PVP 12

Code: **ECMC1T3**

**I M.Tech-I Semester-Regular Examinations-April 2013**

# 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 performance of the Optimum Receiver for Memory-less Modulation. 7 M

(b) Explain QAM with transmitter and receiver diagrams. 7 M

2.(a) Discuss about Linear equalization with diagrams. 7 M

(b) Write short notes on reduced complexity ML detectors. 7 M

3. What is an Adaptive linear equalizer? Explain in detail about adaptive decision feedback equalizer. 14 M

4. Write short notes on

(a) Frequency –hopped spread spectrum signals with neat diagrams. 7 M

(b) Time –hopped spread spectrum signals with neat diagrams. 7 M

5. (a)What are the characterization of fading multi-path channels. 7 M

(b)Explain the code wave forms for fading channels. 7M

6. (a) Explain about sub-optimum linear receiver structures. 7M

(b) Explain about sub-optimal nonlinear receiver structures. 7 M

7. Write short notes on

(a) Hamming codes 7 M

(b) Convolution codes. 7 M

8. Explain the General principles implementation and signal processing aspect for OFDM with suitable diagrams. 14 M