



# SRIMATI TECHNO INSTITUTE

INDUSTRIAL TRAINING & MENTORING



**CERTIFIED TECHNICAL &  
VOCATIONAL STUDIES**

# About Srimati Techno Institute



**SRIMATI**  
**TECHNO INSTITUTE**  
INDUSTRIAL TRAINING & MENTORING



## About Srimati Techno Institute

Located in Kolkata, Srimati Techno Institute is a renowned institution with over 45 years of experience in providing technical and job-oriented training. The institute is dedicated to empowering young professionals through a blend of exceptional courses, highly qualified faculty and state-of-the-art facilities — ensuring success in the ever-evolving landscape of the new millennium.

## Affiliations & Associations

- Srimati Techno Institute is an ISO 9001-2015 certified institute for its quality education & management system.
- Affiliated with the West Bengal State Council of Technical & Vocational Education & Skill Development, Govt. of West Bengal for Junior RAC, Beauty & Wellness & Junior Smart Phone Courses.
- Strategic tie-up with NIFS, Visakhapatnam and academic collaboration with Acharya Nagarjuna University for safety management courses.
- Authorised vocational Training provider of Sikkim professional University for designing and Paramedical courses.
- Member of the National Safety Council of India.

## Campus Facilities

- Wi-Fi enabled campus
- Well-stocked library
- Talent showcases including seminars, fashion shows and job fairs

## Student-Centric Services

- Flexible batch timings to accommodate diverse schedules
- Railway concessions for eligible students

## Professional Training Standards

- Highly educated and industry-trained faculty
- Well-equipped trade workshops
- Audiovisual-based training sessions
- Regular assessments to track progress
- Individual attention for holistic development

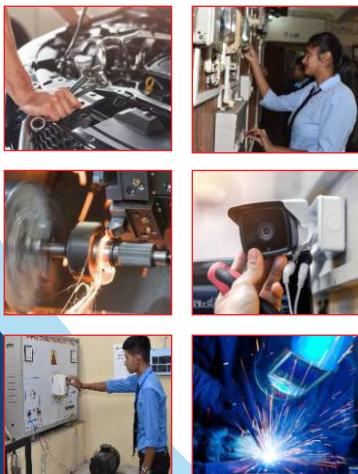
# Why Srimati Techno Institute?

Srimati Techno Institute offers a diverse range of career-oriented programs designed to meet industry standards and enhance employability. These include Certified Technical & Vocational Studies, UGC-approved Professional Design Programs, Certified Beauty and Wellness Courses, UGC-approved Fire & Safety Management Programs and Certified IT Studies.

All programs are structured on a “Learn and Earn” model, enabling students to gain practical knowledge while building financial independence. The institute invites aspiring young men and women to take advantage of these opportunities and shape a successful and rewarding career.



## CERTIFIED TECHNICAL & VOCATIONAL STUDIES



### Name Of the Courses

- Electrician
- Advance Electrician
- Fitter
- Advance Fitter
- Automobile Technician
- Automobile Mechanic
- Welder [ARC, GAS, Gas Cutting, TIG & MIG]
- Welder (ARC, GAS, Gas Cutting)
- Refrigeration & AC Mechanic
- Mechanic Refrigeration & AC
- CCTV Technician
- Mobile & Smartphone Technician

### Duration

- 1 year
- 2 years
- 1 year
- 2 years
- 1 year
- 2 Year
- 1 Year
- 6 Months
- 1 Year
- 2 Year
- 4 months
- 6 months

### Eligibility

- 10th
- 10th
- 10th
- 10th
- 10th
- 10th
- 10th
- 10th
- 10th
- 10th
- 10th
- 10th

[www.srimatitechno.org](http://www.srimatitechno.org)

# Electrician

**Duration:** 1 Year

**Objective:** Basic electrical concepts, domestic wiring, safety, and AC machines

**Exam:** Institutional assessment after 1st year

TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Workshop Safety</li> <li>• Workshop Tools</li> <li>• Electricity and Electronics</li> <li>• Passive Devices</li> <li>• Magnetism</li> <li>• AC Current &amp; Chemical Effect</li> <li>• Measuring Instruments</li> <li>• Transformers, Wires &amp; Cables</li> <li>• Earthing</li> <li>• Fuses &amp; Relays</li> <li>• Underground Cables</li> <li>• Wiring &amp; Accessories</li> <li>• Industrial Wiring</li> <li>• Domestic Electric Appliances</li> <li>• Estimating &amp; Costing</li> <li>• Transistors and Power Amplifiers</li> <li>• Oscilloscopes and Power Electronics Devices</li> <li>• Illumination</li> <li>• DC Machines</li> <li>• Motors, generators, EMF equation</li> <li>• Single Phase Motor</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Workshop &amp; Safety Practices</li> <li>• Identification and Use of Workshop Tools</li> <li>• Basic Electrical Connections and Testing</li> <li>• Identification of Electronic Components</li> <li>• Testing of Passive Devices (Resistor, Capacitor, Inductor)</li> <li>• Practical on Magnetism and Electromagnets</li> <li>• AC Current and Chemical Effect Experiments</li> <li>• Use of Measuring Instruments (Multimeter, Clamp Meter, Megger)</li> <li>• Transformer Connection and Testing</li> <li>• Identification and Jointing of Wires &amp; Cables</li> <li>• Earthing Installation and Testing</li> <li>• Fuse and Relay Wiring Practice</li> <li>• Underground Cable Laying and Jointing</li> <li>• House Wiring and Accessories Installation</li> <li>• Industrial Wiring Practice</li> <li>• Servicing of Domestic Electric Appliances</li> <li>• Estimating and Costing of Electrical Materials</li> <li>• Transistor and Power Amplifier Circuit Testing</li> <li>• Use of Oscilloscope and Power Electronic Devices</li> <li>• Illumination Circuit Installation</li> <li>• DC Machines: Motor &amp; Generator Connections and EMF Verification</li> <li>• Single Phase Motor Connection, Testing &amp; Maintenance</li> </ul>
Workshop Calculation & Science	Engineering Drawing
<ul style="list-style-type: none"> <li>• Units, Fraction, Square root, Ratio, Percentage</li> <li>• Trigonometry, Mensuration</li> <li>• Heat, Temperature, Lever, Work, Power, Energy</li> <li>• Material Science, Mass, Weight, Density</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Lines and Lettering</li> <li>• Geometric Construction and free hand Sketching</li> <li>• Dimensioning</li> <li>• Size and Layout</li> <li>• Symbolic Representation</li> </ul>
Employability Skills	
<ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Basic computer knowledge</li> <li>• Teamwork &amp; safety</li> </ul>	

### After 1st Year You Can Do:

- House wiring
- Appliance repair
- Helper electrician job
- Battery service work



### Project Work : Major Project (Choose Any One)

- Motor Rewinding with Testing Report • Domestic House Wiring with Estimation

### Electrician – Final Outcome (After 1 Year) Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Wireman, Electrical Helper	₹8,000 – ₹12,000

## Advance Electrician

**Duration:** 2 Years

**Objective:** Basic electrical concepts, domestic wiring, safety, AC and DC machines

**Exam:** 1st Year AITT-NCVT Certificate

### 1st YEAR SYLLABUS

TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"><li>• Introduction</li><li>• Workshop Safety</li><li>• Workshop Tools</li><li>• Electricity and Electronics</li><li>• Passive Devices</li><li>• Magnetism</li><li>• AC Current &amp; Chemical Effect</li><li>• Measuring Instruments</li><li>• Transformers, Wires &amp; Cables</li><li>• Earthing</li><li>• Fuses &amp; Relays</li><li>• Underground Cables</li><li>• Wiring &amp; Accessories</li><li>• Industrial Wiring</li><li>• Domestic Electric Appliances</li><li>• Estimating &amp; Costing</li><li>• Transistors and Power Amplifiers</li><li>• Oscilloscopes and Power Electronic Devices</li><li>• Illumination</li><li>• DC Machines<ul style="list-style-type: none"><li>• Motors, generators, EMF equation</li><li>• Single Phase Motor</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Introduction to Workshop &amp; Safety Practices</li><li>• Identification and Use of Workshop Tools</li><li>• Basic Electrical Connections and Testing</li><li>• Identification of Electronic Components</li><li>• Testing of Passive Devices (Resistor, Capacitor, Inductor)</li><li>• Practical on Magnetism and Electromagnets</li><li>• AC Current and Chemical Effect Experiments</li><li>• Use of Measuring Instruments (Multimeter, Clamp Meter, Megger)</li><li>• Transformer Connection and Testing</li><li>• Identification and Jointing of Wires &amp; Cables</li><li>• Earthing Installation and Testing</li><li>• Fuse and Relay Wiring Practice</li><li>• Underground Cable Laying and Jointing</li><li>• House Wiring and Accessories Installation</li><li>• Industrial Wiring Practice</li><li>• Servicing of Domestic Electric Appliances</li><li>• Estimating and Costing of Electrical Materials</li><li>• Transistor and Power Amplifier Circuit Testing</li><li>• Use of Oscilloscope and Power Electronic Devices</li><li>• Illumination Circuit Installation</li><li>• DC Machines: Motor &amp; Generator Connections and EMF Verification</li><li>• Single Phase Motor Connection, Testing &amp; Maintenance</li></ul>

