

Total number of printed pages: 01

Programme(PG)/2nd/PCSE201

2024

Advanced Computer Networks

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

Answer any five questions.

1.	a)	Explain the term Hub and switch and write the difference between Layer 2 and Layer 3 Switch.	10
	b)	Define the role of firewall deployment in campus wide LAN with an example.	10
2.	a)	Describe the entire communication process from your machine connected the CITK campus to Google Server.	20
3.	a)	Describe the role of DNS, FTP and SMTP at application layer of the Protocol stack.	10
	b)	Describe the role of DHCP server with an example of your daily communication.	10
4.	a)	List out four basic network topologies and explain which one is used in CITK campus.	10
	b)	Explain how IPV6 is different than IPV4. Write their advantages and limitations.	10
5.	a)	An address in a block is given as 73.22.17.25. Find the number of addresses in the block, the first address, and the last address..	10
	b)	Explain the concept of subnetting and supernetting in classfull addressing with examples.	10
6.	a)	Describe classless addressing and the concept of using prefix with an example.	10
	b)	One of the addresses in a block is 17.63.110.114/24. Find the number of addresses, the first address, and the last address in the block.	10
7.	a)	Explain the difference between TCP and UDP. Draw the TCP Header and explain all the fields of the header.	10
	b)	Describe the concept of congestion control and flow control and explain how it is handled by the TCP.	10