



Name : .....

Reg. No: .....

## SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, OCTOBER 2012

## AI 09 703 – ELECTRONIC COMMUNICATION SYSTEMS

Time : Three Hours

Maximum : 70 Marks

**PART A ( 5 x 2=10 Marks)**

1. What are the frequency ranges for AM and FM broadcasting?
2. Define SWR.
3. State sampling theorem.
4. What is WDM?
5. Define co channel interference.

**PART B (4 x 5 = 20 Marks )***Answer any four questions.*

6. Briefly explain the various types of Transmission Lines.
7. What is the need for modulation? Explain.
8. Explain the generation of PWM.
9. Explain Slope Overload Noise and Granular noise.
10. Compare PCM and DM.
11. With functional block diagram explain Telemetry.

**PART C (4x 10 = 40 Marks)***All questions carry equal marks*

12. (a) Derive an expression for Amplitude Modulated wave and its power relation.  
(or)  
(b) Derive an expression for the Frequency Modulated wave and compare it with Phase Modulated wave expression.
13. (a) With block diagram explain the operation of a Super Heterodyne Receiver and list its advantages over Tuned Radio Frequency receiver.  
(or)  
(b) (i) Explain the operation of a Coherent Detector.  
(ii) Explain the generation and detection of PPM.
14. (a) With block diagram explain Digital communication system.  
(or)  
(b) Explain in detail about (i) ASK and (ii) FSK.
15. (a) With block diagram explain the earth station and transponder of a satellite communication system.  
(or)  
(b) (i) Explain the advantages of Fiber Optic Communication.  
(ii) Derive an expression for the Co channel reuse ration of a Cellular communication.

\*\*\*\*\*