

## Short Term Courses

### COURSES FOR DIPLOMA/DEGREE IN MECHANICAL ENGG. OR EQUIVALENT

COURSE NAME	DURATION	COURSE FEE
Auto CAD (Mechanical)	1 Month	₹7,000/-
CATIA	1 Month	₹8,000/-
Creo	1 Month	₹8,000/-
UNIGRAPHICS	1 Month	₹8,000/-
SOLIDWORKS	1 Month	₹8,000/-
MASTER CAM	1 Month	₹8,000/-
CNC Milling & Turning	1 Month	₹8,000/-
ANSYS	2 Weeks	₹8,000/-
3D Printing & Additive Manufacturing	2 Weeks	₹8,000/-

### COURSES FOR DIPLOMA/DEGREE IN ELECTRICAL/ ELECTRONICS ENGG. OR EQUIVALENT

COURSE NAME	DURATION	COURSE FEE
PLC	1 Month	₹8,000/-
VLSI	1 Month	₹8,000/-
SCADA	1 Month	₹8,000/-
Advanced Embedded System	1 Month	₹8,000/-
ROBOTICS	1 Month	₹8,000/-
Lab View	1 Month	₹8,000/-
E.CAD	1 Month	₹7,000/-

### COURSES FOR DIPLOMA/DEGREE IN CIVIL ENGG.

COURSE NAME	DURATION	COURSE FEE
Auto CAD (Civil)	1 Month	₹7,000/-
STAAD PRO	1 Month	₹8,000/-
3Ds Max	1 Month	₹8,000/-
REVIT	1 Month	₹8,000/-

### COURSES FOR ANY GRADUATE

COURSE NAME	DURATION	COURSE FEE
MAT LAB	2 Weeks	₹8,000/-
Hardware Networking	1 Month	₹5,500/-
.NET	1 Month	₹5,500/-
Core JAVA	1 Month	₹5,500/-
Advanced JAVA	1 Month	₹5,500/-
C	1 Month	₹3,500/-
C++	1 Month	₹3,500/-
Entrepreneurship Skill Development Program	2 Weeks	₹2,500/-
Internet of Things	2 Weeks	₹8,000/-

ALL THE ABOVE SHORT TERM COURSE START ON 1ST WORKING DAY OF EVERY MONTH

# ADVANCED DIPLOMA IN MACHINE MAINTENANCE AND AUTOMATION (ADMMA)



### MSME TOOL ROOM, BHUBANESWAR

Micro, Small & Medium Enterprises, A Govt. of India Society  
B-36, Chandaka Industrial Area, Near Infocity  
Bhubaneswar-751024, Odisha, India

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AS 9100,  
ISO 9001, 14001, 29990, 50001 &  
OHSAS 18001 CERTIFIED