<b>Workshop Calculation &amp; Science</b> <ul style="list-style-type: none"> <li>• Units, Fraction, Square root, Ratio, Percentage</li> <li>• Trigonometry, Mensuration</li> <li>• Heat, Temperature, Lever, Work, Power, Energy</li> <li>• Material Science, Mass, Weight, Density</li> </ul>	<b>Engineering Drawing</b> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Lines and Lettering</li> <li>• Geometric Construction and free hand Sketching</li> <li>• Dimensioning</li> <li>• Size and Layout</li> <li>• Symbolic Representation</li> </ul>
<b>Employability Skills</b> <ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Basic computer knowledge</li> <li>• Teamwork &amp; safety</li> </ul>	<b>After 1st Year You Can Do:</b> <ul style="list-style-type: none"> <li>• House wiring</li> <li>• Appliance repair</li> <li>• Helper electrician job Battery service work</li> </ul>

**Project Work : Major Project (Choose Any One)**

- Motor Rewinding with Testing Report • Domestic House Wiring with Estimation

**Electrician – Final Outcome (After 1 Year)**

**Career Progression & Salary**

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Wireman, Electrical Helper	₹8,000 – ₹12,000

**Duration:** 2 Years

**Objective:** Industrial wiring, 3-phase systems, motor winding, automation

**Exam:** Final AITT → NCVT Certificate

**2ND YEAR SYLLABUS**

TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>• DC Machine</li> <li>• DC and AC Machine Winding</li> <li>• 3-Phase System</li> <li>• AC Motors (3-Ph)</li> <li>• Alternator</li> <li>• 3-Ph Transformer</li> <li>• Circuit Breakers</li> <li>• Underground Cable</li> <li>• Renewable Energy</li> <li>• PLC &amp; Automation</li> <li>• Substation</li> <li>• Digital Electronics</li> <li>• Oscillators &amp; Multivibrators</li> <li>• Maintenance</li> <li>• Energy Resources Thermal Power Plant &amp; Turbines</li> <li>• Transmission &amp; Distribution of Power</li> <li>• Hydroelectric and Nuclear Power Plant</li> <li>• Electric Vehicle</li> </ul>	<ul style="list-style-type: none"> <li>• 3-phase wiring, phase test</li> <li>• DOL, star-delta starter</li> <li>• Motor rewinding</li> <li>• Synchronization demo</li> <li>• Oil testing, parallel operation</li> <li>• Rewind 3-phase motor</li> <li>• Breaker testing</li> <li>• Control panel wiring</li> <li>• Cable joint practice</li> <li>• Install 1kW solar setup</li> <li>• PLC starter control</li> <li>• Visit &amp; SLD drawing</li> </ul>
	<b>Engineering Drawing</b> <ul style="list-style-type: none"> <li>• Electro Technical Drawing Symbol</li> <li>• Wiring and Contactors</li> <li>• Electrical Accessories</li> <li>• Domestic Electric Appliances</li> </ul>

Workshop Calculation & Science	Employability Skills
<ul style="list-style-type: none"> <li>Lubrication, Algebra, Profit &amp; Loss, Interest</li> <li>Elasticity, Estimation and costing</li> </ul>	<ul style="list-style-type: none"> <li>English &amp; communication</li> <li>Basic computer knowledge</li> <li>Entrepreneurship basics</li> </ul>

**After 2 Year, You Can Do:**

• House Wiring Work • Appliance Repair & Maintenance • Electrician Helper Job • Battery Service & Maintenance Work • Electrical Installation Work • Motor Wiring & Repair Work • Industrial Electrical Work • Electrical Maintenance Technician Job

**Project Work : Major Project (Choose Any One)**

- Automatic Star-Delta Starter Panel
- Motor Rewinding with Testing Report
- 1kW Solar Power Plant Installation
- Domestic House Wiring with Estimation

**ITI Electrician – Final Outcome (After 2 Years)**  
**Career Progression & Salary**

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Wireman, Electrical Helper	₹8,000 – ₹12,000
After 2nd Year (ITI Complete)	Electrician, Maintenance Technician	₹12,000 – ₹25,000
After 2 Years Experience	Supervisor, Electrical Contractor	₹25,000 – ₹50,000+
After CITS Certification	ITI Instructor (Govt / Private)	₹30,000+ (Govt Pay Scale)

## Fitter

**Duration:** 1 Year

**Objective:** The objective of the NCVT Fitter course is to develop skilled technicians in fitting and mechanical maintenance work. The course provides practical and theoretical knowledge required for industries, workshops, manufacturing units, and maintenance sectors.

**Exam:** Institutional assessment after 1st year

TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>Introduction to Fitter trade &amp; safety</li> <li>Types of hand tools (hammer, chisel, file, hacksaw)</li> <li>Measuring instruments (vernier caliper, micrometer, gauges)</li> <li>Marking &amp; layout work</li> <li>Basic fitting operations (cutting, filing, drilling)</li> <li>Fasteners (nuts, bolts, screws)               <ul style="list-style-type: none"> <li>Basics of materials (metal properties)                   <ul style="list-style-type: none"> <li>Simple machine parts &amp; maintenance</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Introduction to Fitter Trade &amp; Workshop Safety</li> <li>Identification and Use of Hand Tools: Hammer, Chisel, File, Hacksaw</li> <li>Practice on Measuring Instruments: Vernier Caliper, Micrometer, Gauges</li> <li>Marking &amp; Layout Practice on Metal Surfaces</li> <li>Basic Fitting Operations: Cutting, Filing, Drilling</li> <li>Fastening Practice Using Nuts, Bolts &amp; Screws</li> <li>Identification of Materials &amp; Metal Properties</li> <li>Assembly and Maintenance of Simple Machine Parts</li> </ul>

Workshop Calculation & Science	Engineering Drawing
<ul style="list-style-type: none"> <li>• Units, Fraction, Square root, Ratio, Percentage</li> <li>• Trigonometry, Mensuration</li> <li>• Heat, Temperature, Lever, Work, Power, Energy</li> <li>• Material Science, Mass, Weight, Density</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Lines and Lettering</li> <li>• Geometric Construction and free hand Sketching</li> <li>• Dimensioning</li> <li>• Size and Layout</li> <li>• Symbolic Representation</li> <li>• Projection</li> </ul>

Employability Skills
<ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Teamwork &amp; safety</li> <li>• Basic computer knowledge</li> </ul>

After 1st Year You Can Do:
<ul style="list-style-type: none"> <li>• Fitter Helper Job</li> <li>• Bench Work</li> <li>• Drilling Work</li> <li>• Fabrication Work</li> <li>• Machine Maintenance</li> <li>• Assembly Work</li> </ul>

Project Work : Major Project (Choose Any One)
<ul style="list-style-type: none"> <li>• Nut &amp; Bolt Making</li> <li>• Metal Marking &amp; Drilling Practice</li> </ul>

**Fitter – Final Outcome (After 1 Year)**  
**Career Progression & Salary**

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper, Fitter Apprentice, Workshop Helper	₹8,000 – ₹12,000

## Advance Fitter

**Duration:** 2 Years

**Objective:** The objective of the NCVT Fitter course is to develop skilled technicians in fitting and mechanical maintenance work. The course provides practical and theoretical knowledge required for industries, workshops, manufacturing units, and maintenance sectors.

