

UNIT-VPART-A**1. What are the types of Multivibrators**

The three types of multivibrators are

1. bistable :It has two stable states.
2. It has one stable state.
3. It has two states both are quasi-stable.

2. What is intrinsic standoff ratio of a UJT

Intrinsic stand-off ratio of UJT indicates that the transistor internally divides the supply voltage and bias the emitter terminal. It is the ratio of the stand off voltage to the power supply voltage.

3. What is a clamper? Name its types?

The circuit which is used to add a d.c level as per the requirements to the a.c output signal is called Clamper circuit. The two types are positive clamper and negative clamper.

4. How is a Schmitt trigger different from a multivibrator?

A Schmitt trigger is a threshold circuit which uses positive feedback with loop gain greater than unity. The Schmitt trigger is a comparator which switches the output positive when the input passes upward.

5. Mention some applications of UJT

1. used in triggering of another device such as SCR.
2. AS a relaxation oscillator

6. Write the frequency equation of an Astable Multivibrator.

The frequency equation is

$$T = 0.69R_1C_1 + 0.69R_2C_2$$

$$\text{While } T = T_1 + T_2$$

$$F = 1/T = 1/(0.69R_1C_1 + R_2C_2)$$

7. What is Schmitt trigger?

A Schmitt trigger is a threshold circuit which uses positive feedback with loop gain greater than unity.

8. What is a Multivibrator?

A multivibrator is an electronic circuit using two amplifying transistor stages each with its output connected to the input of the other by resistors and capacitors.

9. What is clipper?

The circuit which is used to clip off unwanted Portion of the waveform without distorting the remaining Part of the waveform is called clipper circuit.

10. Under what condition would a Schmitt trigger operate as an amplifier?

The resistance R_{c1} must be enough smaller than R_{c2} So that regeneration cannot take place and Schmitt Trigger operates as an amplifier.

PART-B

1. Explain voltage series and shunt feedback amplifier with an example.
2. Describe the characteristics. Negative feedback.
3. Describe the characteristics Positive feedback.
4. Explain the current series and shunt feedback amplifier with an example.
5. Explain the principle of operation and derive the expression for wein bridge oscillator.
6. Explain the principle of operation and derive the expression for colpitts oscillator.
7. Derive the expression and characteristics of oscillator
 - i. RC Phase shift.
 - ii. Hartley.
8. Explain the operation and advantages of crystal oscillators.
9. Comparison of positive and negative feedback
10. Explain the voltage series and current shunt feedback amplifier with an example.
11. Explain the current series and voltageshunt feedback amplifier with an example.
12. Explain about high frequency oscillator working principle.

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