## CENTRAL TOOL ROOM & TRAINING CENTRE Bhubaneswar, Odisha

## NSQF Complied Long Term Courses

COURSE NAME		DURATION	COURSE FEE
<b>COURSES FOR 10TH PASS OUT</b>			
Diploma in Tool & Die Making	DTDM	4 Year	₹19,000/- (per Semester)
Diploma in Mechantronics	DIM	3 Year	₹19,000/- (per Semester)
ITI Machinist	ITIM	2 Year	₹28,000/- (per Year)
ITI Fitter	ITIF	2 Year	₹28,000/- (per Year)
ITI Electrician	ITIE	2 Year	₹28,000/- (per Year)
Condensed Course in Tool & Die Making	CTDM	1 Year	₹66,000/-
Certificate Course in CNC Turning & Milling	CCTM	1 Year	₹32,000/-
<b>COURSES FOR UNDER MATRIC</b>			
Certificate Course in Machine Operation	CCMO	1 Year	₹18,000/-
<b>COURSES FOR ITI STUDENTS</b>			
Certificate Course in Advance Machining	CCAM	1 Year	₹32,000/-
Advance Certificate Course in Machine Maintenance	ACCMM	1 Year	₹32,000/-
Advance Certificate Course in CNC Machining	ACCCM	1 Year	₹34,000/-
Advance Certificate Course in Welding Technology	ACCWT	1 Year	₹50,000/-
Certificate Course in Machining	CCM	6 Months	₹22,000/-
Certificate Course in Fitting & Rigging	CCFR	6 Months	₹32,000/-
Suryamitra	-----	1.5 Months	₹10,000/-
<b>COURSES FOR DIPLOMA IN MECHANICAL ENGG. OR EQUIVALENT</b>			
Post Diploma in Tool & Die Manufacturing	PDTDM	1 Year	₹54,000/-
Post Diploma in CAD/CAM	PDCC	1 Year	₹54,000/-
Advance Diploma in CNC Programming Techniques & Practice	ADCNC	6 Months	₹34,000/-
<b>COURSES FOR DEGREE IN MECHANICAL ENGG. OR EQUIVALENT</b>			
Post Graduate Diploma in Tool Design & CAD/ CAM	PGTD	1 Year	₹60,000/-
Post Graduate in Aerospace Manufacturing	PGAM	1 Year	₹60,000/-
Master Certificate course in CAD / CAM	MCC	6 Months	₹36,000/-
<b>COURSES FOR DIPLOMA IN ELECTRICAL/ELECTRONICS ENGG. OR EQUIVALENT</b>			
Advanced Diploma in Machine Maintenance & Automation	ADMMA	6 Months	₹34,000/-
Advanced Embedded Technology	AET	6 Months	₹34,000/-
Certificate Course in Electrical Equipment Repair & Maintenance	CCERM	6 Months	₹34,000/-
Post Diploma in Industrial Automation & Robotics	PDIAR	1 Year	₹60,000/-
<b>COURSES FOR DEGREE IN ELECTRICAL/ELECTRONICS ENGG. OR EQUIVALENT</b>			
Master Certificate Course in Automation & Process Control	MCCAPC	6 Months	₹36,000/-
<b>COURSES FOR DIPLOMA IN MECHANICAL/ ELECTRICAL/ELECTRONICS ENGG. OR EQUIVALENT</b>			
Post Diploma In Mechatronics	PDIM	1 Year	₹54,000/-
<b>COURSES FOR DIPLOMA/DEGREE IN CIVIL ENGG.</b>			
Post Diploma in Structural Design & Analysis	PDSDA	1 Year	₹54,000/-
Advance Diploma in Structural Design & Analysis	ADSDA	6 Months	₹34,000/-
<b>COURSES FOR ANY GRADUATE</b>			
Advance Certificate Course in Inspection & Quality Control	ACCIQ	6 Months	₹22,000/-
Advance Diploma in Computer Hardware & Networking Management	ADCHNM	6 Months	₹34,000/-
Advanced Certificate Course in Software Application	ACCSA	6 Months	₹22,000/-

## Advance Diploma in Machine Maintenance & Automation (ADMMA)(NSQF-6)

### Introduction to CTTC:

MSME Tool Room Bhubaneswar (Central tool Room & Training Centre) established in the year 1991, Today stands as the premier Tool Room & Training Centre in India. Under the Technical Co-operative programme between Government of India and Govt. of Denmark the Centre was established as a Govt. of India Society. The management of affairs of the Centre rests with the Governing Council constituted by Govt. of India. Additional Secretary & Development Commissioner (MSME), Govt. of India, is the President of the Society & Chairman of the Governing Council.

MSME Tool Room –Bhubaneswar is on the way of achieving its set goal with its extension Centre at Rayagada and Kalinga nagar, Odisha. It believes its bench marking its standards not only against the tool room and training centers in India and the world. The zeal and experience and commitment of employees has been pushing the Centre to achieve the greater height of quality industry oriented training programs for different levels and different discipline students and production of highly precision components for tool and die making, automobile and aerospace components.

### Objectives of this course

Upon completion of this course, Participants will be able to:

- Perform maintenance activities of different workshop machines and equipment.
- Measure and control process equipment.
- Calibrate in accordance with approved procedures.

### Who can avail this opportunity:

Preferably Diploma in Electrical/Instrumentation or equivalent Engineering pass.

