Product Name :	**Product Code :**
Digital Lab Trainer	NLAB-ENGINEERINGLB41001

Description :

Digital Lab Trainer

Technical Specification :

Digital Lab Trainer Lab Equipments Manufacturer, Suppliers & Exporters Digital Lab Trainer Equipment for Education, Engineering and Vocational
Training - The DIGITAL LAB is intended for elementary as well as advance
training of digital electronics. The digital lab covers regular digital
circuits by solder-less interconnections on breadboard and as well as
compatible with all optional modules through use of 2mm brass terminals
and patch cords. Various clock generators, logic level input/output
indicators and DC regulated power supplies etc. are in-built. The unit
housed in attractive enclosure is supplied with mains cord, patch cords,
Instruction manual and Component Set.
Experimental Coverage:
Logic gates operation
To verify De-morgan's theorem with boolean logic equations
Binary to Gray code conversion
Gray code to Binary conversion
Binary to Excess-3 code conversion
Binary Adder and Subtractor
Binary Multiplier
EX-OR gate implementation
Application of EX-OR gate

Johnson Counter
To verify the dual nature of Logic Gates
Study of Flip-Flops RS, JK, D&T
Multiplexer and Demultiplexer
4 Bit Binary up and down counter
Study of 8 to 3 Line Encoder
Study of 3 to 8 Line Decoder
Study of Shift Register (SIPO)
CMOS-TTL Interfacing
Study of Crystal oscillator
Study of pulse stretcher circuit
Features:
Bread Board : Unique solder-less large size, spring loaded breadboard
consisting of two Terminal Strips with 1280 tie points and 4
Distribution Strips with 100 tie points each, totaling to 1680 tie
points. (Size : 112mm x 170mm approx)
Regulated DC Power Supply : +5V at 1 Amp, -5V at 500 mA, 3 to +15V at
500mA, and -3 to -15V at 500 mA.
Pulse Generator : 1 Hz to 1 MHz in 6 Steps. Variable in between steps
- Amplitude : 3-15V (CMOS), 5V (TTL)
- Duty Cycle : 50% TTL / CMOS Output
Pulsar Switches : 2 independent buffered bounce free manual pulser
(useful for freezing the action of each stage of the counter after every
clock pulse)
Data Switches : 12 Nos. independent buffered logic level inputs to
select High / Low TTL levels, each with a bi-color LED to indicate high /
low status and termination.
Logic Indicators : 12 Nos. independent buffered logic level indicators
for High / Low status indication with bi-color LED for digital outputs
Seven Segment Display : 2 Nos. BCD to Seven Segment Decoder / Driver IC
with terminals
Logic Probe : Logic level indicator for TTL / CMOS
CMOS/TTL : Provided
Power : 230 V ± 10%, 50 Hz
Components Provided : ICs-4001/1, 4049/1,4069/1, 7400/1, 7402/1, 7404/1,
7406/1, 7408/2, 7410/2, 7411/3, 7420/2,7432/3,
7474/2,7476/2,7486/1.Resistors-330E/1,1K/2, 1K8/1,,15K/1, 47K/1.1M/2,
Capacitors- 0.01mF/1, 0.1mF/1, 0.22 mF/1,Crystal-32.768MHz/1.
Accessories : Mains cord, Operating and Experimental manual, Red &
Black patch cords (2mm with Pin) 10 each, Red & Black patch cord
(Pin to Pin) 10 each. Wire 24/25 SWG. 1Meter each 5 Colour Instruction
manual : Strongly supported by detailed operating instructions.
OPTIONAL MODULES:
Apart from above given experimental coverage of 20 experiments on
breadboard, customers can purchase these optional modules. These are
ready to use modules with wired components & circuit schematic drawn
on top compatible to use with Digital Lab.
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Gray code to Binary conversion
Binary to Excess-3 code conversion
Binary Adder and Subtractor

Binary Multiplier
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Bit Binary up and down counter
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Study of 3 to 8 Line Decoder
Study of Shift Register (SIPO)
CMOS-TTLInterfacing
Study of Crystal oscillator
Study of pulse stretcher circuit
4 Bit Ring Counter
38522 Modulo 12 Counter By Direct Clearing
Decade counter
Shift Register SISO and PIPO
Decimal to BCD Converter
Astable Multivibrator using Digital IC
Bistable Multivibrator using Digital IC
Monostable Multivibrator using Digital IC
Octal to binary Encoder
4 Bit Magnitude Comparator
Interface of TTL-IC to CMOS-IC & CMOS IC to TTL-IC