Punjab Technical University
Master of Computer Application Examination

MCA 5th Semester Elective - MODERN COMMUNICATION 2006

Time: Three hours Maximum: 100 marks

PART A Answer ALL questions. (8 x 5 = 40 marks)

1. (a) Why we need for modulation? Explain AM. Or
(b) Briefly explain the single - sideband modulation and demodulation.

2. (a) Compare AM with FM. Or
(b) Explain directly modulated FM transmitters. Explain AGC and AFC

3. (a) Explain AGC and AFC Or
(b) Explain single tone and multi tone FM

4. (a) Explain in detail about PCM. Or
(b) Explain in detail about PAM sampling.

5. (a) Explain in detail Flat-topped PAM sampling. Or
(b) Compare the FSK with ASK.

6. (a) Explain in detail about microwave communication. Or
(b) Describe in detail about mobile dispatch system.

7. (a) Discuss about the Losses in Fibers Or
(b) Explain the p-n photo diode detectors

8. (a) Explain the basic principles of television Or
(b) Discuss about the generation of composite receivers.

PART B Answer ALL questions. (5 x 12 = 60 marks)

9. (a) Briefly explain the balanced modulator circuit. Or
(b) Draw and explain the block diagram of AM transmitters.

10. (a) Sketch the graphs and explain equivalent frequency deviation and average noise power output for noise in FM receiver. Or
(b) Discuss about the narrow band FM and wide band FM.

11. (a) Explain the pulse transmission system and encoding system. Or
(b) Briefly explain the digital modulation techniques

12. (a) Explain in detail about Satellite Communication system Or
(b) Define orbit and Station keeping. Explain the detail about transmission path in Satellite system.

13. (a) What is the advantage of using a graded index core in a fiber? Explain how energy is lost from fiber at a sharp bend. Or
(b) Briefly explain the block diagram of black and white television receiver.