

Exam Question Paper

Course: Data Communications

Instructor: Dr. Jane Doe

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Question No	Subquestion	Question Text	CO	BT	Marks
1a	a	Describe the characteristics of unipolar NRZ line coding.	1	1	4
1b	b	Discuss the advantages and disadvantages of using modulation techniques such as amplitude modulation and frequency modulation in data transmission systems.	1	4	6
2a	a	What is the primary function of the Logical Link Control (LLC) sublayer in a data communication system?	2	2	4
2b	b	Explain how flow control protocols, such as the sliding window protocol, are used to manage data transmission over a network with varying bandwidth.	2	5	6
3a	a	What is the primary function of the Medium Access Control (MAC) sublayer in a data communication system?	3	2	4
3b	b	Compare and contrast the IEEE 802.11a/b/g/n/ac wireless standards in terms of their data transmission rates and range.	3	5	6
4a	a	What is the primary function of the Network Layer in a data communication system?	4	2	4
4b	b	Explain how mobile IP is used to support mobility in a wireless network, including the registration process and handover mechanism.	4	5	6
5a	a	What is the primary function of the Transport Layer in a data communication system?	5	2	4
5b	b	Explain how TCP and UDP protocols are used to manage data transmission over wireless networks, including error detection and correction mechanisms.	5	5	6
6a	a	What is the primary function of the Application Layer in a data communication system?	6	2	4

Question No	Subquestion	Question Text	CO	BT	Marks
6b	b	Explain how web services, such as SOAP and REST, are used to provide scalable enterprise application layer services over a network.	6	5	6