Total No. of Printed Pages: 2

PRN No.	

PAPER CODE	U313- 233-ESE

December 2023 (ENDSEM) EXAM

TY (COMPUTER ENGINEERING)

(AY 2023-24 SEMESTER - I)

COURSE NAME: COMPUTER NETWORKS –I **COURSE CODE: CSUA31203**

(PATTERN 2020)

Time: [1Hr. 30 Min] **[Max. Marks: 40]**

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **All questions are compulsory. Solve any one sub question from Question 3 and any two sub questions each from Questions 4,5 and 6 respectively.**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Why do we experience delays and packet losses in packet switching?	[2]	CO 1	Analyze
Q2	a) Describe the process of encapsulation in OSI model.	[2]	CO 2	Analyze
Q3.	a) You have been allocated a class A network address of 29.0.0.0. You need to create at least 20 networks and each network will support a maximum of 160 hosts. Would the following two subnet masks Work? 255.255.0.0 and or 255.255.255.0	[6]	CO 3	Apply
	b) Subnet the Class C IP Address 195.1.1.0 So that you have 10 subnets each with a maximum 12 hosts on each subnet. List the Address of host 1 on subnet 0,1,2,3,10.	[6]	CO 3	Apply
Q.4	a) Justify the use of TCP for Internet Banking application and use of UDP for Live Streaming of the Cricket match.	[5]	CO 4	Analyze
	b) Differentiate between TCP and UDP header along with their diagram.	[5]	CO 4	Analyze
	c) If a browser sends a request to remote server to access a web page, then which application layer protocols will work in sequence? Assume that the host has just	[5]	CO 4	Analyze

	restarted.			
Q.5	a) Explain the step by step working of MD5 algorithm	[5]	CO 5	Remember
	b) Explain the step by step working of SHA algorithm	[5]	CO 5	Remember
	c) Describe the various steps followed in creating digital signature	[5]	CO 5	Remember
Q.6)	a) In RSA algorithm if p=7, q=11 and e=13 then what will the value of d?	[5]	CO 6	Analyze
	b) A and B agree on 7 as the modulus and 3 as the primitive root. Party A chooses 2 and party B chooses 5 as their respective secrets. Calculate the common secret key using the Diffie Hellman key exchange technique	[5]	CO 6	Analyze
	c) Analyze which hash functions is the best for security?	[5]	CO 6	Analyze