**NSQF Qualification:** Level - 6

**Duration:** 6 months (6 hours per day & 6 days in a week)

**Occupation of Qualification:** Entrepreneur/ Maintenance Engineer / Automation Engineer

**Progression of Occupation from Qualification:** After completion of course and after 3 years of field experience the trainee can work as a Service engineer and after that 5 years of experience, the person can work as Maintenance Engineer/Maintenance Supervisor.

### Fee:

₹ 34,000/-per participant to be paid in the following instalments.

At the time of registration	-	₹ 1,000/-
First Instalment	-	₹ 16,000/- (At the time of admission)
Second Instalment	-	₹ 17,000/- (After completion of two month)
NSQF Examination Fee	-	₹ 800/- (At the time of admission)

22.5%seats are reserved for SC/ST candidates for whom no course fee will be charged subject to production of two photocopies of caste certificate dully attested by Greeted Officer. However, all other

fees/deposits is to be paid in case of admission. Caste Certificate in Original from competent authority is to be produced for verification at the time of admission which may be revived from the issuing authority.

### DETAILED COURSE PLAN FOR 6-MONTHS

Sl. No.	Title and identification code of component	Estimated Time
1	Machine Operation	60
2	Electrical Hardware Logic Control	60
3	Electrical Machines	60
4	Pneumatics & Hydraulics	90
5	Machine Maintenance	90
6	Programmable Logic Controller	90
7	SCADA & HMI	60
8	TIA- Portal	60
9	Communication Skill	30
10	AUTOCAD Electrical	90
11	Basic Electronics	90
<b>TOTAL HOURS</b>		<b>780</b>

### ELIGIBILITY TO APPEAR IN THE EXAM:

Minimum 80% attendance is compulsory for the students to appear for the assessments.

### PASSING MARKS:

Passing criteria is based on marks obtained in attendance record, term works, assignments, practical performance, viva or oral exam, module test, practical exam and final exam.

Minimum Marks to pass practical exam – 60%

Minimum Marks to pass theory exam – 40%

### DETAILED COURSE CONTENT

Course Name	Contents (chapters/topics)
<b>Machine Operation</b>	The purpose of the work-holding devices and driving accessories. Conventional lathe machines and their components, Milling Machines and different operations performed on milling machine. Performing drilling & boring operation. Grinding and different types of grinding operation. De-burring process, Cutting Tools parameters and their types.
<b>Electrical Hardware Logic Control System</b>	Introduction to control, Rules of one line diagram, Types of switches, control and power circuit.
<b>Electrical Machines</b>	Measurement of electrical quantity, Study of motor, Oscilloscope.
<b>Pneumatic And Hydraulic Control</b>	Introduction to Pneumatics: compressed air and their use, Pneumatics in Automation and their use. Pneumatic valves and cylinders: Single acting cylinder, Double acting cylinder, normally open and closed valves. Dual pressure valve, Shuttle valve. Electro-Pneumatics: Introduction to Electro-Pneumatics, process to create control and power circuits. Hydraulics: Hydraulic oil and their characteristics, difference between pneumatic and hydraulics. Types of valves and actuators, Electro-hydraulics.
<b>Machine Maintenance</b>	Different types of tool and its working principle. Different circuit breaker and test with motor. Weekly, quarterly, monthly preventive and breakdown maintenance. Dis-assembly of machine parts and their mechanism Preventive and breakdown maintenance of machines. Various machinery operations.
<b>Programmable Logic Controller</b>	Introduction to PLC, principle of PLC, Types of PLC according to I/O capacities. Creation of new project, process to complete hardware configuration, NO and NC programming, Memory bit, bit logic operations, Variable table, Function and data block. Function block diagram. Profinet and Profibus connection, multipoint interface (MPI) and Point to point (PPI), Ethernet connection. Introduction to networking, types of communication, Pc connection to Plc connection.
<b>SCADA and HMI</b>	Introduction to scada system, communication drivers, Configuration of communication console parameter with Controller (PLC) AND MTU. Introduction to Software: Single user project, activation and deactivation of project, graphics designer tools. Object Pallet: standard object, windows object and smart objects. Introduction to HMI screen, multiuser project, connection between one systems to another, wincc project from one system to another. Configuration of HMI screen, programs to the HMI panel.