**Exam:** 1st Year AITT-NCVT Certificate

1ST YEAR SYLLABUS	
TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>• Introduction to Fitter trade &amp; safety</li> <li>• Types of hand tools (hammer, chisel, file, hacksaw)</li> <li>• Measuring instruments (vernier caliper, micrometer, gauges)</li> <li>• Marking &amp; layout work</li> <li>• Basic fitting operations (cutting, filing, drilling)</li> <li>• Fasteners (nuts, bolts, screws)</li> <li>• Basics of materials (metal properties)</li> <li>• Simple machine parts &amp; maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Fitter Trade &amp; Workshop Safety</li> <li>• Identification and Use of Hand Tools: Hammer, Chisel, File, Hacksaw</li> <li>• Practice on Measuring Instruments: Vernier Caliper, Micrometer, Gauges</li> <li>• Marking &amp; Layout Practice on Metal Surfaces</li> <li>• Basic Fitting Operations: Cutting, Filing, Drilling</li> <li>• Fastening Practice Using Nuts, Bolts &amp; Screws</li> <li>• Identification of Materials &amp; Metal Properties</li> <li>• Assembly and Maintenance of Simple Machine Parts</li> </ul>

Workshop Calculation & Science	Engineering Drawing
<ul style="list-style-type: none"> <li>• Units, Fraction, Square root, Ratio, Percentage</li> <li>• Trigonometry, Mensuration</li> <li>• Heat, Temperature, Lever, Work, Power, Energy</li> <li>• Material Science, Mass, Weight, Density</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Lines and Lettering</li> <li>• Geometric Construction and free hand Sketching</li> <li>• Dimensioning</li> <li>• Size and Layout</li> <li>• Symbolic Representation</li> <li>• Projection</li> </ul>

Employability Skills
<ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Teamwork &amp; safety</li> <li>• Basic computer knowledge</li> </ul>

After 1st Year You Can Do:-
<ul style="list-style-type: none"> <li>• Fitter Helper Job</li> <li>• Bench Work</li> <li>• Drilling Work</li> <li>• Fabrication Work</li> <li>• Machine Maintenance</li> <li>• Assembly Work</li> </ul>

Project Work : Major Project (Choose Any One)
<ul style="list-style-type: none"> <li>• Nut &amp; Bolt Making</li> <li>• Metal Marking &amp; Drilling Practice</li> </ul>

**Fitter – Final Outcome (After 1 Year)**  
**Career Progression & Salary**

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper, Fitter Apprentice, Workshop Helper	₹8,000 – ₹12,000

**Duration:** 2 Years

**Objective :** To develop practical skills and technical knowledge in fitting, maintenance, machine components, power transmission systems, hydraulics, pneumatics, lubrication, and industrial engineering applications.

**Exam:** Final AITT → NCVT Certificate

2ND YEARS SYLLABUS	
TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>• Machine parts assembly &amp; dismantling</li> <li>• Keys, keyways, splines</li> <li>• Bearings, bushes &amp; couplings</li> <li>• Shaft alignment</li> <li>• Gears and gear drives</li> <li>• Belt, chain &amp; pulley drives</li> <li>• Pipe fittings &amp; valves</li> <li>• Preventive &amp; breakdown maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced fitting jobs</li> <li>• Machine assembly work</li> <li>• Pipe fitting practice</li> <li>• Alignment of machines</li> <li>• Maintenance &amp; repair work</li> <li>• Hydraulic &amp; pneumatic system practice</li> </ul>
Workshop Calculation & Science	Engineering Drawing
<ul style="list-style-type: none"> <li>• Friction, Centre of Gravity, Elasticity, Heat</li> <li>• Estimation and Costing</li> </ul>	<ul style="list-style-type: none"> <li>• Screw Threads</li> <li>• Mechanical and Screwed Fasteners</li> <li>• Pipe Fittings and Riveted joints</li> <li>• Sectioning</li> <li>• Detail and Assembly Drawing</li> <li>• Welding Joints</li> </ul>

### Employability Skills

- English & communication
- Entrepreneurship basics
- Basic computer knowledge

### After 2 Years You Can Do:

- Fitter Technician Job
- Machine Maintenance Work
- Fabrication & Assembly Work
- Pipe Fitting Work
- Workshop Supervisor Assistant
- Mechanical Repair Work
- Industrial Fitter Job
- Machine Shop Work

### Project Work : Major Project (Choose Any One)

- Nut & Bolt Making
- Metal Marking & Drilling Practice
- Tool Stand / Tool Box Making
- Mini Mechanical Joint Model Making
- Sheet Metal/Fitting Practice Job Model Making

## ITI Fitter – Final Outcome (After 2 Years)

### Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper, Fitter Apprentice, Workshop Helper	₹8,000 – ₹12,000
After 2nd Year (ITI Complete)	Fitter, Technician, Assembly Operator	₹12,000 – ₹22,000
After 2-3 Years Experience	Senior Fitter, Maintenance Technician, Machine Operator	₹20,000 – ₹35,000
After 5+ Years / Skilled	Supervisor, Foreman, Site Incharge	₹30,000-50,000+
After CITS Certification	ITI Instructor (Govt / Private)	₹30,000+ (Govt Pay Scale)

## Automobile Technician

**Duration:** 1 Year

**Objective :** The objective of the Two & Three Wheeler Technician course is to develop skilled technicians with practical and theoretical knowledge in servicing, maintenance, repair, and troubleshooting of two-wheelers and three-wheelers using modern tools and automotive technology.

**Exam :** Institutional assessment after 1st year

TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>• Introduction to Automobile Engineering</li> <li>• Workshop Safety &amp; First Aid</li> <li>• Hand Tools &amp; Measuring Instruments</li> <li>• Engineering Materials</li> <li>• Fasteners, Bearings &amp; Seals</li> <li>• Screw Threads, Gauges, Limits, Fits &amp; Tolerances</li> <li>• Lubrication System</li> <li>• Cooling System</li> </ul>	<ul style="list-style-type: none"> <li>• Trade Practical</li> <li>• Identification of Tools &amp; Equipment</li> <li>• Engine Dismantling &amp; Assembling</li> <li>• Valve Timing Setting</li> <li>• Clutch Overhauling</li> <li>• Gear Box Servicing</li> <li>• Brake Adjustment &amp; Servicing</li> <li>• Wheel Balancing &amp; Alignment</li> </ul>

- Fuel System
- Engine Components & Working Principle
- Two Stroke & Four Stroke Engines
- Petrol & Diesel Engines
- Clutch System
- Gear Box & Transmission System
- Chain Drive & Propeller Shaft
- Suspension System
- Steering System
- Brake System
- Wheel & Tyre Maintenance
- Battery & Charging System
- Starting System Ignition System
- Automobile Electrical & Electronics
- Lighting & Signaling System
- Emission Control System
- EFI & MPFI System
- Servicing & Maintenance of Two & Three Wheelers
- Fault Finding & Troubleshooting
- Road Safety & Traffic Rules

- Battery Testing & Charging
- Wiring & Electrical Testing
- Headlight Focusing
- Carburetor Cleaning & Adjustment
- Fuel Pump Servicing
- Engine Oil Change & Lubrication
- Chain Adjustment & Maintenance
- Suspension Checking
- Fault Diagnosis Using Tools
- Periodic Servicing of Two & Three Wheelers
- Road Test & Performance Checking

#### Workshop Calculation & Science

- Units, Fraction, Square root, Ratio, Percentage
- Trigonometry, Mensuration
- Heat, Temperature, Lever, Work, Power, Energy
- Material Science, Mass, Weight, Density

#### Engineering Drawing

- Introduction
- Lines and Lettering
- Geometric Construction and free hand Sketching
- Dimensioning
- Size and Layout
- Symbolic Representation
- Projection

#### Employability Skills

- Communication skills
- Basic computer knowledge
- Teamwork & safety

#### After 1st Year You Can Do:

- Mechanic Helper
- Vehicle Servicing
- Garage Work
- Engine Maintenance
- Two Wheeler Repair
- Assembly Work

#### Project Work : Major Project (Choose Any One)

- Vehicle Servicing Project
- Engine Maintenance Model

### Automobile Technician – Final Outcome (After 1 Year) Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper Mechanic, Garage Assistant, Service Helper	₹8,000 – ₹12,000

# Automobile Mechanic

**Duration:** 2 Years

**Objective:** The objective of the MMV (Mechanic Motor Vehicle) course is to develop skilled technicians with practical and theoretical knowledge in automobile servicing, maintenance, repair, diagnostics, and modern vehicle systems for employment in the automotive industry and self-employment opportunities.

