Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – December 2025

Date: 10- 12- 2025 **Time:** 1.00pm to 04.00pm

School: SOCSE	**Program:** B.Tech (CSN)	
Course Code : CSN2503	**Course Name:** Advanced Computer Network	
Semester: V	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**12**	**12**	**38**	**38**	

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.	Describe the role of distribution network.	**2 Marks**	**L1**	**CO1**
2.	Define backpressure with example.	**2 Marks**	**L1**	**CO2**
3.	Describe the purpose of network traffic modeling.	**2 Marks**	**L1**	**CO4**
4.	List the different threats possible in wireless environment.	**2 Marks**	**L1**	**CO4**
5.	Define Poisson Process.	**2 Marks**	**L1**	**CO4**
6.	List the main aim of destination based traffic-analysis.	**2 Marks**	**L1**	**CO4**
7.	List the different types of VPN.	**2 Marks**	**L1**	**CO3**
8.	List the different components of IEEE 802.11 standard.	**2 Marks**	**L1**	**CO3**
9.	Define HCCA.	**2 Marks**	**L1**	**CO3**
10.	List the advantages and disadvantages of BGP.	**2 Marks**	**L1**	**CO3**

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	Define RDP.	**2 Marks**	**L1**	**CO1**
	b.	State the benefits of Core network.	**3 Marks**	**L1**	**CO1**
	c.	Discuss the best practices needed to install remote access technology.	**5 Marks**	**L2**	**CO1**
		Or			
12.	**a.**	Define SLIP.	**2 Marks**	**L1**	**CO1**
	b.	State the benefits of Access network.	**3 Marks**	**L1**	**CO1**
	c.	Discuss how modems facilitate remote access technology.	**5 Marks**	**L2**	**CO1**

13.	**a.**	Classify between L2 vs. L3 switches.	**2 Marks**	**L2**	**CO2**
	b.	Describe the term "Head-of-Line blocking".	**3 Marks**	**L2**	**CO2**
	c.	Explain routing loop with an example and how it affects network performance and ways to prevent it.	**5 Marks**	**L2**	**CO2**
		Or			
14.	**a.**	Describe the advantage of spanning tree algorithm.	**2 Marks**	**L2**	**CO2**
	b.	Identify the advantages provided by packet switching over circuit switching.	**3 Marks**	**L2**	**CO2**
	c.	Explain Isolated VLAN highlighting its advantages and comparison with other VLAN.	**5 Marks**	**L2**	**CO2**

15.	**a.**	List the different characteristics of BGP.	**2 Marks**	**L1**	**CO3**
	b.	Identify the different packets used in OSPF.	**3 Marks**	**L2**	**CO3**
	c.	Summarize the entire working process of OSPF.	**5 Marks**	**L2**	**CO3**
		Or			
16.	**a.**	Recognize the drawbacks of VPN.	**2 Marks**	**L1**	**CO3**
	b.	Discuss the different components of BGP.	**3 Marks**	**L2**	**CO3**
	c.	Explain hidden and exposed terminal problem and how it can be rectified.	**5 Marks**	**L2**	**CO3**

17.	**a.**	Summarize the different characteristics of network traffic.	**5 Marks**	**L2**	**CO4**
	b.	Explain SDN Architecture.	**5 Marks**	**L2**	**CO4**

	c.	Discuss about the term "5G Cloudification".	**5 Marks**	**L2**	**CO4**
		Or			
18.	**a.**	Explain the different traffic flow models in networking.	**5 Marks**	**L2**	**CO4**
	b.	Highlight the importance of Software-Defined Networking.	**5 Marks**	**L2**	**CO4**
	c.	Highlight the different scheduling algorithms present in networking.	**5 Marks**	**L2**	**CO4**

19.	**a.**	Explain packet-based computation network highlighting their key concepts.	**5 Marks**	**L2**	**CO4**
	b.	Classify between continuous and discrete time modeling techniques.	**5 Marks**	**L2**	**CO4**
	c.	Highlight on the importance of network security.	**5 Marks**	**L2**	**CO4**
		Or			
20.	**a.**	Explain programmable network highlighting their key concepts.	**5 Marks**	**L2**	**CO4**
	b.	Discuss the different threats present in network security.	**5 Marks**	**L2**	**CO4**
	c.	Explain the key characteristics of Poisson Process.	**5 Marks**	**L2**	**CO4**

21.	**a.**	Apply subnetting and find the broadcast address and network address for the network 192.168.240.128 255.255.255.128.	**5 Marks**	**L3**	**CO3**
	b.	A router has the IP address 155.16.2.1/23 on Ethernet 0. On the LAN interface, interpret how many valid hosts present and find the broadcast address and network address?	**5 Marks**	**L3**	**CO3**
	c.	Consider the following subnetted Class A network: 19.52.0.0 255.255.192.0, interpret how many usable hosts are there per network and what will be the full range of the first three networks?	**10 Marks**	**L3**	**CO3**
		Or			
22.	**a.**	Apply subnetting and find the maximum number of valid subnets and usable hosts per subnet that you can get from the network 172.25.0.0 255.255.252.0.	**5 Marks**	**L3**	**CO3**
	b.	Apply subnetting and find the broadcast address and network address of the network 156.155.74.47/28.	**5 Marks**	**L3**	**CO3**
	c.	Consider the following subnetted Class A network: 27.16.0.0 255.255.240.0, interpret how many usable hosts are there per network and what will be the full range of the first three networks.	**10 Marks**	**L3**	**CO3**