AMPUSHWORKS ENTERPRISES PRIVATE LIMITED

Patna, Bihar, India

TECHNICAL TRAINING PROGRAMMES 2026–27

LEARN TECHNOLOGY. DEVELOP SKILLS. BUILD THE FUTURE.

Structured one-month programmes combining classroom theory, intensive practical sessions and formal assessment

Programme at a glance	
Duration	One month
Course fee	₹3,000 per candidate
Total programme hours	102 hours
Batch size	Minimum 10 candidates per batch
Certificate	Training completion certificate, subject to successful completion and assessment

1. About the Programme

Ampushworks Enterprises Private Limited is a Patna-based engineering and technology company that designs and builds IoT controllers, electrical control panels and automation systems. Our products are in use in water-supply schemes and other field installations. Our technical training programmes draw directly on this practical experience.

Ampushworks offers structured, one-month technical training programmes in emerging engineering technologies, combining classroom theory, intensive practical sessions and formal assessment. Each programme is built around actual engineering products and hardware, so that candidates learn not only how a technology works in principle but also how it is used in real applications.

The programmes are designed to bridge the gap between academic study and industry practice. Candidates spend twice as many hours on practical work as on theory, and every programme ends with separate theory and practical examinations.

Who Can Join

The programmes are open to:

- B.Tech students
- Diploma students
- ITI students
- B.Sc students
- BCA students
- Engineering graduates
- Working professionals
- College faculty

2. Available Training Topics

Candidates may choose any one of the following ten topics. Each topic has its own syllabus and practical assignments, described in the next section.

1. Internet of Things (IoT)
2. Embedded Systems and Microcontrollers
3. Arduino, ESP32 and ESP8266
4. GSM, Wi-Fi and Wireless Communication
5. Robotics and Automation
6. Drone Technology
7. 3D Printing and Additive Manufacturing
8. Electrical Control Panels and Motor Automation
9. Water Supply Automation and Pump Controllers
10. Industrial IoT and Sensor Technologies

3. Syllabus and Practical Assignments

The following is an indicative outline. The detailed syllabus is issued to candidates at the start of each batch.

3.1 Internet of Things (IoT)

This programme introduces the complete chain of an IoT system, from the sensor that measures a physical quantity to the cloud dashboard where the data is viewed and acted upon. Candidates learn how devices are connected, how data travels and how remote control is achieved.

Syllabus

- IoT architecture and real-world applications
- Sensors and actuators
- Connectivity and protocols (HTTP, MQTT)
- Cloud platforms and dashboards
- Basics of IoT security

Practical assignments

- Send live sensor data to a cloud dashboard
- Switch a load on and off remotely through the internet

3.2 Embedded Systems and Microcontrollers

Embedded systems are the small computers inside everyday products. This programme teaches how microcontrollers are programmed and how they interact with switches, displays, sensors and other devices.

Syllabus

- Microcontroller architecture
- Embedded C programming
- GPIO, timers and interrupts
- ADC and PWM
- UART, I2C and SPI communication

Practical assignments

- Interface LEDs, switches and an LCD
- Read an analogue sensor and display its values

3.3 Arduino, ESP32 and ESP8266

Arduino and ESP boards are the most widely used platforms for prototyping. Candidates learn to build working circuits quickly and to add Wi-Fi connectivity using ESP32 and ESP8266.

Syllabus

- Board overview and IDE set-up
- Digital and analogue input/output
- Libraries and sensor modules
- Wi-Fi on ESP boards

- Simple web server and over-the-air update basics

Practical assignments

- Build an ESP32 web-controlled relay
- Build a Wi-Fi data logger

3.4 GSM, Wi-Fi and Wireless Communication

Many field devices must work where there is no wired network. This programme covers the main wireless technologies used in remote monitoring and control, including GSM, which is widely used in rural installations.

Syllabus

- GSM/GPRS and AT commands
- SMS and call-based control
- Wi-Fi networking
- LoRa, Bluetooth and RF modules
- Antennas and communication range

Practical assignments

- SMS-based motor control
- LoRa point-to-point communication link

3.5 Robotics and Automation

Candidates learn how robots sense their surroundings, make decisions and move. The programme combines mechanical assembly, electronics and programming.

Syllabus

- Robot types and applications
- DC, servo and stepper motors
- Motor drivers
- Sensors for robots
- Control logic and automation basics

Practical assignments

- Build an obstacle-avoiding or line-following robot
- Control a servo-driven robotic arm

3.6 Drone Technology

This programme explains how a drone is built, configured and flown safely. Candidates work with real components and learn the importance of calibration and safety.

Syllabus

- Drone types and applications
- Frames, motors, ESCs, propellers and batteries
- Flight controller set-up and calibration
- Principles of flight

- Safety and regulations overview

Practical assignments

- Assemble and wire a drone
- Calibrate the drone and carry out a supervised test flight

3.7 3D Printing and Additive Manufacturing

Additive manufacturing turns a digital design into a physical part. Candidates learn the full workflow from design to a finished printed prototype.

Syllabus

- Additive manufacturing technologies
- 3D CAD design
- Slicing software and print settings
- Printing materials
- Printer operation and maintenance

Practical assignments

- Design and print a functional part
- Post-processing and finishing of printed parts

3.8 Electrical Control Panels and Motor Automation

Control panels and motor starters are at the heart of pumps, machines and industrial equipment. This programme teaches safe wiring, protection and testing practices.

