

Code: ECMC1T3

I M.Tech - I Semester - Regular Examinations – March 2014

**ADVANCED DIGITAL COMMUNICATION
(MICROWAVE & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain the Optimum Receiver for signals with random phase AWGN channels. 7 M

b) Explain Optimum Receiver for signals corrupted by AWGN channels. 7 M

2. a) Explain Decision-feedback equalization technique with neat diagrams. 7 M

b) Explain Turbo equalization technique with neat diagrams. 7 M

3. a) Discuss about Recursive least squares algorithms for adaptive equalization. 7 M

b) Explain Self recovering (blind) equalization. 7 M

4. Write short notes on
- a) Direct sequences spread spectrum signals with neat diagrams. 7 M
 - b) CDMA. 7 M
5. a) Define fading and explain different types of fading channels. 7 M
- b) Explain how to mitigate the fading phenomenon. 7 M
6. a) Explain Linear detectors. 7 M
- b) Explain Successive and parallel interference cancellation 7 M
7. Write short notes on
- a) Linear Block Codes 7 M
 - b) Viterbi decoding. 7 M
8. a) Explain about modulation and channel coding of OFDM System. 7M
- b) Write about the need for synchronization in channel performance estimation. 7M