

# GUJARAT TECHNOLOGICAL UNIVERSITY

## M.E Semester: 2 Communication Engineering

Subject Name: **Advanced Digital Communication**

| Sr.No | Course content   |
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| 1     | Review of probability and Stochastic Processes.  |
| 2     | Characterization of Communication Signal and System. Geometric Representation of Signals and its use in communication.   |
| 3     | Optimum receiver for Additive White Gaussian Noise, BER calculation.   |
| 4     | Carrier and symbol synchronization, signal design for Band Limited Channels.   |
| 5     | Communication through Band limited Channel, concept of parallel transmission, Multi channel and multi carrier CDMA system, fading multi-path channel, OFDM, Future trends. |

### **Reference Books:**

1. Proakis J.J., D Wozencraft J.M. and Jacobs I.M., Principles of Communication Engineering, John Wiley.
2. Carison A., Communication System, 3rd ., McGraw Hill.
3. Van Trees H.L., Detection Estimation and Modulation Theory, Vol. 1., Wiley.
4. Blahut R.F., Digital transmission of Information, Addison Wesley.
5. Benedetto S., Biglieri E. and Castellari V., Digital Transmission Theory, Prentice Hall.