Syllabus

- Electrical safety
- Contactors, relays, MCBs and overload relays
- DOL and star-delta starters
- Reading and following control wiring diagrams
- Motor protection

Practical assignments

- Wire and test a DOL starter
- Wire and test a star-delta starter panel

3.9 Water Supply Automation and Pump Controllers

Based on Ampushworks' own work in water-supply schemes, this programme shows how pumps are controlled automatically and monitored remotely.

Syllabus

- Overview of water-supply schemes
- Level sensors and float switches
- Pump controller logic
- Dry-run, voltage and overload protection
- GSM/IoT remote monitoring

Practical assignments

- Automatic pump control using level sensors
- Set up and monitor an Ampush ProSmart controller

3.10 Industrial IoT and Sensor Technologies

Industrial IoT brings monitoring and data to factories and utilities. Candidates learn about industrial sensors, standard signals and communication used in industry.

Syllabus

- Industrial sensors (pressure, flow, temperature, current)
- 4–20 mA signals
- RS-485 and Modbus basics
- Edge and cloud monitoring
- Alarms and dashboards

Practical assignments

- Build an industrial sensor monitoring dashboard
- Current and energy monitoring

4. Training Structure and Hours

Every one-month programme follows the same mandatory structure. The hours below apply to each topic.

Training component	Hours
Theory classes	32 hours
Practical sessions	64 hours
Theory examination	2 hours
Practical examination	4 hours
Total programme hours	**102 hours**

Practical sessions (64 hours) are double the theory classes (32 hours), so that most of the learning happens through hands-on work. The examinations (6 hours in total) take place after completion of the training.

What the Training Includes

- **Structured classroom teaching** – clear explanation of concepts, components and working principles.
- **Hands-on laboratory sessions** – candidates work directly with hardware, tools and software.
- **Practical assignments** – each topic includes specific tasks that candidates complete themselves.
- **Hardware demonstrations** – demonstrations using actual engineering products.
- **Separate theory and practical examinations** – held after completion of the training.

5. Assessment and Certification

At the end of the training, each candidate takes two separate examinations: a theory examination of 2 hours and a practical examination of 4 hours. The theory examination tests understanding of concepts, while the practical examination tests the ability to build, wire, program and test.

A **training completion certificate** will be issued subject to successful completion of the programme and assessment requirements.

6. Fee, Batch Size and Scheduling

Item	Details
Duration	One month
Course fee	₹3,000 per candidate
Minimum batch size	10 candidates
Scheduling	Batches are scheduled after sufficient registrations are received

A batch begins once at least 10 candidates have registered for a topic. Registered candidates are informed of the batch start date, timings and venue before the batch begins.

7. Why Choose Ampushworks?

- **Practical-oriented engineering education** – learning by doing, not only by reading.
- **Training using actual engineering products** – candidates work with hardware that Ampushworks designs and builds.
- **Guidance from experienced engineers** – training is delivered by our engineering team.
- **Real-world IoT and automation applications** – examples drawn from live installations.
- **Intensive hardware and software exposure** – 64 hours of practical sessions in every programme.
- **Theory combined with practical assessment** – separate examinations confirm both knowledge and skill.

8. Institutional Programmes

Ampushworks works with engineering colleges, polytechnics and universities to bring practical technology training to their students and faculty. We offer:

- College workshops
- Faculty Development Programmes (FDP)
- Institutional technical training
- Group training under MoUs
- IoT and Robotics laboratory development

Institutions may contact us to plan a programme suited to their students and schedule.

9. Credentials and Experience

Company Credentials

Ampushworks is a registered and recognised engineering company. Our verified credentials are:

- **ISO 9001:2015** – certified quality management system.
- **CE (LVD)** – compliance with the European Low Voltage Directive for our electrical products.
- **Department of Telecommunications (DoT) M2M Registration** – registered machine-to-machine service provider.
- **Startup India (DPIIT)** – recognised by the Department for Promotion of Industry and Internal Trade.
- **Startup Bihar** – seed-funded under the Startup Bihar scheme.

Institutional Experience

- **NIT Patna – Faculty Development Programme:** IoT irrigation laboratory session delivered at the E&ICT Academy, NIT Patna.
- **Mother Teresa Management College, Bihta –** Memorandum of Understanding for IoT training.
- **INDRA LLC, Moscow –** Technology MoU covering IoT, drones, robotics and additive manufacturing.

10. How to Enrol

1. Choose the training topic you wish to join.
2. Send your name, mobile number, college or organisation, course and year, and chosen topic by WhatsApp (+91 94702 13937), email or the registration form on our website.
3. We confirm your registration and inform you when your batch is scheduled (minimum 10 candidates per batch).
4. Pay the course fee of ₹3,000 to confirm your seat.
5. Attend the one-month training and complete the theory and practical examinations.

ENROL NOW – TECHNICAL TRAINING 2026–27

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Minimum batch size: 10 candidates. Registration form: https://www.ampushworks.com/training.html#register

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Contact Us

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Note: Technical Training and the Industrial Internship are separate programmes with different objectives and fee structures. Please ask for the Ampushworks Industrial Internship brochure for internship details.