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Product Name :	**Product Code :**
Logic Training Board on Counters and Shift Registers	NLAB-ELECTRONICSAB220002

Description :

Logic Training Board on Counters and Shift Registers

Technical Specification :

The offered range is known for studying counters & shift registers and making the students familiar with design and practical aspects of all types of counters, shift registers and their applications in frequency measurements & computers.

Possessing gates and flip-flops, the offered range is best suited for developing construct any type of counter, shift register and allied.

Along with this, the offered range possesses decoder and seven segment display that aid in tracking the output of each circuit.

This training board can conduct around 25 different experiments that cover altogether important aspects of computer, input and output devices.

Objects:

Counters:

4-Stage binary ripple up-counter

4-Stage binary ripple down-counter

4-Stage binary ripple up-down counter

Variable modules ripple counter by direct clearing

4-Stage decade ripple up-counter by direct clearing

4-Stage decade ripple down counter by direct clearing

Synchronous counters:

4-Stage binary synchronous up-counter with parallel carry

4-Stage binary synchronous down-counter with parallel carry

4-Stage binary synchronous up-counter with series carry

4-Stage binary synchronous down-counter with series carry

4-Stage binary synchronous up-down counter with parallel carry

4-Stage synchronous up-down counter with series carry

Series parallel counters:

3-Stage mod-5 series parallel counter

4-Stage mod-10 series parallel counter

Ring counter:

4-Stage ring counter

Johnson counters:

4-stage Johnson or shift counter

Decade counter using 5-stage shift counter

Miscellaneous counters:

Higher modules counter by combining two lower modules counter

2421 BCD counter

Shift registers:

To study the operation of:

Serial to parallel converter

Series-in-series output register

Parallel to serial converter

Parallel-in-parallel out register

Right shift and left-shift register

Application of counters:

To study the basic principle of frequency measurement

To study the operation of frequency division by counter

To study the principle of Random Access Memory by constructing its basic cell

Features:

The board consists of the following built-in parts:

+ 5 V D.C. at 1Amp, IC regulated power supply internally connected

Five, J-K master slave flip-flops with preset and clear arrangement

Six, 2-input NAND gates

Four, 4-input NAND gates

Three, 4-input AND-OR gates

Two inverters (NOT gates)

A 4-bit binary counter to demonstrate the basic principles of frequency measurement

A square wave oscillator of frequency 10 Hz, 1 Khz and 10 KHz with coarse and fine variations, demon strata the basic principle of frequency division

Completely programmable panel to make any type of counter or shift register

Two pulsar switches for clear and clock arrangement

One mono pulsar to give a 1 sec pulse.