

3. (a) Derive an expression for the overall gain of a voltage series-feedback amplifier. 10

(b) An amplifier has an internal gain of 80; the harmonic distortion in the output is 12%. To reduce the distortion within a tolerable limit of 3%. Calculate the feedback factor in the amplifier. 10

Section-B

4. Explain the working of crystal oscillator with a neat and clean circuit diagram. Discuss general form of oscillator. 20

5. (a) What is an oscillator ? How does it differ from an amplifier ? What are the essential parts of an Oscillator circuit ? 10

(b) Draw the circuit diagram of Hartley Oscillator and briefly explain, how the oscillations are maintained in the oscillator. 10

Section-C

6. (a) Differentiate between voltage and power amplifiers. Give the classification of power amplifier with their applications. 10

(b) What do you mean by Push-pull amplifier ? Find out the efficiency for the same. 10

