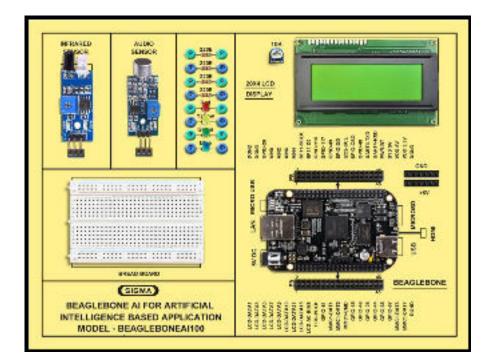**BEAGLEBONE BLACK WIRELESS MICROCONTROLLER TRAINER**

MODEL – BEAGLEBONE-WLS100

This trainer has been designed with a view to provide practical and experimental knowledge of Internet of Things (IOT) with BeagleBone Black Wireless Microcontroller.

A. Main Specs

1. Following Parts and Modules are assembled on Single PCB of size - 18 Inch x 15 Inch.
2. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place.
3. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement.
4. Modules and Parts should be removable without desodlering for easy repair / replacement
5. The acrylic cover is fitted on PCB to safeguard main parts.

B. BeagleBone Black Wireless Board

1. Microprocessor : Octavo Systems OSD3358 1GHz ARM® Cortex-A8
2. SDRAM Memory : 512MB DDR3 RAM
3. Onboard 4GB 8-bit eMMC on-board flash storage
4. 3D graphics accelerator
5. NEON floating-point accelerator
6. 2x PRU 32-bit microcontrollers
7. USB client for power & communications
8. USB host
9. Ethernet 10/100, RJ45 : 802.11b/g/n
10. Bluetooth 4.1 plus BLE
11. Wifi : 2.4GHz WiFi
12. HDMI Mini
13. 2x 46 pin headers
14. Power Source miniUSB, USB or DC jack - 5V DC External Via Expansion Header

C. Sensors:

1. Infrared Obstacle Sensor
2. Light LDR Sensor
3. Temperature & Humidity Sensor

D. Modules and Hardware:

1. 20 X 4 - LCD Display
2. LEDs and Different Resistors
3. Breadboard - 400 Points for testing different Sensors and circuits

E. Accessories

1. Memory Card   : 32 GB SD Card
2. USB Cable   : 2 No
3. Ethernet Cable   : 1 No
4. HDMI to Mini HDMI Connector Cable   : 1 No
5. Power Supply Adaptor   : +5V DC, 2A
6. Jumper wires -2 mm   : 50 Nos.
7. Pen Derive with Software, Library, Driver, Codes, Soft Copy of Manual : 16 GB
8. Printed Practical Manual   : 1 No.
9. E-Books for IOT Subject   : 10 Nos. in PDF Format
10. Mp4 Video Class for IOT Subject   : 40 Nos
11. Excitation accessories for each sensor

EXPERIMENTS

1. To understand theory and working of BeagleBone Wireless Micro controller.
2. To understand Operating system of BeagleBone Wireless Micro controller.
3. To understand 20 x 4 LCD Display Interface.
4. To understand Communication Protocols-UART,I2C,SPI,and RS485
5. To understand USB Interface for BeagleBone Wireless Micro controller.
6. To understand Ethernet Cable Interface for BeagleBone Wireless Micro controller
7. To understand microSD Card Interface for BeagleBone Wireless Micro controller
8. Creating a Wi-Fi digital radio using BBB wireless
9. Biometric Door Opener with Facial Recognition & Voice Output using BBB wireless
10. Health Monitor board using BBB wireless & WiFi
11. Color sorter machine implementation using BBB wireless
12. Implementing MotorCape, and Linear Actuator using BBB wireless
13. Controlling Dynamixel AX-12A, U2D2 servos remotely using BBB wireless
14. Implementing MaxBotix Rangefinder to detect object collision using BBB wireless
15. Implementing Fractal Imagery using BBB wireless

Contact us

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