Tesca 33503B Digital – Analog Training System is a versatile equipment designed for elementary as well as advance training of Digital and Analog electronics. The trainer covers regular digital & analog circuits by solder-less interconnections on breadboard through use of 2mm brass terminals and patch cords. Various function generators, logic level output indicators, multimeters and AC & DC regulated power supplies etc. are in-built. The unit housed in attractive enclosure is supplied with mains cord, patch cords and comprehensive Instruction manual.

Features

Regulated DC Power Supply	:	±5 V at 0.2 Amp, +12 V/ 0 to 20V at 0.2A, and -12 V/ 0 to -20 V at 0.2 A
AC Supply	:	5-0-5V, 10-0-10V at 100mA. Can be used as 5V, 10V and also as center tap
Multimeter	:	2 Nos of on-board multimeters to measure AC & DC Voltage, Current, Resistance, diode and Continuity, etc.
Function Generator	:	Sine / Square / Traingular / Pulse waveform frequency 1 Hz to 110 Khz in 5 Steps. Variable in between steps. Sine / Square / Traingular waveform output 50mV ~ 10Vpp variable
Variable Resistors	:	2 Potentiometers (1K, 100K)
Speaker	:	8 ohms miniature speaker
Seven Segment Display	:	2 Nos. BCD to Seven Segment Decoder/ Driver IC with terminals
Data Switch	:	8 independent logic level inputs to select High / Low TTL levels
Pulser Switch	:	2 independent buffered bounce free manual pulser (useful for freezing the action of each stage of the counter after every clock pulse)
Logic Indicators	:	8 independent LEDs indicators for High / Low status indication of digital outputs
Universal Socket	:	3 Nos. BNC to 2 channel banana adapter
Fuses	:	3 Nos. of Fuses with terminals
Bread Board	:	Unique solder-less large size, spring loaded breadboard consisting of two Terminal Strips with 1280 tie points and 4 Distribution Strip switch 100 tie points each, totaling to 1680 tie points. (Size:112mmx170mm)
Power	:	230 V ± 10%, 50 Hz
Accessories	:	Mains cord, Operating and Experimental manual
Instruction manual	:	Strongly supported by detailed operating instructions
Weight	:	6 Kg. (Approx)
Dimension	:	W 400 x H 150 x D 300

Note: Specifications are subject to change.

EXPERIMENTAL COVERAGE:

ANALOG

01. Study of Diodes in DC circuits
02. Study of Light Emitting Diodes in DC Circuits
03. Study of Half wave rectifier
04. Study of Full wave rectifier
05. Study of Zener Diode as a voltage regulator
06. Study of transistor series voltage regulator
07. Study of transistor shunt voltage regulator
08. Study of Low pass filter
09. Study of High pass filter
10. Study of band pass filter
11. Study of CE configuration of NPN transistor
12. Study of CB configuration of NPN transistor
13. Study of CE amplifier
14. Study of Monostable multivibrator using transistor
15. Study of Bistable multivibrator using transistor
16. Study of Astable multivibrator using transistor

DIGITAL

01. Logic gates operation
02. To verify De-morgan's theorem With boolean logic equations
03. Binary to Gray code conversion
04. Gray code to Binary conversion
05. Binary to Excess-3 code conversion
06. Binary Addition and Subtractor
07. Binary Multiplier
08. EX-OR gate implementation
09. Application of EX-OR gate
10. Johnson Counter
11. To verify the dual nature of Logic Gates
12. Study of Flip-Flops RS, JK, D&T
13. Multiplexer and Demultiplexer
14. 4 Bit Binary up and down counter
15. Study of 8 to 3 Line Encoder
16. Study of 3 to 8 Line Decoder
17. Study of Shift Register (SIPO)
18. CMOS-TTL Interfacing
19. Study of Crystal oscillator
20. Study of pulse stretcher circuit

OPTIONAL MODULES:

Apart from above given experimental coverage of 16 + 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-Analog Lab.

ANALOG

SN.	Name	Order Code
01	Study of Diode in DC circuits	36001
02	Study of Light Emitting Diodes in DC Circuits	36002
03	Study of Half wave rectifier	36003
04	Study of Full wave rectifier	36004
05	Study of Zener Diode as a voltage regulator	36005
06	Study of transistor series voltage regulator	36006
07	Study of transistor shunt voltage regulator	36007
08	Study of Low pass filter	36008
09	Study of High pass filter	36009
10	Study of band pass filter	36010
11	Study of CE configuration of NPN transistor	36011
12	Study of CB configuration of NPN transistor	36012
13	Study of CE amplifier	36013
14	Study of Monostable multivibrator using transistor	36014
15	Study of Bistable multivibrator using transistor	36015
16	Study of Astable multivibrator using transistor	36016
17	Study CB amplifier (PNP)	36017
18	Study CC amplifier (PNP)	36018
19	Study of FET amplifier.	36019
20	Study power supply having two zener diodes in series	36020
21	Study dual polarity voltage regulated power supply	36021
22	To study the characteristics of photo transistor	36022
23	To practically understood the operation of a 7-segment LED display	36023
24	To Study CC configuration of NPN transistor	36024
25	To study CE configuration of PNP transistor	36025
26	To study CB configuration of PNP transistor	36026

Note: Specifications are subject to change.

DIGITA

Note: Specifications are subject to change.