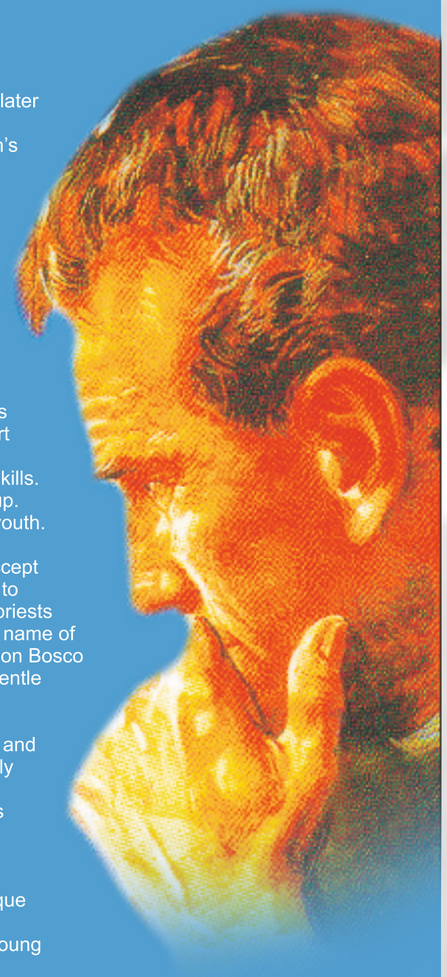
St. John Bosco was born in Turin, Italy, in 1815. Two years later his father died. This future saint, raised by his mother, experienced the pains of poverty at a very tender age. John's life work was inspired by these early years. He wanted to become a priest, especially to assist youth. In order to pursue his dream, John had to leave home at a young age to join the city school. Being bigger than his classmates, he was often the object of much ridicule. Little did they know what it cost him - earning whatever he could after school by working as a tailor or a cobbler, and studying by the light of a candle at night.



John Bosco – commonly called Don (Father) Bosco was ordained a priest at the age of twenty-six. He immediately began his work with orphans. He opened a hospice for boys where his mother served as the housekeeper. Within a short time 150 homeless boys who were living with him were instructed in religion and given opportunities to learn trade skills. Workshops for tailoring, shoemaking and printing were set up. Don Bosco trained his own staff to assist in the care of the youth.

Those associated with Don Bosco and his work began to accept him as their father and guide. Some expressed their desire to become like him. And so, the Salesian Society comprising priests and lay brothers was born. (The word 'Salesian' is from the name of the patron, St. Francis de Sales, a saint much admired by Don Bosco for his conversion from an angry young man to a kind and gentle bishop.

The Salesians dedicated themselves to the care of orphans and other boys who were homeless. Their mission spread rapidly from northern Italy to the entire country. When Don Bosco died in 1888, the congregation, which was only twenty years old, numbered over 1000 members. It had spread to seven countries in Europe and South America.

The greatest gift that Don Bosco has left posterity is his unique way of educating, a method that was inspired by his one magnificent obsession: "It is enough to know that you are young and abandoned for me to love you very much."

More than a century after the death of Don Bosco, thousands of people have dedicated themselves to the continuation of his apostolic love for young people all over the world. Their mission is to be "signs and bearers of God's love to the young."

DON BOSCO INDUSTRIAL TRAINING INSTITUTE
DON BOSCO CENTRE FOR LEARNING
Premier Automobiles Road,
Kurla (West) Mumbai - 400 070
Phone:022 - 68878 710 / 711 / 712
Email ID: dbitimumbai@gmail.com
Website: www.dbitimumbai.org

DON BOSCO
INDUSTRIAL TRAINING INSTITUTE

An ISO 9001:2015 & 29990:2010 Certified Institute

PROSPECTUS

Educating the young for life and livelihood

ABOUT THE INSTITUTE

The foundation stone of Don Industrial Training Institute (formerly St. Joseph Industrial Training Institute) was laid on the 30th January 1963, the eve of the feast of St. John Bosco the founder of the congregation.