**Exam:** 1st Year AITT-NCVT Certificate

## 1ST YEAR SYLLABUS

TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Workshop Safety</li> <li>• Hand, Power tools and cutting tools</li> <li>• Instruments, Gauges &amp; Fasteners</li> <li>• Limit, Fit and Tolerance</li> <li>• Sheet metal work</li> <li>• Basic Electricity, Electric materials and cables and its effects</li> <li>• Basic Electronics, Fuses, Relays and Circuit Breakers</li> <li>• Welding, Heat treatment, Auto Industries, I.C. and E.C. Engine</li> <li>• Dash Board Instrument and Indicators</li> <li>• Engine Starting Methods and Engine Assembly</li> <li>• Main Parts of Engine, Lubrication, Cooling System</li> <li>• Air Compressor, Charging circuit, Dynamo and Alternator</li> <li>• Fuel system of Diesel Engine</li> <li>• Electronic Diesel Control</li> <li>• Intake and Exhaust system</li> <li>• Marine and stationary Engine</li> <li>• Emission Control</li> <li>• Carburetor</li> <li>• Petrol Engine</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Automobile Workshop &amp; Safety Practices</li> <li>• Identification and Use of Hand Tools, Power Tools &amp; Cutting Tools</li> <li>• Practice on Instruments, Gauges &amp; Fasteners</li> <li>• Understanding Limit, Fit &amp; Tolerance</li> <li>• Basic Sheet Metal Work Practice</li> <li>• Basic Electricity, Electrical Materials, Cables &amp; Their Effects</li> <li>• Identification of Electronic Components, Fuses, Relays &amp; Circuit Breakers</li> <li>• Basic Welding Practice &amp; Heat Treatment</li> <li>• Introduction to Automobile Industries, I.C. Engine &amp; E.C. Engine</li> <li>• Identification of Dashboard Instruments &amp; Indicators</li> <li>• Practice on Engine Starting Methods &amp; Engine Assembly</li> <li>• Identification of Main Engine Parts, Lubrication &amp; Cooling System</li> <li>• Servicing of Air Compressor, Charging Circuit, Dynamo &amp; Alternator</li> <li>• Fuel System Servicing of Diesel Engine</li> <li>• Basics of Electronic Diesel Control System Intake &amp; Exhaust System Maintenance</li> <li>• Introduction to Marine &amp; Stationary Engines</li> <li>• Emission Control System Inspection</li> <li>• Carburetor Servicing &amp; Adjustment</li> <li>• Petrol Engine Servicing &amp; Maintenance</li> </ul>

Workshop Calculation & Science	Engineering Drawing
<ul style="list-style-type: none"> <li>• Units, Fraction, Square root, Ratio, Percentage</li> <li>• Trigonometry, Mensuration</li> <li>• Heat, Temperature, Lever, Work, Power, Energy</li> <li>• Material Science, Mass, Weight, Density</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Lines and Lettering</li> <li>• Geometric Construction and free hand Sketching</li> <li>• Dimensioning</li> <li>• Size and Layout</li> <li>• Symbolic Representation</li> <li>• Projection</li> </ul>

### Employability Skills

- Communication skills
- Basic computer knowledge
- Teamwork & safety

**After 1st Year You Can Do:**

- Mechanic Helper • Vehicle Servicing • Garage Work • Engine Maintenance • Two Wheeler Repair • Assembly Work

**Project Work : Major Project (Choose Any One)**

- Vehicle Servicing Project • Engine Maintenance Model

**Automobile Technician – Final Outcome (After 1 Year)**  
**Career Progression & Salary**

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper Mechanic, Garage Assistant, Service Helper	₹8,000 – ₹12,000

**Duration: 2 Years**

**Objective:** The objective of the MMV (Mechanic Motor Vehicle) course is to develop skilled technicians with practical and theoretical knowledge in automobile servicing, maintenance, repair, diagnostics, and modern vehicle systems for employment in the automotive industry and self-employment opportunities.

**Exam:** Final AITT → NCVT Certificate

**2ND YEARS SYLLABUS**

TRADE THEORY	TRADE PRACTICAL
<ul style="list-style-type: none"> <li>• Automobile</li> <li>• Clutch, Gear box, wheels, tyres &amp; brakes</li> <li>• Drive arrangement, steering system and suspension system</li> <li>• EFI Fuel Supply System</li> <li>• Ignition system, charging system, lighting system</li> <li>• Heating, ventilation and A.C. system</li> <li>• Accessories</li> <li>• Vehicle Manual</li> </ul>	<ul style="list-style-type: none"> <li>• Engine overhauling</li> <li>• Fuel injection servicing</li> <li>• Electrical fault finding</li> <li>• Battery &amp; charging system testing</li> </ul>
Workshop Calculation & Science	Engineering Drawing
<ul style="list-style-type: none"> <li>• Friction, Centre of Gravity, Elasticity, Heat</li> <li>• Estimation and Costing</li> </ul>	<ul style="list-style-type: none"> <li>• Screw Threads</li> <li>• Mechanical and Screwed Fasteners</li> <li>• Pipe Fittings and Riveted joints</li> <li>• Sectioning • Detail and Assembly Drawing</li> <li>• Welding Joints</li> </ul>

**Employability Skills**

- English & communication • Basic computer knowledge • Entrepreneurship basics

**After 2 Years You Can Do:**

- Automobile Technician • Car Mechanic Job • Two & Three Wheeler Repair • Engine Overhauling Work • Vehicle Electrical Work • Service Center Technician • Garage Supervisor Assistant • Automobile Maintenance Work

**Project Work : Major Project (Choose Any One)**

- Engine Model Making • Gearbox • Brake System • Clutch Assembly • Steering System • Vehicle Electrical Wiring • Two / Four Wheeler Servicing Project • Automobile Maintenance

## Automobile Mechanic – Final Outcome (After 2 Years) Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper Mechanic, Garage Assistant, Service Helper	₹8,000 – ₹12,000
After 2nd Year (ITI Complete)	Automobile Mechanic, Service Technician, Workshop Technician	₹12,000 – ₹22,000
After 2–3 Years Experience	Senior Mechanic, Diagnostic Technician	₹20,000 – ₹35,000
After 4–5 Years Experience	Workshop Supervisor, Service Advisor	₹30,000 – ₹50,000+
After CITS Certification	ITI Instructor (Govt / Private)	₹30,000+ (Govt Pay Scale)

## Welder

### Duration: 1 Year

**Objective:** The objective of the ITI Welder course is to develop skilled welders with practical and theoretical knowledge in welding techniques, fabrication, metal joining, safety practices, and the use of modern welding equipment for industrial employment and self-employment opportunities.

**Exam:** Final AITT → NCVT Certificate

TRADE THEORY	TRADE PRACTICAL
<p><b>Basic Engineering &amp; Safety</b></p> <ul style="list-style-type: none"> <li>• Importance of safety in welding workshop</li> <li>• Personal Protective Equipment (PPE)</li> <li>• Fire safety and first aid</li> <li>• Types of accidents and prevention</li> <li>• Basic first aid methods</li> </ul> <p><b>Engineering Materials</b></p> <ul style="list-style-type: none"> <li>• Types of metals (ferrous &amp; non-ferrous)</li> <li>• Properties of metals (hardness, ductility, malleability)</li> <li>• Heat treatment basics</li> </ul> <p><b>Welding Fundamentals</b></p> <ul style="list-style-type: none"> <li>• Definition and types of welding</li> <li>• Welding joints (butt, lap, tee, corner, edge)</li> <li>• Welding positions (flat, horizontal, vertical, overhead)</li> <li>• Types of flames (neutral, oxidizing, carburizing)</li> </ul>	<p><b>Gas Welding (Oxy-Acetylene Welding)</b></p> <ul style="list-style-type: none"> <li>• Setting up gas welding equipment</li> <li>• Flame adjustment</li> <li>• Welding of mild steel sheets</li> <li>• Brazing and soldering</li> </ul> <p><b>Arc Welding</b></p> <ul style="list-style-type: none"> <li>• Introduction to arc welding machines</li> <li>• Electrode selection</li> <li>• Striking and maintaining arc</li> <li>• Welding in different positions</li> </ul> <p><b>Advanced Welding Techniques</b></p> <ul style="list-style-type: none"> <li>• MIG (Metal Inert Gas) welding</li> <li>• TIG (Tungsten Inert Gas) welding</li> <li>• Plasma cutting basics</li> </ul> <p><b>Cutting Techniques</b></p> <ul style="list-style-type: none"> <li>• Gas cutting</li> <li>• Arc cutting</li> <li>• Grinding and finishing</li> </ul> <p><b>Inspection &amp; Quality Control</b></p> <ul style="list-style-type: none"> <li>• Types of welding defects (cracks, porosity, slag inclusion)</li> <li>• Causes and remedies</li> <li>• Testing methods (visual inspection, basic NDT concepts)</li> </ul>

Workshop Calculation & Science	Engineering Drawing
<ul style="list-style-type: none"> <li>• Units, Fraction, Square root, Ratio, Percentage</li> <li>• Trigonometry, Mensuration</li> <li>• Heat, Temperature, Lever, Work, Power, Energy</li> <li>• Material Science, Mass, Weight, Density</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Lines and Lettering</li> <li>• Geometric Construction and free hand Sketching</li> <li>• Dimensioning</li> <li>• Size and Layout</li> <li>• Symbolic Representation</li> <li>• Projection</li> </ul>

Employability Skills
<ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Basic computer knowledge</li> <li>• Teamwork &amp; safety</li> </ul>

After 1st Year You Can Do:
<ul style="list-style-type: none"> <li>• Welder Helper Job</li> <li>• Gas Welding Work</li> <li>• Arc Welding Work</li> <li>• Metal Cutting Work</li> <li>• Fabrication Helper Work</li> <li>• Workshop Welding Work</li> </ul>

