

Code No: 114CR**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech II Year II Semester Examinations, November/December - 2020****DATA COMMUNICATION****(Information Technology)****Time: 2 hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Briefly describe the seven layers of the OSI protocol hierarchy.
b) Define digital modulation. Describe the principle of Quadrature Amplitude Modulation. [7+8]
- 2.a) Differentiate between twisted pair cables and coaxial cables.
b) Draw the metallic transmission line equivalent circuit and explain its working principle. [7+8]
- 3.a) Draw the functional block diagram of a standard telephone set and explain.
b) What are the basic telephone call procedures? [9+6]
- 4.a) Describe frequency and channel allocation strategies.
b) Give GSM system architecture and describe its working principle. [7+8]
- 5.a) Write a short note on 56K MODEM.
b) What is clock recovery? Explain it with a circuit diagram. [7+8]
- 6.a) Briefly describe the TCP/IP protocol model.
b) What is the Shannon limit for information capacity? Describe the principle of Quadrature Phase Shift Keying (QPSK). [7+8]
- 7.a) What is multiplexer? Describe the digital Time Division Multiplexing hierarchy.
b) List the line encoding formats. Draw any five line encoding waveforms for a data sequence of 11001010. [8+7]
- 8.a) Explain about various transmission parameters and private-line circuits.
b) What do you mean by dial tone and dual tone multi frequency? [10+5]

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