

## **Home Work # 4**

1. What is single-sideband suppressed carrier (J3E) modulation? What are its advantages with respect to ordinary AM (A3E)? What are the disadvantages of J3E with respect to A3E?
2. The balanced modulator produces an output consisting of sidebands only, with the carrier removed. Other than in SSB generation, what applications can this circuit have?
3. What are linear amplifiers? Why are they used in SSB transmitter?
4. A 400-W carrier is modulated on a depth of 75 percent; calculate the total power in the modulated wave in the following forms of AM: (a) A3E (b) double-sideband, suppressed carrier (c) J3E