Project Work : Major Project (Choose Any One)
<ul style="list-style-type: none"> <li>• Welding Table Making</li> <li>• MS Grill Fabrication</li> <li>• Tool Box Making</li> <li>• Pipe Joint Welding Project</li> <li>• Iron Frame Fabrication</li> <li>• Metal Stand Making</li> <li>• Window/Door Grill Project</li> <li>• Utility Rack Fabrication</li> <li>• Welding Practice Plate Model</li> <li>• Mini Fabrication Project</li> </ul>

### ITI Welder – Final Outcome (After 1 Year) Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper Welder, Fabrication Helper	₹8,000 – ₹12,000
After 2nd Year (ITI Complete)	Welder (Arc/MIG/TIG), Fabricator	₹12,000 – ₹22,000
After 2–3 Years Experience	Senior Welder, Structural Welder	₹20,000 – ₹40,000
After 4–5 Years Experience	Welding Supervisor, Site Supervisor	₹30,000 – ₹60,000+
After CITS Certification	ITI Instructor (Govt / Private)	₹30,000+ (Govt Pay Scale)

## Refrigeration & AC Mechanic

**Duration:** 1 Year

**Objective:** The objective of the Refrigeration & AC Mechanic course is to develop skilled technicians with practical and theoretical knowledge in installation, servicing, maintenance, troubleshooting, and repair of refrigeration and air conditioning systems for domestic applications.

**Exam:** Institutional assessment after 1st year

TRADE THEORY	TRADE PRACTICAL
<p><b>Basic Engineering &amp; Workshop Practice</b></p> <ul style="list-style-type: none"> <li>• Safety rules and first aid</li> <li>• Use of hand tools (spanners, screwdrivers, pliers, etc.)</li> <li>• Measuring tools (vernier caliper, micrometer)</li> <li>• Marking and fitting work</li> </ul>	<ul style="list-style-type: none"> <li>• Workshop Safety &amp; First Aid</li> <li>• Identification of Tools &amp; Equipment</li> <li>• Measuring Instruments Practice</li> <li>• Copper Tube Cutting, Flaring, Swaging &amp; Brazing</li> <li>• Refrigeration Cycle Demonstration</li> <li>• Identification of Refrigerants &amp; Oils</li> <li>• Leak Testing Methods</li> </ul>
<p><b>Fundamentals of Refrigeration</b></p> <ul style="list-style-type: none"> <li>• Definition and principles of refrigeration</li> <li>• Types of refrigeration systems</li> <li>• Units and measurements (temperature, pressure, heat)</li> <li>• Concept of heat transfer (conduction, convection, radiation)</li> </ul> <p><b>Refrigeration Cycle</b></p> <ul style="list-style-type: none"> <li>• Vapor compression cycle</li> <li>• Components:           <ul style="list-style-type: none"> <li>○ Compressor</li> <li>○ Condenser</li> <li>○ Evaporator</li> <li>○ Expansion device</li> </ul> </li> </ul> <p><b>Refrigerants</b></p> <ul style="list-style-type: none"> <li>• Types of refrigerants (CFC, HCFC, HFC)</li> <li>• Properties of good refrigerants</li> <li>• Environmental effects (Ozone depletion, Global warming)</li> </ul> <p><b>Retrofitting &amp; Thermal Insulation</b></p> <ul style="list-style-type: none"> <li>• Need of Retrofitting</li> <li>• Change in Components during Retrofitting</li> <li>• Retrofitting Process</li> </ul> <p><b>Basic Electricity &amp; Electronic</b></p> <ul style="list-style-type: none"> <li>• Electric current, voltage, resistance</li> <li>• Ohm's Law</li> <li>• AC and DC fundamentals</li> <li>• Use of multimeters</li> </ul> <p><b>Domestic Refrigerators &amp; Frost Free Refrigerator</b></p> <ul style="list-style-type: none"> <li>• Construction and working</li> <li>• Troubleshooting</li> </ul> <p><b>Tools &amp; Equipment</b></p> <ul style="list-style-type: none"> <li>• Gas charging and leakage detection</li> <li>• Charging tools</li> <li>• Vacuum pump</li> <li>• Manifold gauge</li> </ul> <p><b>Electrical Components in RAC</b></p> <ul style="list-style-type: none"> <li>• Motors (single-phase, three-phase)</li> <li>• Relays, overload protectors</li> <li>• Capacitors</li> </ul> <p><b>Air Conditioning Fundamentals</b></p> <ul style="list-style-type: none"> <li>• Psychrometry (humidity, dry bulb, wet bulb temp)</li> <li>• Human comfort conditions</li> <li>• Types of air conditioning systems</li> </ul>	<ul style="list-style-type: none"> <li>• Vacuuming &amp; Gas Charging</li> <li>• Domestic Refrigerator Servicing</li> <li>• Window Air Conditioner Servicing</li> <li>• Split Air Conditioner Installation &amp; Maintenance</li> <li>• Compressor Identification &amp; Testing</li> <li>• Condenser &amp; Evaporator Servicing</li> <li>• Thermostat &amp; Starting Relay Testing</li> <li>• Electrical Wiring of RAC Systems</li> <li>• Capacitor, Motor &amp; Fan Testing</li> <li>• Pressure Checking Using Manifold Gauge</li> <li>• Refrigerant Recovery &amp; Charging Practice</li> <li>• Filter Drier Replacement</li> <li>• Expansion Valve Servicing</li> <li>• Troubleshooting of Refrigeration Systems</li> <li>• Troubleshooting of Air Conditioning Systems</li> <li>• Preventive Maintenance of RAC Equipment</li> <li>• Water Cooler Servicing</li> <li>• Deep Freezer Servicing</li> <li>• Insulation &amp; Pipe Line Work</li> <li>• Window &amp; Split AC Gas Charging Practice</li> <li>• Electrical Fault Finding</li> <li>• Installation of Domestic Refrigeration Units</li> <li>• Record Keeping &amp; Workshop Documentation</li> </ul>

### Air Conditioning Systems

- Window AC
- Split AC
- Car AC
- Central AC

### Installation & Maintenance

- Installation procedure
- Servicing techniques
- Fault diagnosis

### Compressors

- Types (reciprocating, rotary, scroll)
- Working principles
- Maintenance

### Practical Training (Important Part)

- Gas charging and recovery
- Leak detection methods
- Brazing and soldering
- Installation of AC units
- Repair of refrigerator and AC

### Workshop Calculation & Science

- Units, Fraction, Square root, Ratio, Percentage
- Trigonometry, Mensuration
- Heat, Temperature, Lever, Work, Power, Energy
- Material Science, Mass, Weight, Density

### Engineering Drawing

- Introduction
- Lines and Lettering
- Geometric Construction and free hand Sketching
- Dimensioning
- Size and Layout
- Symbolic Representation
- Projection

### Employability Skills

- Communication skills
- Basic computer knowledge
- Teamwork & safety

### After 1st Year You Can Do:

- AC Service Helper
- Refrigerator Repair Work
- Cooling System Maintenance
- AC Installation Helper
- Gas Charging Assistance
- Workshop Service Work

### Project Work : Major Project (Choose Any One)

- Mini Refrigerator Model
- Window AC Model
- Refrigeration Cycle Model
- Gas Charging Project
- Copper Pipe Bending
- Refrigerator Servicing
- Split AC Installation
- Leak Testing Project
- Cooling System Model
- RAC Wiring Project

## Refrigeration & AC Mechanic – Final Outcome (After 1 Year)

### Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper, AC Technician Assistant	₹8,000 – ₹12,000

# Mechanic Refrigeration & AC

**Duration:** 2 Years

**Objective:** The objective of the Refrigeration & AC Mechanic course is to develop skilled technicians with practical and theoretical knowledge in installation, servicing, maintenance, troubleshooting, and repair of refrigeration and air conditioning systems for domestic applications.

