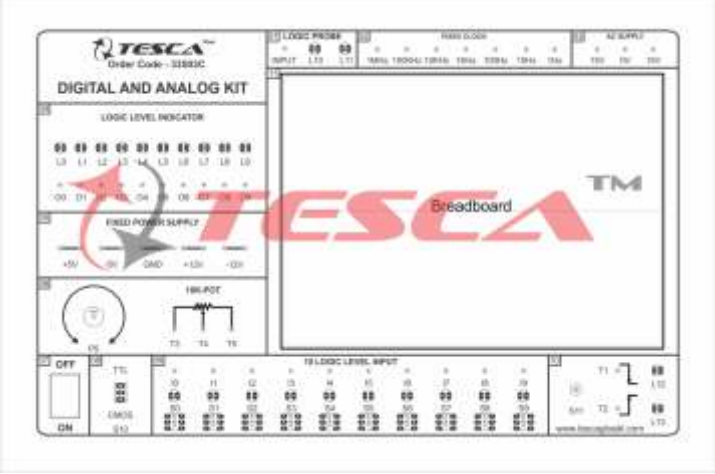

33503C DIGITAL-ANALOG KIT is intended for elementary as well as advance training of Digital & Analog electronics. The trainer covers regular digital & analog circuits by solder-less interconnections on breadboard and as well as compatible with all optional modules, through use of 2mm brass terminals and patch cords. Clock generators, logic level input/output indicators and DC power supplies etc. are in-built. The unit housed in attractive enclosure is supplied with mains cord, patch cords, Instruction manual and Component Set.

Features:

Bread Board	:	Unique solder-less large size, spring loaded breadboard consisting of two Terminal Strips with 1280tie points and 4 Distribution Strips with 100 tie points each, totaling to 1680 tie points. Size:112mm x 170mm approx)
Fixed Power Supply	:	+5 V, -5 V, +12 V, and -12 V
AC Supply	:	15-0-15V. Can be used as15V.
Fixed Clock	:	1Hz, 10Hz,100 Hz, 1KHz, 10KHz, 100KHz, 1MHz.
Manual Pulser Switch	:	1 independent buffered bounce free manual pulser (useful for freezing the action of each stage of the counter after every clock pulse)
10 Logic Level Input	:	10 independent logic level inputs to select High / Low TTL levels, each with a LED to indicate high / low status and termination
Logic Level Indicator	:	10 independent buffered logic level indicators for High / Low status indication of digital outputs.
Potentiometer	:	1 Potentiometer (10K) with terminals
On Board Switches	:	2 Switches signal pole double through
Logic Probe	:	Logic level indicator for TTL/CMOS
Power	:	230 V ± 10%, 50 Hz
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 & Component Set
Instruction manual	:	Strongly supported by detailed operating instructions

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

Optional

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

Digital

01. Logic gates operation
02. To prove 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)

Optional

18. CMOS-TTL Interfacing
19. Study of Crystal oscillator
20. Study of pulse stretcher circuit

Note: Specifications are subject to change.

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20.04.2023

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

36001 Study of Diodes in DC circuits
36002 Study of Light Emitting Diodes in DC Circuits
36003 Study of Half wave rectifier
36004 Study of Full wave rectifier
36005 Study of Zener Diode as a voltage regulator
36006 Study of transistor series voltage regulator
36007 Study of transistor shunt voltage regulator
36008 Study of Low pass filter
36009 Study of High pass filter
36010 Study of band pass filter
36011 Study of CE configuration of NPN transistor
36012 Study of CB configuration of NPN transistor
36013 Study of CE amplifier
36014 Study of Monostable multivibrator using transistor
36015 Study of Bistable multivibrator using transistor
36016 Study of Astable multivibrator using transistor
36017 Study CB amplifier (PNP)
36018 Study CC amplifier (PNP)
36019 Study Zener diode voltage regulator
36020 Study power supply having two zener diodes in series
36021 Study dual polarity voltage regulated supply
36022 Plot V / I of LED
36023 To practically understood the operation
38524 Shift Register SISO and PIPO
36025 To study CE characteristics of PNP transistor
36026 To study CB characteristics of PNP transistor
36027 To study CC characteristics of PNP transistor
36028 Study full wave dual supplies
36029 FET characteristic
36030 Verify superposition theorem
36031 Verify thevonin's theorem

Digital

38501 Logic gates operation
38502 To prove De-Morgan's theorem with Boolean logic equations
38503 Binary to Gray code conversion
38504 Gray code to Binary conversion
38505 Binary to Excess-3 code conversion
38506 Binary Adder and Subtractor
38507 Binary Multiplier
38508 EX-OR gate implementation
38509 Application of EX-OR gate
38510 Johnson Counter
38511 To verify the dual nature of Logic Gates
38512 Study of Flip-Flops RS, JK, D&T
38513 Multiplexer and Demultiplexer
38514 4 Bit Binary up and down counter
38515 Study of 8 to 3 Line Encoder
38516 Study of 3 to 8 Line Decoder
38517 Study of Shift Register (SIPO)
38518 CMOS-TTL Interfacing
38519 Study of Crystal oscillator
38520 Study of pulse stretcher circuit
38521 4 Bit Ring Counter
38522 Modulo 12 Counter By Direct Clearing
38523 Decade counter of a 7-segment LED display
38524 Shift Register SISO and PIPO
38525 Decimal to BCD Converter
38526 Astable Multivibrator using Digital IC
38527 Bistable Multivibrator
38528 Monostable Multivibrator
38529 Octal to binary Encoder
38530 4 Bit Magnitude Comparator
38531 Interface of TTL-IC to CMOS-IC & CMOS IC to TTL-IC

Note: Specifications are subject to change.

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