
Q4	Categorise the types of graphs used in monitoring and provide specific examples.	**4**	**CO3**
Q5	Describe two layers involved in system monitoring, such as the Application and the Hosting Provider, and explain their roles.	**4**	**CO4**
SECTION B **(4Qx10M= 40 Marks)**			
Q6	Anomalies affect system performance, justify, and how can they be predicted?	**10**	**CO1**
Q7	Illustrate the different metrics monitored at various system layers.	**10**	**CO4**
Q8	Explain the concept of infrastructure monitoring. What are the key alerts generated?	**10**	**CO3**
Q9	Discuss automation in system monitoring and how it helps in reducing false positives. OR A mid-sized IT company noticed frequent crashes of its internal CRM tool. A closer look at server logs showed that CPU and memory usage had been steadily rising over the last month but went unnoticed due to the lack of proper threshold alerts. Additionally, disk usage reached 95%, leaving almost no room for temporary files for the CRM's operation.	**10**	**CO2**

	Analyse the issues related to system monitoring in this scenario. Recommend a detailed monitoring plan, including the types of metrics to monitor and tools that could be implemented to avoid such situations.		
SECTION-C (2Qx20M=40 Marks)			
Q10	(a) Identify and explain the key components of monitoring tools, such as logs, graphs, and alerts. (b) Compare and contrast infrastructure monitoring and application monitoring, providing examples to illustrate the differences.	**20**	**CO3**
Q11	(a) Discuss Continuous Improvement strategies in system monitoring with examples. (b) The user-level monitoring is important in ensuring system efficiency. How? State one real life example. OR An e-commerce company experiences frequent server slowdowns during peak sale periods. Customers are unable to complete transactions, and system logs show sporadic spikes in resource usage. The monitoring system in place has not raised timely alerts. (a) Identify possible reasons for the failure of the monitoring system. (b) Propose a detailed strategy to redesign the monitoring infrastructure to prevent such incidents in the future. Highlight key metrics and layers to monitor.	**20**	**CO4**