COURSE TABLE OF CONTENTS

IoT-Based Health Monitoring

OEM: Koenig Original • Duration: 3 Days (24 hrs)

COURSE MODULES & TOPICS

Module 1: Introduction to IoT in Healthcare
- Overview of IoT in healthcare
- Remote patient monitoring concepts

Module 2: Healthcare IoT Architecture and System Design
- IoT system architecture for healthcare
- Design considerations for healthcare IoT systems

Module 3: Biomedical Sensors and Vital Signs
- Heart rate sensor basics
- SpO sensor fundamentals
- Temperature sensor overview
- ECG basics

Module 4: Microcontrollers and Sensor Interfacing
- Microcontroller selection for IoT
- Sensor interfacing techniques
- Data acquisition methods

Module 5: Wireless Connectivity in Healthcare IoT
- Wi-Fi communication
- Bluetooth Low Energy (BLE)
- MQTT protocol basics

Module 6: Cloud Integration and Data Visualization
- Cloud integration for IoT data
- Data visualization techniques
- Patient monitoring dashboards

Module 7: Data Privacy, Security, and Ethics
- Data privacy in healthcare IoT
- Security considerations
- System reliability
- Ethical considerations

Module 8: IoT Health Monitoring Prototype Implementation
- Designing an IoT health monitoring prototype
- Implementation steps

Module 9: Hands-on Labs and Practical Activities
- Vital-sign sensor interfacing
- Real-time data monitoring
- Dashboard development

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- Alert generation
- Remote health-monitoring prototype