

MULTIVIBRATOR

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LECTURE-1

TDC PART I

PAPER II (GROUP- B)

CHAPTER 3

By MINAKSHI

ASSISTANT PROFESSOR (GUEST FACULTY)

Department of Electronics

LANGAT SINGH COLLEGE, MUZAFFARPUR

MULTIVIBRATOR

INTRODUCTION

A multivibrator is a sequential logic Circuits that operate continuously between two distinct state of High & Low.

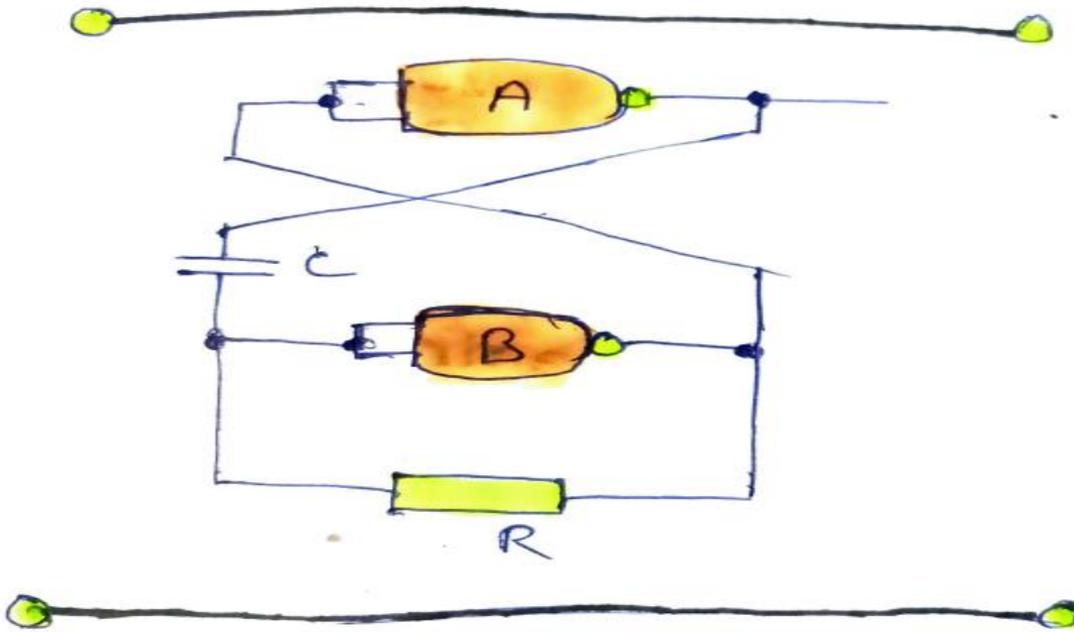
It is an electronic circuit used to implement a variety of simple two state systems such as oscillators, timers and flip-flops

MULTIVIBRATOR

- **Multivibrator consists of two transistors in such a manner that feedback of the first transistor as input for second transistor or feedback of the second transistor as input for the first transistor.**
- **It is cross coupled by resistors and capacitors**
- **It has two states low "0" & High "1"**

MULTIVIBRATOR

Diagram



MULTIVIBRATOR

Uses:-

- It is used for switching Purpose.
- It is Capable of generating Square, rectangular and saw tooth waves.
- It is used as memory elements in computers.

BASIC TYPES

Depending on the number of stable states there are three basic types of multivibrators, Which are:-

- Astable Multivibrator
- Monostable Multivibrator
- Bi-stable Multivibrator

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Astable Multivibrator

Astable Multivibrator is a kind of relaxation oscillator. It has no stable states. It makes Periodic transition between two states. The time period for this transition depends on the passive components such as resistors, capacitors. It generates square waves of its own. (i.e without any external triggering pulse). It is also called a free running multivibrator. It acts as voltage controlled oscillator.

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Monostable Multivibrator

Monostable Multivibrator has one stable state. Whenever any external triggering pulse is applied it switches back to another state. But after sometime, it returns back to its stable state. It also acts as ramp pulse generator. It also modulates pulse width. It is also called pulse stretcher.

Bi-stable Multivibrator

Bi-stable Multivibrator has two stable states. It will remain in one state until a trigger pulse causes it to switch to the other state.

.....To be continued