

Code No: 155AU**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, September - 2021****DATA COMMUNICATION AND COMPUTER NETWORKS****(Information Technology)****Time: 3 hours****Max. Marks: 75**

Answer any five questions
All questions carry equal marks

- 1.a) Describe in detail about the concept of data transmission and its terminology with necessary example.
- b) Explain about ISO-OSI reference model with a neat sketch. [7+8]
- 2.a) Summarize circuit switching technology implementation in Telephone networks.
- b) Write short note on Multiplexing. [8+7]
- 3.a) Explain why collision is an issue in a random-access protocol but not in controlled access or channelizing protocols?
- b) Brief in detail about collision avoidance in Wi-Fi (802.11). [7+8]
4. With the neat sketches, formulate and explain the working principle of CRC with an example. [15]
5. Define and describe Classful Addressing and Classless Addressing. [15]
- 6.a) How would you demonstrate the challenges in inter-domain routing?
- b) With a neat diagram explain distance vector routing protocol. [7+8]
7. How is congestion controlled? Explain in detail about congestion control mechanisms in transport layer. [15]
- 8.a) Explain Telnet in detail.
- b) Illustrate the role of POP3 in electronic mail applications. Explain in detail. [7+8]

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