P.V.P Siddhartha Institute of Technology

Department of Computer Science and Engineering

Mid Term Examinations – I				Regulation: PVP20	
Program: B.Tech	Year: III	Semester: I	Descriptive -1		A.Y:2023-24
Course Code: 20CS3503		Course Name: Computer Networks			Section: 1 , 2 & 3
Duration: 1 hr 30 min		Maximum Marks: 15		Date:30/08/2023	Session: FN

Answer all the Questions.

Q.No	Question	Marks	CO	Level
1.a	Illustrate the differences and commonalities between the TCP/IP and OSI models.	2	CO1,	L2
1.b	Apply Cyclic Redundancy Check Error correction and detection method for the following data word: 101001111, Divisor: 10111 to check whether frame is error free transmitted or not.	3	CO2	L3

2a.	I. An organization is assigned the block 2000:1456:2474/48. Identify the first and second subnets in this organization using CIDR notation of IPV6 addressing .
	
	 II. The CIDR notation of a IPV4 address is as follows: 167.199.170.82/27
	   i. Examine what type of address is the above (Host/network/broadcast)?
	   ii. Examine the network address?
	   iii. Computer total numbers of hosts that can be connected in that network?
	   iv. Find the broadcast address of that network?
		4	CO3,	L3

2b.	An ISP is granted the block 16.12.64.0/20. The ISP needs to allocate addresses for 8 organizations, each with 256 addresses.
	   i. Find the number and range of addresses in the ISP block.
	   ii. Find the range of addresses for each organization.
	   iii. Show the outline of the address distribution.
		3		

3.	Which fields of the IPv4 main header may change from router to router? Justify your answer.	3	CO3	L3