



**NIQ ENGINEERING SDN BHD**  
MEE SERVICES & TRAINING PROVIDER  
REG. #: (538098H)



# TROUBLESHOOTING & REPAIR TECHNIQUE OF BIOMEDICAL DIAGNOSTIC EQUIPMENT

**HRDC REG. COURSE #: 10001530228**

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## Certification

- Attendance – NIQ

## For

- Electromedist
- Biomedical Engineer
- Technologist
- Technical Manager
- Medical Electronic Lecturer
- Student

## Fees

RM3000 per pax

\*Students gets special discount of 50%



VISIT OUR WEBSITE  
**WWW.NIQENGINEERING.COM**



MORE INFORMATION CONTACT US  
**+60146969155**  
**SALES@NIQENGINEERING.COM**

## Introduction

- NIQ Engineering Sdn Bhd is Registered HRD Corp Training Provider, MBOT and MEA Approved Training Provider located in Pinggiran Subang Shah Alam Selangor.
- we provide equipment repair / maintenance training program for Electronic, Electrical & Biomedical equipment up to component level repair. Most of our training programs are **HRDF Claimable program**.

## Troubleshooting and Repair Technique of Biomedical Diagnostic Equipment 1

Biomedical equipment is often expensive and less common than other types. After 2-5 years, issues can arise due to **faulty parts** like Power Supply boards, chargers, main boards, controllers, displays, AC/DC Motors, or Heater Assemblies. Biomedical Engineers and Technicians need knowledge and experience in troubleshooting, testing, verifying, and repairing these faults. This approach **reduces** repair **delays** and maintenance **costs** compared to sending equipment overseas for repairs.

This module designed for Biomedical Engineers / Technicians who has attending and perform biomedical diagnostic equipment troubleshooting and repair especially the Patient monitoring system.

In line with our vision to develop local expertise on biomedical equipment repair, we are offering biomedical equipment Repair for diagnostic equipment training to enhance the knowledge, skills, and techniques of engineers and technicians in equipment repairs.

## Course Modules

- Understanding on basic block diagram and circuit function of Patient Monitoring System.
- Analyse common problems and symptoms in biomedical diagnostic equipment.
- Applying testing and safety procedure of diagnostic equipment repair.
- Perform PCB testing, measurement and repair technique of diagnostic equipment.
- Summarize Report of troubleshooting and repair technique of diagnostic equipment.

## Trainer of Program

Ts. Ismadi Ismail is Accredited/ Certified from HRD Corp Malaysia/Tafe Australia with working experiences more than 20 years in equipment repair and maintenances.

## Learning Outcomes

- Illustrate basic block diagram, operation and circuit function of of biomedical diagnostic equipment.
- construct troubleshooting ,testing and repair technique of biomedical diagnostic equipment.
- Measure the signal , voltage and frequency of electronic circuit using digital Multi-meter and, scope meter.
- Summarize common problems /symptoms in Power Section, Applied Parts, Control Section and output section of biomedical diagnostic equipment.



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# Tentative of Program (TBC)

Duration: 3 Days

## Day 1

08:30	Introduction to Training Module
09:00	Pre Test Examination
10:45	Coffee Break
11:00	Introduction to Diagnostic Equipment & Basic Block diagram of Biomedical Diagnostic Equipment
12:00	Common Spare part and circuit function – Power Section & Applied Parts
13:00	Lunch Break
14:00	Common Spare part and circuit function – Main Controller & Sub Controller
15:30	Coffee Break
15:45	Common Spare part and circuit function – Output Devices
17:00	Dismissal

## Day 2

08:30	Practical 1- Generates Basic Block Diagram – Patient Monitoring system
09:30	Practical 2- Analyse Common problems and symptoms-Power Section
10:15	Coffee Break
10:30	Practical 3- Analyse Common problems and symptoms-Applied Parts
11:15	Practical 4- Analyse Common problems and symptoms- Main Controller
12:00	Practical 5- Analyse Common problems and symptoms- Sub Controller
13:00	lunch Break
14:00	Practical 6 - Analyse Common problems and symptoms- Output Devices
14:45	Safety Precaution and guideline for PCB Testing
15:00	Practical 7 - Perform Power Supply Testing and Verification Technique
15:45	Coffee Break
16:00	Practical 8 - Perform Basic Microcontroller using PIC Software - Testing and Verification Technique
17:00	Dismissal



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# Tentative of Program (TBC)

Duration: 3 Days

## Day 3

08:30	Practical 9-Perform Assembly part Checking and Verification Technique <ul style="list-style-type: none"><li>• ECG Cable, Spo2 Cable, NIBP Cuff,</li><li>• AC Filter, Solenoid valve, Pressure Transducer</li><li>• Speaker, Thermal Printer, Back Light Bulb</li><li>• C Motor, 7 Segment Display, Display Panel</li></ul>
09:30	Practical 10- Perform PCB Repair – DC Motor Controller or Inverter Display
10:45	Coffee Break
11:00	Practical 11 – Develop summary report of Troubleshooting and Repair Technique of Biomedical Diagnostic Equipment. <ul style="list-style-type: none"><li>• Safety Precaution for PCB/ Equipment Repair of Diagnostic equipment</li><li>• Process flow chart for Diagnostic equipment Troubleshooting and Repair Technique</li></ul>
13:00	Lunch Break
14:00	Practical 11 – Develop summary report of Troubleshooting and Repair Technique of Biomedical Diagnostic Equipment. <ul style="list-style-type: none"><li>• List of common problems and symptom of Diagnostic Equipment Repair.</li></ul>
15:00	Coffee Break
15:15	Review / Q & A
16:30	Post Test -Examination
17:00	Dismissal



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No Siri: 538098H



## TRAINING PROVIDER REGISTRATION CERTIFICATE

AKTA PEMBANGUNAN SUMBER MANUSIA BERHAD, 2001

**NIQ ENGINEERING SDN BHD**

*is hereby registered as a training provider under*  
**PEMBANGUNAN SUMBER MANUSIA BERHAD**

APPROVAL DATE	EXPIRY DATE
02/11/2024	01/11/2025

This approval is subject to the current terms and conditions of  
**Pembangunan Sumber Manusia Berhad**

21/10/2024

Release Date

PEMBANGUNAN SUMBER MANUSIA BERHAD



**DELIVERING QUALITY, DEVELOPING EXCELLENCE**