

**III B.Tech I Semester Supplementary Examinations, April/May 2005**  
**COMMUNICATION ENGINEERING**  
**(Electronics & Control Engineering)**

**Time: 3 hours**

**Max Marks: 70**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

\*\*\*\*\*

1. (a) Explain filter method of suppressing unwanted sideband.  
(b) A SSB-SC transmitter operating at a 16MHz has frequency stability of 1 part per million. If its transmission is reproduced by a receiver whose stability is 8 part per million, what is the maximum frequency error at the output of the receiver could have in reproducing the transmission.
2. (a) Explain the principle and working of Transistor Reactance modulator for FM generation.  
(b) compare FM with AM
3. (a) With a block diagram , explain the working of phase modulated FM transmitter?  
(b) Explain the working of frequency modulated transmitters using reactance tube modulators.
4. (a) Draw the block diagram of AM radio receiver and explain the function of each block.  
(b) Explain what is meant by image frequency.  
What are the considerations in the choice of IF in a Superheterodyne receiver?
5. (a) Differentiate between simple, delayed and amplified AGC and explain their action with the help of simple circuits blocks.  
(b) Discuss briefly similarities and differences between FM and AM receivers.  
(c) Write in detail about the limiter used in FM receiver.
6. (a) Draw the conceptual diagram of multiplexing-demultiplexing and explain.  
(b) Distinguish between sampling and quantization.
7. (a) Draw the block diagram of FSK transmitter and explain.  
(b) Draw the block diagram of non coherent receiver for the detection of binary FSK signals.
8. Explain the following:
  - (a) Partition noise
  - (b) Noise in diode
  - (c) Low frequency noise

(d) What is meant by atmospheric noise and how it is avoided.

\*\*\*\*\*