

Product Code:

AL-E130

## CATALOGUE

#118, Karanpuri, Behind B.D.Floor, Ambala Cantt, Haryana (India),

### DIGITAL IC LAB TRAINER (DIT)

Which Perform (And, Or, Not, Nand, Nor, Xor, X-Nor, Counter, Flip-Flop, Register, Multiplexer, Demultiplexer Practical's) -

**Features:** The board consists of the following built-in parts:

01. + 5V D.C. at 1Amp, IC Regulated Power Supply Internally connected.
02. Five, J-K master slave flip-flops with preset and clear arrangement.
03. Six, 2-input NAND gates. 04. Four, 4-input NAND gates.
05. Three, 4-input AND-OR gates. 06. Two inverters (NOT gates).
07. A 4-bit binary counter to demonstrate the basic principles of frequency measurement.
08. A square wave oscillator of frequency 10 Hz, 1 KHz and 10 KHz with coarse and fine variations, demonstrate the basic principle of frequency division.
09. Completely programmable panel to make any type of counter or shift register.
10. Two Pulser switches for clear and clock arrangement.
11. One Mono Pulser to give a 1 sec pulse.
12. Three Band switches for various interconnections required in the circuit to provide greater convenience and avoiding wrong connections.
13. Two, 7-segment displays to monitor the output in decimal code.
14. LEDs for visual indication of output status of each flip-flop.
15. Adequate no. of other Electronic Components.
16. Mains ON/OFF switch, Fuse and Jewel light.

\* The unit is operative on 230V  $\pm$ 10% at 50Hz A.C. Mains.\* Adequate no. of patch cords stackable from rear both ends  
4mm spring loaded plug length ½ meter.

#### Specification:

- Logic gates :
  - 1. OR gate 4nos.
  - 2. AND gate 4 nos.
  - 3. NOT gate 6 nos.
  - 4. NAND gate 4 nos.
  - 5. NOR gate 4 nos.
  - 6. EX-OR gate 4 nos.
- ADDER IC7483 4 bit binary Adder
- Flip flop 1. JK Flip-Flop 2 nos.

- 2. D latches 2 nos.
- 20 pin zip socket to test the SIP/DIP IC'S such as Multiplexer , De-multiplexer, Encoder, Decoder , Shift Register, Parity checker, Counters etc.
- The following ICs are provided on the trainer set IC De-multiplexer/decoder 74138 (1), multiplexer 74153, encoder bcd to grey code & vice versa converter , shift register 74194, binary counter 7493, magnitude comparator 7485, dual JK flip flop 7476(2), Dual D flip flop 7474 (2)
- LOGIC INPUTS & OUTPUTS
- Trainer contains 8 bit logic switches for logic 0/1 inputs and 8 bit logic output indicator by LED.
- 4 bit BCD to decimal output.
- Trainer contains 4 bit BCD to 7 segment indicator with inputs A, B, C, D inputs.
- Power supply:
- Trainer equipped with 3 pin fused power inlet with 3 pin computer compatible power cord.
- In built regulated 5V supply. Power supply for bread board and zip socket also available separately.
- Continuity tester for circuit connectivity.
- Logic low frequency mono pulsar
- to operate the sequential circuit in digital electronic lab
- Low frequency selectable clock of 100Hz & 1000Hz selectable by switch. The pulse width of clock can be varied with the help of potentiometer from 10 Hz to 1000 Hz
- Potentiometer 100K For general applications
- Bread board with size 170mmX62mm , 850 test points
- Connections made up with 2mm brass pins.
- Trainer supplied with 7 pairs of red and black 2mm patch cords.
- Supplied with easy guidelines and full function instruction manual

**The experiment can be easily performed on this trainer.**

- Basic logic gates
- Study of De-Morgan's theorems
- Study of combinational circuits.
- NAND and NOR gate as universal gate
- GATES as flips flops
- 4 bit binary adder and sub-tractor
- JK flips flops sequential circuits
- Counters and registers
- Encoder and decoder, multiplexer and de-multiplexer
- Various circuits can be easily Assembled on the bread board can be easily tested.

**Picture:**