**Exam:** Institutional assessment after 1st year

## 1ST YEAR SYLLABUS

TRADE THEORY	TRADE PRACTICAL
<p><b>Basic Engineering &amp; Workshop Practice</b></p> <ul style="list-style-type: none"> <li>• Safety rules and first aid</li> <li>• Use of hand tools (spanners, screwdrivers, pliers, etc.)</li> <li>• Measuring tools (vernier caliper, micrometer)</li> <li>• Marking and fitting work</li> </ul> <p><b>Fundamentals of Refrigeration</b></p> <ul style="list-style-type: none"> <li>• Definition and principles of refrigeration</li> <li>• Types of refrigeration systems</li> <li>• Units and measurements (temperature, pressure, heat)</li> <li>• Concept of heat transfer (conduction, convection, radiation)</li> </ul> <p><b>Refrigeration Cycle</b></p> <ul style="list-style-type: none"> <li>• Vapor compression cycle</li> <li>• Components: <ul style="list-style-type: none"> <li>○ Compressor</li> <li>○ Condenser</li> <li>○ Evaporator</li> <li>○ Expansion device</li> </ul> </li> </ul> <p><b>Refrigerants</b></p> <ul style="list-style-type: none"> <li>• Types of refrigerants (CFC, HCFC, HFC)</li> <li>• Properties of good refrigerants</li> <li>• Environmental effects (Ozone depletion, Global warming)</li> </ul> <p><b>Retrofitting &amp; Thermal Insulation•</b></p> <ul style="list-style-type: none"> <li>• Need of Retrofitting</li> <li>• Change in Components during Retrofitting</li> <li>• Retrofitting Process</li> </ul> <p><b>Basic Electricity &amp; Electronic</b></p> <ul style="list-style-type: none"> <li>• Electric current, voltage, resistance</li> <li>• Ohm's Law</li> <li>• AC and DC fundamentals</li> <li>• Use of multimeters</li> </ul> <p><b>Domestic Refrigerators &amp; Frost Free Refrigerator</b></p> <ul style="list-style-type: none"> <li>• Construction and working</li> <li>• Troubleshooting</li> </ul> <p><b>Tools &amp; Equipment</b></p> <ul style="list-style-type: none"> <li>• Gas charging and leakage detection</li> <li>• Charging tools</li> <li>• Vacuum pump</li> <li>• Manifold gauge</li> </ul>	<ul style="list-style-type: none"> <li>• Workshop Safety &amp; First Aid</li> <li>• Identification of Tools &amp; Equipment</li> <li>• Measuring Instruments Practice</li> <li>• Copper Tube Cutting, Flaring, Swaging &amp; Brazing</li> <li>• Refrigeration Cycle Demonstration</li> <li>• Identification of Refrigerants &amp; Oils</li> <li>• Leak Testing Methods</li> <li>• Vacuuming &amp; Gas Charging</li> <li>• Domestic Refrigerator Servicing</li> <li>• Window Air Conditioner Servicing</li> <li>• Split Air Conditioner Installation &amp; Maintenance</li> <li>• Compressor Identification &amp; Testing</li> <li>• Condenser &amp; Evaporator Servicing</li> <li>• Thermostat &amp; Starting Relay Testing</li> <li>• Electrical Wiring of RAC Systems</li> <li>• Capacitor, Motor &amp; Fan Testing</li> <li>• Pressure Checking Using Manifold Gauge</li> <li>• Refrigerant Recovery &amp; Charging Practice</li> <li>• Filter Drier Replacement</li> <li>• Expansion Valve Servicing</li> <li>• Troubleshooting of Refrigeration Systems</li> <li>• Troubleshooting of Air Conditioning Systems</li> <li>• Preventive Maintenance of RAC Equipment</li> <li>• Water Cooler Servicing</li> <li>• Deep Freezer Servicing</li> <li>• Insulation &amp; Pipe Line Work</li> <li>• Window &amp; Split AC Gas Charging Practice</li> <li>• Electrical Fault Finding</li> <li>• Installation of Domestic Refrigeration Units</li> <li>• Record Keeping &amp; Workshop Documentation</li> </ul>

**Electrical Components in RAC**

- Motors (single-phase, three-phase)
- Relays, overload protectors
- Capacitors

**Air Conditioning Fundamentals**

- Psychrometry (humidity, dry bulb, wet bulb temp)
- Human comfort conditions
- Types of air conditioning systems

**Air Conditioning Systems**

- Window AC
- Split AC
- Car AC
- Central AC

**Installation & Maintenance**

- Installation procedure
- Servicing techniques
- Fault diagnosis

**Compressors**

- Types (reciprocating, rotary, scroll)
- Working principles
- Maintenance

**Practical Training (Important Part)**

- Gas charging and recovery
- Leak detection methods
- Brazing and soldering
- Installation of AC units
- Repair of refrigerator and AC

**Workshop Calculation & Science**

- Units, Fraction, Square root, Ratio, Percentage
- Trigonometry, Mensuration
- Heat, Temperature, Lever, Work, Power, Energy
- Material Science, Mass, Weight, Density

**Engineering Drawing**

- Introduction
- Lines and Lettering
- Geometric Construction and free hand Sketching
- Dimensioning
- Size and Layout
- Symbolic Representation
- Projection

**Employability Skills**

- English & communication
- Basic computer knowledge
- Entrepreneurship basics

**After 1st Year You Can Do:**

- AC Service Helper
- Refrigerator Repair Work
- Cooling System Maintenance
- AC Installation Helper
- Gas Charging Assistance
- Workshop Service Work

**Project Work : Major Project (Choose Any One)**

- Mini Refrigerator Model
- Window AC Model
- Refrigeration Cycle Model
- Gas Charging Project
- Copper Pipe Bending
- Refrigerator Servicing
- Split AC Installation
- Leak Testing Project
- Cooling System Model
- RAC Wiring Project

**Refrigeration & AC Mechanic – Final Outcome (After 1 Year)**

**Career Progression & Salary**

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper, AC Technician Assistant	₹8,000 – ₹12,000

**Duration:** 2 Years

**Objective:** The objective of the ITI Mechanic Refrigeration & AC course is to develop skilled technicians with practical and theoretical knowledge in installation, servicing, maintenance, troubleshooting, and repair of refrigeration and air conditioning systems for domestic, commercial, and industrial applications.

**Exam:** Final AITT → NCVT Certificate

<b>2ND YEARS SYLLABUS</b>	
<b>TRADE THEORY</b>	<b>TRADE PRACTICAL</b>
<ul style="list-style-type: none"> <li>• Commercial Compressors</li> <li>• Cooling Tower</li> <li>• Water Treatment</li> <li>• Expansion Valves and Evaporators</li> <li>• Inverter &amp; Modern AC Technology</li> <li>• Inverter AC Working</li> <li>• Maintenance and servicing</li> <li>• Water Cooler, Bottle Cooler, Deep Freezers, Ice Machine and Plants</li> <li>• Cold Storage</li> <li>• Psychrometry</li> <li>• Central AC, Duct, Package AC and Split Package</li> <li>• Centralised or Industrial AC</li> <li>• Commercial AC Plant, Chillers, Automobile AC and Inverter AC</li> </ul>	<ul style="list-style-type: none"> <li>• Central Air Conditioning System Practice</li> <li>• Ducting &amp; Air Distribution Work</li> <li>• Package AC Installation &amp; Servicing</li> <li>• Chiller Plant Basic Operation</li> <li>• Cooling Tower Maintenance</li> <li>• Cold Storage Installation &amp; Maintenance</li> <li>• Plant Basic Servicing</li> <li>• AHU (Air Handling Unit) Servicing</li> <li>• FCU (Fan Coil Unit) Servicing</li> <li>• Refrigerant Recovery &amp; Recycling</li> <li>• HVAC Electrical Control Circuit Practice</li> <li>• Star-Delta Starter &amp; Motor Control</li> <li>• Digital Temperature Controller Setting</li> <li>• Electronic Expansion Valve Practice</li> <li>• VRF/VRV System Introduction</li> <li>• Troubleshooting of Commercial RAC Systems</li> <li>• Preventive &amp; Breakdown Maintenance</li> <li>• Energy Efficiency Practice in HVAC</li> <li>• Pipe Insulation &amp; Pressure Testing</li> <li>• Gas Welding &amp; Brazing Advanced Practice</li> <li>• Project Work on Refrigeration &amp; Air Conditioning</li> <li>• Industrial Visit &amp; Report Preparation</li> <li>• Record Keeping &amp; Documentation</li> </ul>
<b>Workshop Calculation &amp; Science</b>	<b>Engineering Drawing</b>
<ul style="list-style-type: none"> <li>• Friction, Centre of Gravity, Elasticity, Heat</li> <li>• Estimation and Costing</li> </ul>	<ul style="list-style-type: none"> <li>• Screw Threads</li> <li>• Mechanical and Screwed Fasteners</li> <li>• Pipe Fittings and Riveted joints</li> <li>• Sectioning</li> <li>• Detail and Assembly Drawing</li> <li>• Welding Joints</li> </ul>
<b>Employability Skills</b>	
<ul style="list-style-type: none"> <li>• English &amp; communication</li> <li>• Basic computer knowledge</li> <li>• Entrepreneurship basics</li> </ul>	

**After 2 Years You Can Do:-**

- AC Technician Job • Refrigerator Repair Technician • AC Installation & Maintenance
- Cooling System Service Work • Gas Charging & Leak Testing • Service Center Technician
- HVAC Maintenance Work • Refrigeration Technician Job

**Project Work : Major Project (Choose Any One)**

- Split AC Project • Cold Storage Model • Water Cooler Project • Deep Freezer Model
- Refrigeration Cycle Model • Gas Charging Project • Leak Testing Project • RAC Wiring Project

**ITI Mechanic Refrigeration & AC – Final Outcome (After 2 Years)**  
**Career Progression & Salary**

Stage / Experience	Job Role	Salary Range (Kolkata)
After 1st Year	Helper, AC Technician Assistant	₹8,000 – ₹12,000
After 2nd Year (ITI Complete)	AC Technician, Refrigerator Mechanic	₹12,000 – ₹22,000
After 2 Years Experience	Senior Technician, HVAC Technician	₹20,000 – ₹40,000
After CITS Certification	ITI Instructor (Govt / Private)	₹30,000+ (Govt Pay Scale)

## CCTV

**Duration: 4 Months**

**Objective:** The objective of the CCTV course is to develop skilled technicians with practical and theoretical knowledge in installation, configuration, maintenance, troubleshooting, and operation of CCTV surveillance and security systems.

