COURSE TABLE OF CONTENTS

Electronic Hardware Development

OEM: Koenig Original • Duration: 4 Days (32 hrs)

COURSE MODULES & TOPICS

Module 1: Electronics Fundamentals
- Voltage, current, and resistance basics
- Power concepts in electronic circuits

Module 2: Electronic Components Overview
- Resistors and capacitors
- Diodes and transistors
- Integrated circuits (ICs)

Module 3: Analog and Digital Circuit Design
- Analog circuit design principles
- Digital circuit design fundamentals

Module 4: Power Supply and Protection Circuits
- Power supply design
- Voltage regulators
- Circuit protection techniques

Module 5: Microcontroller Integration
- Microcontroller basics
- Peripheral interfacing methods

Module 6: Circuit Simulation Tools
- Electronic design tool overview
- Circuit simulation techniques

Module 7: Schematic Capture and PCB Layout
- Schematic creation
- PCB layout and routing
- Design rule checks

Module 8: PCB Fabrication and Assembly
- PCB fabrication process
- Assembly and soldering techniques
- Testing assembled boards

Module 9: Hardware Debugging and Prototyping
- Debugging hardware circuits
- Validation and documentation
- Prototype development

Module 10: Hands-on Labs and Practical Activities
- Circuit design and simulation

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- Schematic and PCB layout
- Component selection and soldering
- Testing and prototype validation