

# Lab requirements for Internet of Things (IOT)

| Sr# | Description  |
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| 1.  | Android Studio   |
| 2.  | Arduino Uno  |
| 3.  | USB mini wire  |
| 4.  | Audio signal generator.                                      |
| 5.  | AutoCAD software   |
| 6.  | AVO meter/ Digital multimeter                                |
| 7.  | Backup software  |
| 8.  | Bluetooth module   |
| 9.  | Bootable DVD   |
| 10. | Bootable OS Flash drive/CD                                   |
| 11. | Bread board  |
| 12. | Bread board / Basic electronics trainer kit                  |
| 13. | Bread board / Digital Trainer Kit.                           |
| 14. | Breadboard   |
| 15. | C IDE  |
| 16. | C/C++ IDE  |
| 17. | C/Python IDE   |
| 18. | Card reader  |
| 19. | Circuit Breaker.   |
| 20. | Computer Networks  |
| 21. | Computer System Minimum 5th generation with 8 GB RAM and SSD |
| 22. | Connecting Wires (FF, FM etc)                                |
| 23. | DC supply (5 V)  |
| 24. | DC\AC supply   |
| 25. | Digital clock  |
| 26. | Digital Multimeter   |
| 27. | Digital Trainer Kit.   |
| 28. | DLD trainer  |
| 29. | Dual trace Oscilloscope 0-20MHZ                              |
| 30. | DVD or BLU-RAY writer  |
| 31. | Electrician Tool kit.  |
| 32. | ESP32  |
| 33. | External Hard disks  |
| 34. | Flash Drive  |
| 35. | Function Generator   |
| 36. | Hard Disk drives and Solid State disks.                      |
| 37. | Instructional manual   |
| 38. | Insulation remover   |
| 39. | Internet   |

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| 40. | Java IDE   |
| 41. | Keyborad   |
| 42. | Lamp holder  |
| 43. | Laptop   |
| 44. | Load (Lamp)  |
| 45. | Logic Probe.   |
| 46. | LoRA concentrator board  |
| 47. | LoRa module  |
| 48. | Manageable switch  |
| 49. | Mass Storage   |
| 50. | Modem/DSL  |
| 51. | Mouse  |
| 52. | MQTT broker  |
| 53. | MS Office  |
| 54. | MS Power BI  |
| 55. | Multi Meter  |
| 56. | Multimedia projector   |
| 57. | Networking Devices (Router, Modem, Hub, Firewall, Access Points, Switches etc) |
| 58. | Networking Tool Kit  |
| 59. | NFC  |
| 60. | Nodemcu Board  |
| 61. | NodeMCU module   |
| 62. | Nose Plier   |
| 63. | Office Suit  |
| 64. | OS Bootable Mass storage device  |
| 65. | Oscilloscope   |
| 66. | Pi Controller  |
| 67. | Plier  |
| 68. | Potentiometer  |
| 69. | Printer  |
| 70. | Projector  |
| 71. | Projector screen   |
| 72. | Python IDE   |
| 73. | RAID   |
| 74. | RAID card  |
| 75. | RAM  |
| 76. | RapidMiner (CD/Mass Storage)   |
| 77. | Rasberry Pi Adapter (5V, 2A)   |
| 78. | Rasberry Pi module   |
| 79. | Raspberry pi   |
| 80. | RFID antennas  |
| 81. | RFID reader  |
| 82. | Rheostat   |
| 83. | ROM  |
| 84. | Router   |

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| 85.  | Router software/Firmware.                        |
| 86.  | RS232 interfaces                                 |
| 87.  | Scanner  |
| 88.  | Screw  |
| 89.  | SD card  |
| 90.  | SD card reader                                   |
| 91.  | Series board.                                    |
| 92.  | Server machine                                   |
| 93.  | Signal generator                                 |
| 94.  | Simulator (Packet Tracer)                        |
| 95.  | Smartphone                                       |
| 96.  | Software Development kit                         |
| 97.  | Software for Software based RAID.                |
| 98.  | Software to test network.                        |
| 99.  | Solder   |
| 100. | Source of data sheets                            |
| 101. | SPI Interface                                    |
| 102. | Step down Transformer                            |
| 103. | Step down Transformer (Normal and center tapped) |
| 104. | System (Windows, Linux)                          |
| 105. | Tool kit.  |
| 106. | Trainer  |
| 107. | Troubleshooting software.                        |
| 108. | UART transmitter                                 |
| 109. | USART transmitter                                |
| 110. | USB micro cable                                  |
| 111. | USB mini cable                                   |
| 112. | Valid public cloud subscription                  |
| 113. | Voltmeter  |
| 114. | VPN software.                                    |
| 115. | Vulnerability scanning tool                      |
| 116. | Webcam   |
| 117. | Webcam (digital camera)                          |
| 118. | Weka Software (CD/Mass Storage)                  |
| 119. | White board                                      |
| 120. | Wifi module                                      |
| 121. | Wifi router                                      |
| 122. | Wire Tester                                      |
| 123. | Wireless router                                  |
| 124. | ZigBee modules                                   |