**Exam:** Institutional assessment after 4 Months

TRADE THEORY	TRADE PRACTICAL
<p><b>Introduction to CCTV Systems</b></p> <ul style="list-style-type: none"> <li>•What is CCTV (Closed Circuit Television)</li> <li>•History and evolution of surveillance systems</li> <li>•Applications of CCTV (security, traffic, banks, industries)</li> <li>•Types of CCTV systems (Analog, IP-based, Wireless)</li> </ul> <p><b>Basic Electronics &amp; Electrical Concepts</b></p> <ul style="list-style-type: none"> <li>•Basic electrical components (resistors, capacitors, diodes)</li> <li>•Ohm's Law and power calculations</li> <li>•AC and DC supply basics</li> <li>•Wiring standards and safety precautions</li> </ul> <p><b>CCTV Camera Types &amp; Features</b></p> <ul style="list-style-type: none"> <li>•Types of cameras:               <ul style="list-style-type: none"> <li>◦Dome cameras</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Workshop Safety &amp; First Aid</li> <li>• Identification of CCTV Tools &amp; Equipment</li> <li>• Identification of CCTV Camera Types</li> <li>• Cable Identification &amp; Cable Joint Practice</li> <li>• Crimping of RJ-45 &amp; BNC Connector</li> <li>• CCTV Camera Mounting Practice</li> <li>• DVR &amp; NVR Connection</li> <li>• SMPS Connection &amp; Testing</li> <li>• Hard Disk Installation in DVR/NVRIP Camera Configuration</li> <li>• Router &amp; Network Basic Configuration</li> <li>• Mobile Viewing Setup</li> <li>• Remote Monitoring Practice Video Recording &amp; Playback Operation</li> <li>• PTZ Camera Connection &amp; Control</li> <li>• Power Supply Testing Using Multimeter</li> <li>• LAN Cable Preparation</li> <li>• Basic Networking for CCTV</li> <li>• Troubleshooting of CCTV Systems</li> </ul>

### Practical Training

- Installing a complete CCTV system
- Cable crimping and testing
- DVR/NVR configuration
- Live project work

### Optional Advanced Topics

- Smart CCTV (AI-based surveillance)
- Face recognition systems
- Cloud storage and remote access
- Integration with alarms and access control

### Project Work : Major Project (Choose Any One)

- CCTV Surveillance System Installation & Configuration
- Home / Office CCTV Installation Project
- IP Camera Setup & Remote Monitoring System
- DVR/NVR Installation & Configuration Project
- CCTV Wiring & Camera Mounting Project
- Smart CCTV Security System Project
- CCTV Troubleshooting & Maintenance Project
- Live CCTV Monitoring System Project

### CCTV – Final Outcome (After 4 Months)

#### Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 4 Months	CCTV Helper, CCTV Technician Assistant	₹8,000 – ₹12,000
	CCTV Technician, CCTV Installer, Field Technician	₹12,000 – ₹20,000
	Senior CCTV Technician, Security System Technician	₹20,000 – ₹35,000
	CCTV Supervisor, Project Technician, Freelancer / Business Owner	₹25,000

## Mobile & Smartphone Technician

**Duration:** 6 Months

**Objective:** The objective of the Mobile & Smartphone Technician course is to develop skilled technicians with practical and theoretical knowledge in mobile phone servicing, smartphone hardware and software repair, troubleshooting, maintenance, and installation of mobile applications and accessories.

**Exam:** Institutional assessment after 6 Months

TRADE THEORY	TRADE PRACTICAL
<p><b>Basic Electronics Fundamentals</b></p> <ul style="list-style-type: none"> <li>• Electrical quantities: Voltage, Current, Resistance</li> <li>• Ohm's Law and Power Law</li> <li>• Components: Resistors, Capacitors, Inductors</li> <li>• Semiconductor devices: Diodes, Transistors, ICs</li> <li>• Soldering &amp; desoldering techniques</li> <li>• Use of tools: Multimeter, power supply</li> </ul>	<ul style="list-style-type: none"> <li>• Workshop Safety &amp; First Aid</li> <li>• Identification of Mobile Repair Tools &amp; Equipment</li> <li>• Identification of Mobile Components</li> <li>• Soldering &amp; De-soldering Practice</li> <li>• PCB Handling &amp; Cleaning</li> <li>• Multimeter Usage Practice</li> <li>• DC Power Supply Operation</li> <li>• Mobile Opening &amp; Assembling Practice</li> <li>• Display &amp; Touch Screen Replacement</li> </ul>

### Mobile Phone Technology Overview

- Evolution of mobile communication (1G to 5G)
- Types of mobile phones: Feature phones & smartphones
- Basic block diagram of mobile phones
- GSM, CDMA, LTE, VoLTE concepts

### Mobile Hardware Components

- PCB (Printed Circuit Board) layout
- CPU, RAM, ROM, eMMC/UFS
- Display types (LCD, LED, AMOLED)
- Battery types and charging circuits
- Camera, speaker, mic, sensors

### Tools & Equipment Handling

- Multimeter usage (voltage, continuity testing)
- Soldering iron, hot air gun
- DC power supply
- Microscope handling
- BGA rework station basics

### Fault Finding & Troubleshooting

- Dead phone repair
- No charging / battery issues
- Network problems
- Audio issues (speaker/mic not working)
- Display problems (no display, touch issue)
- Water damage repair

### Mobile Software & Flashing

- Introduction to mobile OS: Android & iOS
- Firmware, ROM, Flash files
- Flashing tools and techniques
- FRP lock removal
- IMEI basics (legal awareness included)
- Virus/malware removal

### Smartphone Repair (Advanced)

- IC-level troubleshooting
- Jumpering techniques
- Reballing basics
- Short-circuit detection
- Signal tracing

### Networking & Connectivity

- Wi-Fi, Bluetooth, GPS basics
- SIM card working
- Mobile data (2G/3G/4G/5G)
- Hotspot & tethering

- Battery Testing & Replacement
- Charging Section Troubleshooting
- SIM & Memory Card Slot Repair
- Speaker, Microphone & Ringer Repair
- Camera Replacement Practice
- Software Installation & Flashing
- Android Software Troubleshooting
- Factory Reset & Data Backup Practice
- Unlocking & Formatting Practice
- Water Damage Cleaning & Servicing
- IC Identification & Basic Rework
- Jumper & Track Repair Practice
- Network Troubleshooting
- Wi-Fi & Bluetooth Troubleshooting
- Mobile Accessories Testing
- Smartphone Hardware Troubleshooting
- Basic iPhone Servicing Introduction
- Screen Guard & Tempered Glass Fitting
- Customer Handling & Service Report Preparation
- Preventive Maintenance of Smartphones
- Project Work on Mobile Repairing
- Viva & Practical Demonstration

- Ethics & data privacy
- Practical Training**
- Disassembly & assembly of phones
- Fault diagnosis practice
- Component replacement
- Software flashing practice
- Live repair projects
- Industrial Training / Internship**
- Work in a service center
- Real customer handling
- Hands-on repair experience
- Assessment Pattern**
- Theory Exams
- Practical Exams
- Viva (oral test)
- Safety & E-Waste Management**
- Electrical safety
- ESD (Electrostatic Discharge) precautions
- Safe handling of batteries
- E-waste disposal rules
- Customer Handling & Business Skills**
- Communication skills
- Service center workflow
- Cost estimation & billing
- Small business setup (mobile repair shop)

### Project Work : Major Project (Choose Any One)

- Mobile Repair & Maintenance • Mobile Servicing • Smartphone Flashing & Software Installation
- Mobile Hardware Testing • Display & Charging Repair • Mobile Diagnostics & Repair
- Android Smartphone Maintenance

## MOBILE & SMARTPHONE TECHNICIAN – Final Outcome (After 6 Months)

### Career Progression & Salary

Stage / Experience	Job Role	Salary Range (Kolkata)
After 6 Months	Mobile Repair Helper, Smartphone Technician Assistant	₹8,000 – ₹12,000
	Mobile Technician, Smartphone Repair Technician, Service Technician	₹12,000 – ₹20,000
	Senior Mobile Technician, Mobile Service Engineer	₹20,000 – ₹35,000
	Mobile Service Supervisor, Technical Trainer, Freelancer / Business Owner	₹25,000

## Guest of Honour



Late fashion designer Sharbari Datta had brought a revolution in the fashion industry. Starting from the colourful dhoti to men's clothes, she has designed everything beautifully. From Kolkata to Mumbai, everyone talks about her design. She was a pioneer in men's wear. Her designs have been worn by many Bollywood actors.



