Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 27-10-2025 **Time:** 02.30pm to 04.00pm

School: SOIS-PG	**Program:** MCA	
Course Code: CSA4203	**Course Name:** Computer Networks and Security	
Semester: I	**Max Marks**: 50	**Weightage**: 25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**28**	**22**	**-**	**-**	**-**

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. **5Q x 2M=10M**

1	List the types of ICMP messages .	**2 Marks**	**L1**	**CO1**
2	Define Switching.	**2 Marks**	**L1**	**CO1**
3	List any two differences between circuit-switched and packet-switched networks.	**2 Marks**	**L1**	**CO1**
4	Define subnetting.	**2 Marks**	**L1**	**CO1**
5	What is meant by NAT (Network Address Translation) and why is it used?	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **Total Marks 40M**

6.	**a.**	Examine the role of each OSI layer in ensuring reliable end-to-end communication between two devices.	**10 Marks**	**L3**	**CO1**
		Or			
7.	**a.**	Explain the process of packet switching and illustrate how data is divided, transmitted, and reassembled at the destination.	**10 Marks**	**L3**	**CO1**

8.	**a.**	Explain how ICMP is used for error reporting and network diagnostics with suitable examples.	**10 Marks**	**L2**	**CO 1**
		Or			
9.	**a.**	Explain the four levels of addressing in a TCP/IP network and a their role in data delivery from source to destination.	**10 Marks**	**L2**	**CO 1**

10.	**a.**	Analyze and describe in detail the essential functionalities of the Network Layer,	**10 Marks**	**L3**	**CO 2**
		Or			
11.	**a.**	Compare the range and number of hosts available in Class A, Class B, and Class C networks.	**10 Marks**	**L3**	**CO 2**

12.	**a.**	Describe how IPv6 addresses are represented and analyze how they differ from IPv4 addresses.	**10 Marks**	**L3**	**CO 2**
		Or			
13.	**a.**	Demonstrate how routers exchange routing information using the Link State Routing algorithm with a suitable example.	**10 Marks**	**L3**	**CO 2**