

Instructions:

- 1) All questions are compulsory.
- 2) Figures in rounded () brackets within the question indicate the scheme of marking for the respective part of the question, whereas figures in the first right column indicate total marks for that whole question.
- 3) CO is the index number of the Course Outcome statement.
- 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5, and 6 is remember, understand, apply, analyse, evaluate and create, respectively.
- 5) Assume suitable data if necessary.
- 6) Use of non-programmable calculators is allowed

		Marks	BT Level	COs
Q.1	A Explain different network topologies with neat diagrams(6). Describe their advantages and limitations(2)	08	2	1
	B Compare the OSI and TCP/IP reference models in detail (4). Highlight similarities and differences with respect to the functionalities of each layer(4)	08	4	1
Q.2	A A 7-bit ASCII code is received as '1001101'. Using even parity and CRC Division, check if an error has occurred. Show your steps (2M each)	08	3	2
OR				
	A A data word 1011 is to be transmitted using the Hamming (7,4) code. (i) Construct the codeword by calculating the required parity bits. (ii) If the received codeword is 1110010, detect and correct the error	08	3	2
	B Describe the working of the Stop-and-Wait ARQ and Sliding Window ARQ protocols (5). Compare their efficiency in terms of throughput and delay. (4)	09	4	2
Q.3	A Illustrate the channel allocation problem in computer networks (4). Explain static and dynamic channel allocation (4)	08	4	2
OR				
	A Illustrate the working of ALOHA and CSMA/CD protocols (4). Justify their performance in terms of throughput and collision handling (4)	08	4	2
	B Describe the following IEEE standards in detail (3M each) i) IEEE 802.3 -Ethernet ii) IEEE 802.11 -Wi-Fi iii) IEEE 802.16 -WiMAX	09	2	2

