ELECTRONIC DEVICES AND CIRCUITS

QUESTION BANK

UNIT V

PART A:

1. Define positive and negative feedback.
2. What are the advantages of negative feedback?
3. List four basic types of feedback.
4. Negative feedback is preferred to other methods of modifying Amplifier characteristics. Why?
5. Explain the ideal characteristics of voltage amplifier.
6. Explain the term sensitivity.
7. State the Barkhausen criterion of Oscillations.
8. Classify the different sinusoidal oscillators.
9. Give the condition of oscillation for Hartley oscillator.
10. What is the difference between amplifier and oscillator?
11. Which oscillator uses both positive and negative feedback? Why?
12. Write the expression for frequency of oscillation in RC-phase shift oscillator.
13. Sketch the feedback circuit of a Colpitts Oscillator.
14. What are the factors which affect the frequency stability of an oscillator?
15. Mention the advantages and disadvantages of RC phase shift oscillators.

PART B:

1. Derive the expressions of input and output resistances for Voltage Shunt Feedback amplifiers.
2. Derive the expressions of input and output resistances for current series Feedback amplifiers.
3. Derive the expressions of input and output resistances for current shunt Feedback amplifiers.
4. Derive the expression for frequency of Oscillations of a Wein - Bridge Oscillator.
5. Draw the circuit of Hartley oscillator and explain its working. Derive the expressions for frequency of oscillation.
6. Draw the circuit diagram of RC phase shift Oscillator and explain its working.
7. Draw the circuit of Colpitts oscillator and explain its working. Derive the expressions for frequency of oscillation.