Chaiti Ghoshal is an actress who has worked in Bengali movies and television.



Mrs. Suparna Mukherjee who represented Bengal, India in an International platform, on a Beauty Pageant. She received the honour of MRS ASIA PACIFIC QUEEN AMBASSADOR in 2018.



Arjun works on the principles of deconstruction and asymmetry while exploring different aesthetic in modern garments design



Mr. Yadav has 22 years Core experience in Healthcare Industry Nationally & Internationally with strong vision to create professional environment & Quality Service. He is running Group of Companies as a MANAGING DIRECTOR of HOSPIMED GROUP.



Mr. Jain is one of the leading interior designer in Kolkata. He is also president of ABID Interior 2022.



Late Soumitra Chatterjee was an Indian film actor, play-director, playwright, writer, thespian and poet. He is regarded as one of the greatest and most influential actors in the history of Indian Cinema. He is best known for his collaborations with director Satyajit Ray, with whom he worked in fourteen films & many more. He had blessed our students in the event-THINKING 2K18, Organized by Srimati Techno Institute.



Goutam Ghosh is an Indian film director, Actor, music director and cinematographer, who works primarily in Bengali cinema. He is the only Indian to have received the "Vittorio Di Sica" Award, Italy, in 1997. In 2012, the Government of West Bengal honoured him with the Banga Bibhusan for lifetime achievement. Our students are enriched by his valuable knowledge sharing at our event -THINKING 2K18.



Mr. Arjun Chakraborty is an renowned Indian Film Actor, who was born and brought up in Rajasthan. He made his Film debut in a short character in the film 'Zara ki Zindagi' in 1983. His most influential acting was in 1986 film 'Ankush' starring with Nana Patekar. Later he was influenced with Bengali Film Industry, starting with the film, 'Kar diye Kinlam' in the year 1989. Now he is directing films and his debut film as director is 'To My Rights' in 2008. He was our chief guest in our program THINKING 2K24 and blessed all our students, which was held at Exhibition Hall, 5th Floor, Lake Mall, jointly organised by Srimati Techno Institute & Srimati Private ITI.



Mr. Samrat Mukherjee is a well known personality from Bengali and Hindi Film & Television industry.



Urvashi Basu, director of REALITY DESIGN PRIVATE LIMITED, is one of the pioneer Interior designer from of Kolkata. Mrs. Basu is an inspiration for new youth. Our students has got an unique opportunity, where they interacted with her at THINKING 2K18, initiated by Srimati Techno Institute, in association with Sananda, ABP Group.



An empathetic and focused, and yet process-oriented, metrics driven leader who guides and motivates his team towards customer-centricity and service orientation approach for his stakeholders. An astute administration professional with 13+ years' experience in office management, facility management, vendor management, operations and complines across varied industries.



Anshu Modi has been an integral part of the Indian Fashion Industry from its nascent inception. Anshu Modi is one of the leading names in the Indian fashion spectrum and she started her career very early in the 90s when a handful of Indian fashion designers were in the fray.



Abhishek Dutta is already a glittering star on Kolkata's fashion rrmament. A science graduate, who received his fashion technology degree from Wigan & Leigh College, Kolkata, Abhishek has already earned accolades galore.



Miss. Ushoshi Sengupta is an Indian beauty pageant contestant, who won the title of Miss Universe in 2010 .



Rimi Nayak graduated in the year 2007 from the National Institute of Fashion Technology, Kolkata. In the same year she bagged an award at the prestigious Lineapelle International Young Designers Competition, Italy. ... Thus the label has an Indian soul in Cosmopolitan Styling with sophistication and minimalism.



Mrs Javeda Sultana , an experienced Beautician ,and well known face in the field of beauty and wellness. She is having expertise in both Beauty therapy and make-up. In a span of a 12 years she created a legacy and a benchmark of her own kind. Srimati Techno Institute and students feel immense proud for getting her guidance and expertise.



The brand Jaya Misra is especially focused on bridal and ethnic wear. Her brand that draws its inspiration from the diverse cultures in the Indian sub continent is renowned for its subtle yet dramatic use of colors and



Mr. Karan Jain is true successor of Mr. Ajit Jain. He successfully carry the design legacy of his father and extremely popular in new youth.



Mr Chadda, owner of Chadha Designs Pvt Ltd, successfully creating new concept in the field of Interior Design.



A renowned Architect , involved with so many trunky project. He graced the THINKING 2K10 organised by Srimati Techno Institute.



Miss Suchismita Pati, MBA Construction & Project Management, Amity University, currently working with CBRE, an American commercial real estate services and investment firm. She is in sync with the latest technology & techniques, and has helped scores of business people with her ideas on improving results from their digital tech efforts. She was a mentor, Philosopher & guide as an PMO among our student.



Mr. Jayanta Saha is the creative designer of New Door Interior. Mr Saha, is a motivator, conceptualizer in the field of space planing in Interior Designing. He was also a employer of our students in the field of Interior designing.



Mr. Sengupta having ample experience in the field of safety management. Currently working with L&T as a safety officer, a great leader and true inspiration for new safety aspirants.

## Certificate Award Ceremony Cum Aashirwad



## Organisations that have Recruited from us



# THINKING

(Seminar Cum Exhibition)



**SRIMATI**  
**TECHNO INSTITUTE**  
INDUSTRIAL TRAINING & MENTORING

“Srimati Techno Institute offers innovative learning that builds skills and knowledge for employment and self-employment.”



# Prismatic

FASHION SHOW



# JOB FAIR



# Annual Sports



# Srimati Retroscope





**1989**

Established in 1989 by  
Srimati Techno Foundation (P) Ltd

114/2A, Hazra Rd, near Kalighat  
Fire Brigade, Kalighat, Kolkata,  
West Bengal 700026



INITIATIVE



Vocational Training Provider (VTP)



**500+**

Recruitment  
Partners



**1 MILLION+**

Skilled Learners  
empowered



**100+ CAMPUS DRIVE**

Alumni network of more than 5 Lakh



**5 LAKH**

**AWARDS AND RECOGNITIONS**

**THAT FILL OUR SHELVES**



Thinking 2K24 Awards: Students from Srimati Techno Institute won several awards, including "Excellence" and "Concept" awards, in various categories such as fashion design, interior design, and multimedia. Thinking 2K24 Awards: Students from Srimati Techno Institute won several awards, including "Excellence" and "Concept" awards, in various categories such as fashion design, interior design, and multimedia.

Calcutta Times Fashion Week 2023: Students showcased their talents and won prizes in the fashion design category.

ABID Inter College Design Competition 2022: Students won the best student award in the art form category.

**Notable Winners**

Fashion Design: Hriday Kr. Barman, Arpita Naskar, and Ritu Shaw won the "Excellence" Award for their work in fashion design.

Multimedia: Saikat Paul, Dipayan Bose, and Anish Naskar won the "Excellence" Award for their work in multimedia.

Interior Design: Ankita Bag and Sunita Ghosh won the "Best Concept" Award for their work in interior design.

Some notable technical courses like Refrigeration & AC Mechanic, Electrician, Fitter, Welder, Automobile & various Short term Courses Students won the Excellence Award in Thinking 2K24.

**Other Achievements**

Placements and Industry Recognition: Srimati Techno Institute has a strong focus on placements and industry recognition, with many students getting placed in top companies.

Faculty Expertise: The institute has experienced faculty members who have mentored students to achieve these awards and recognitions.



# SRIMATI TECHNO INSTITUTE

INDUSTRIAL TRAINING & MENTORING

Affiliated to W.B.S.C.T.&V.E.&S.D., Government of West Bengal  
In academic collaboration with Acharya Nagarjuna University  
Authorized Vocational Training Provider of Sikkim Professional University  
An ISO 9001:2015 Certified Institute  
Member of the National Safety Council, Ministry of Labour, Government of India



“Education is not the filling of a pail, but the lighting of a fire.” “Learning never exhausts the mind.”

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