<b>TIA Portal</b>	Introduction to software, creation and downloading of function and data block and variable table Negate assignment, Set and reset coil operation, field operation, blocks and different edge triggering. Simatic timers and IEC timers, Pext timer coil, on and off delay block coil, Reset and load time duration coil. Analog to analog direct and inverse conversion. Analog to digital conversion
<b>Communication Skills</b>	Forms, types, purpose, theory, examples from daily schedules. Presentation Skills – elocution, debates, extempore. Newspaper reading Body Language: positive gestures, handshakes, eye contact, smiles, styles of walking, hand movements, etc. Activities on Listening Skill, Role Plays and Situation Handling, Etiquette and Manners, general and specific, greetings/salutations, etc, Personal and Professional Goal Setting.
<b>Autocad Electrical</b>	Introduction to co-ordinate system and types of co-ordinate system. Introduction to the software: Use of function keys and shortcut keys Drafting features: Different dress-up options like explode, fillet, chamfer, copy, add text, hatch and adding layers to the sketch.

### How to apply:

Application form attached with the broacher be filled up & mailed to Sr. Manager (Training) along with a D/D of ₹1000.00 on or before \_\_\_\_\_ In the event of selection this money will be adjusted in the course fee otherwise refund will be given on or before one week of course starts. Admission notification will be issued immediately after the last date of receipt of application and selected candidates will be required to pay fees within 15 days on or before \_\_\_\_\_ and report for training from \_\_\_\_\_.

### Hostel Accommodation:

Dormitory accommodations can be arranged in the CTTC guest house which can be booked on advanced request. The accommodation charges will be ₹1200.00 per month per bed.

### Uniform:

The candidates will have to get uniforms, dress stitched at their own cost as per the colour & design specified by the center.

### Certification:

After successful completion of training main certificate with grade, mark sheet & project certificate will be issued separately to the trainees.

### Placement Help:

CTTC placement cell will make efforts to contact & invite companies to conduct campus interviews; however, no guarantee can be given for placement/employment. Interested trainees can be registered by paying ₹3,000/- each towards placement registration at start of the programme and in case of trainee is not successful from getting placement he/she may be refunded ₹2,000/-.

### GENERAL RULES & REGULATIONS FOR TRAINEES:

- CTTC reserves the right to reject any application without assigning any reason. Incomplete applications are liable to be rejected.
- Registration Fee is Non Refundable, in case any candidate cancels his admission for any reason.
- Course Fee once paid will not be refunded & Registration/ Course Fee is not transferrable.
- Insurance & other charges as specified for the course to be paid but the trainee in addition to the course fee as applicable.
- All the trainee will be ensure discipline within the campus.
- Trainee shall be required to wear uniform & shoes as prescribed by the institute and possess I-Card compulsory during training.
- Mobile Phones, Pen Drives, CD any other related items are not permitted inside CTTC premises.
- Regular attendance will have to be maintained by the trainee as per course schedule & 80% attendance is compulsory in all subjects individually.
- Trainees will abide by the examination rules and regulations displayed on Notice Board of CTTC and as amended.
- Leave without information/ permission will not be entertained.
- Trainees going on leave or home during vacation should inform course coordinator compulsorily.
- No trainee shall be organize/ conduct any meeting within the campus.
- The Machines/ Equipment/ Furniture must be handled carefully. No act of damage to CTTC property shall be carried out by the trainee, any loss or damage to property, including water & electricity usage.
- Smoking & chewing tobacco, possessing or drinking alcoholic beverages in any form is strictly prohibited within CTTC premises.
- Ragging is strictly prohibited in the premises.
- Writing any Comment/ Remarks/ Name on doors, walls, toilet, and notice board is strictly prohibited.
- Violation of above & any other Rules, Regulations, Disciplines and Conduct are liable for disciplinary action.