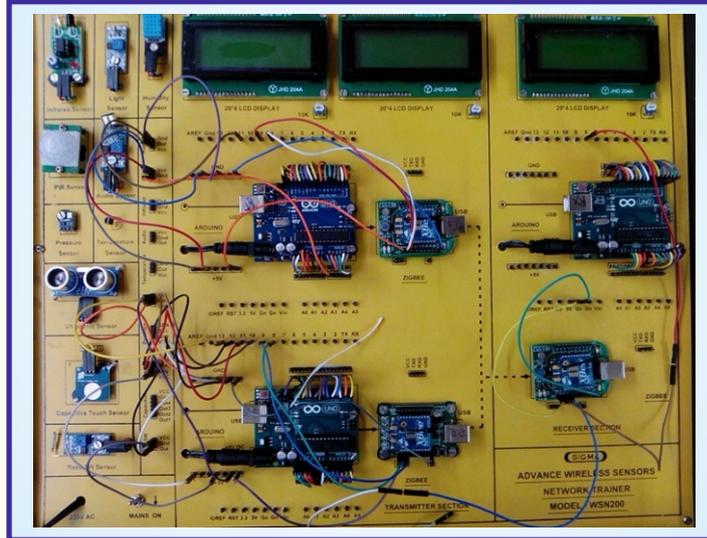




# WIRELESS SENSOR NETWORK TRAINER MODEL-WSN100

This trainer has been designed with a view to provide theoretical & practical knowledge of Wireless Sensor Network Trainer.



The Wireless Sensor Network is to transmit and receive data of different sensors using Micro Controller and wireless communications.

## SPECIFICATIONS

### 1. Hardware

- |                            |   |        |
|----------------------------|---|--------|
| 1. Node Controller Boards  | : | 2 Nos. |
| 2. Zigbee Transmitter Node | : | 1 Nos. |
| 3. Zigbee Receiver Node    | : | 1 No.  |

### 2. Wireless Sensors

- |                                  |   |       |
|----------------------------------|---|-------|
| 1. Infrared Sensor               | : | 1 No. |
| 2. Light - IL luminance Sensor   | : | 1 No. |
| 3. Humidity Sensor               | : | 1 No. |
| 4. PIR - Passive Infrared Sensor | : | 1 No. |
| 5. Audio Sensor - Condenser Mike | : | 1 No. |
| 6. Temperature Sensor            | : | 1 No. |
| 7. Pressure Sensor               | : | 1 No. |
| 8. Ultrasonic Sensor             | : | 1 No. |
| 9. Capacitive Touch Sensor       | : | 1 No. |

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**Dealer:-**

### 3. Software

1. Controller Software CD : 2 Nos.
2. Controller Operating System CD : 1 No.
3. Applications Codes CD : 1 No.

### 4. Accessories

1. USB Cables : 2 Nos.
2. Connecting Wires / Jumpers : 30 Nos.
3. Practical Manual : 1 No.
4. E-Books for WSN Subject : 10 Nos in PDF Format
5. Mp4 Video Class for WSN Subject : 40 Nos

### 5. Trainer Board:-

The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe.

6. Printed Manuals with softcopy on Pen Drive is to be supplied
7. Online manual and Library for Arduino Books, Charts, PPT, and Software is to be provided.

### 8. Note:

**Two Computer systems (Pentium IV 1.5 GHz, 160GB HD, 1GB RAM) with Windows-7 are required to operate this trainer.**

## EXPERIMENTS

1. To Study Theory and Block Diagram of Wireless Sensor Network
2. To Study Node Controller Boards
3. To Study ZigBee Wireless Transmitter Nodes
4. To Study ZigBee Wireless Router and Co-Ordinator
5. To Study different type of Sensors and their Output characteristics
6. To install and Connect different Sensors to Node Controller Boards
7. To install and Configure Node Controller Boards
8. To install and Configure ZigBee Wireless Transmitter Nodes
9. To install and Configure ZigBee Wireless Router and Co-Ordinator
10. To write a Program in C++ for programming of different types Nodes and Routers
11. To Start HyperTerminal and send and receive Sensors Data readings to Base Station
12. To understand different types of Protocols and Commands
13. To study Sensor controlling and Monitoring Software
14. To control Sensors using the PC Monitoring software
15. To Study and Configure different types of Topologies
16. To Cross over from Mesh Network to Internet Network
17. To make different Applications and Projects using Wireless Sensor Network
18. To demonstrate and understand different types of faults