The first course offered was that of a general nature which was called 'Machinist' and it included abilities of Turners, Fitters and Machine Operators. Later recognition was sought from the government for the same courses and these came under the guidelines of National Council for Vocational Training (NCVT).

With the advent computers the Institute began courses in computer education from the year 1987 and has kept abreast with the recent developments.

This institute boasts of several of its alumni who have set up their own small-scale industries, in addition many others have perfected their skills, specialized themselves and have found lucrative jobs within the country and overseas.

The medium of instruction is English. The minimum qualification for all I.T.I trades is S.S.C or equivalent with Mathematics and Science. For Vocational / Non I.T.I courses the minimum qualification, Std. VII and the candidates age has to be 15 years or above.

At this Don Bosco Institute we impart excellent levels of technical skills, we provide opportunities for emotional and spiritual growth of our students. We emphasize the value of sports and games as a means of all round education. The many extra-curricular activities help the youngster in their physical development. Besides it affords relief from tension at work, assist in formation of character and creates a cheerful environment.

The institute constantly seeks to widen its services to cater to a large section of youngsters who are poor in keeping with the mind and spirit of Don Bosco.

OUR VISION
is to educate the young for life and livelihood

OUR MISSION
is to empower the marginalized and disadvantaged youth
by imparting market driven employment linked skill training.

OUR VALUES
SELF - ACTUALISATION • DETERMINATION • IMPROVISATION
INDUSTRY - RELEVANCE • COMPETENCE • COPING SKILLS
SOCIETY - AVAILABILITY • GENEROSITY • RESPONSIBILITY

OUR SYSTEM
Preventive / Presence
RAPPORT – EMOTIONAL NEEDS • REASON – INTELLECTUAL NEEDS
• RELIGION – SPIRITUAL NEEDS

Our collaborators in Training & Placement

TOYOTA · Schneider Electric · GROHE · Bharat Petroleum · MOTUL · HP · Godrej & Boyce · SIEMENS · Ford · Mahanagar Gas · FORBES · ACME · Maruti Suzuki · Mercedes-Benz · CEAT · Hyundai · BSNL · TATA Consultancy Services · Lamprell · Hawkins · ABB · Zauba Corp · Mercury · Aeropark · Supreme Enterprises · MD · PCS Technology · TAJ · Mitsubishi Electric · Air India Engineering Services · Landmark Group · Aplab · COSIA · Daikin · Fujitec · Funist · Rational · Eicher · Alex Machine Tools · VAS · Automotive Manufacturers Pvt. Ltd. · Balmer Lawrie-Van Leer Limited · Gemsons · Balmer Lawrie & Co. Ltd. · Hinduja Hospital · MECO · Miranda Automation Pvt. Ltd. · Kehems · Aquarius · CUMI · TATA Motors Limited · I-Share · Festo · murugappa

Our Associates

Don Bosco Tech · SKIP · CII Confederation of Indian Industry

INDEX

GENERAL INFORMATION REGARDING THE INSTITUTE

1. St. Joseph Industrial Training Institute is run by the Salesians of Don Bosco. This Institute is affiliated to the Government of India's National Council for Vocational Training {N.C.V.T.} in the trades of Fitter, Machinist, Electronic Mechanic, Electrician, Draughtsman Mechanical & Mechanic Motor Vehicle. It also offers other courses certified by the Institute.

2. The aim of the Institute is to provide the young with a sound moral and technical education so as to form them into upright citizens able to fulfil their obligation towards God, Family and Country. All activities whether moral, cultural, social or recreational have this aim in view. The Fee structure of the Institute is based on No Profit No Loss concept

3. The Salesian system of education is based upon the Preventive-Expressive System of Don Bosco, which is founded, chiefly on reason, religion and kindness.

4. In Don Bosco's system, sports and games form an integral part of education, since they promote sound physical development, afford relief from the tension of work, help effectively in the formation of character and makes for a cheerful environment. Cheerfulness is the distinguishing mark of a Don Bosco Institution.

5. The Head of the Institute is the Rector. He is aided by other Management Staff who are responsible in their own field of activities. Each department has its own head.

6. The medium of Instruction is English. The minimum qualification for all I.T.I. trades is S.S.C. or its equivalent with Mathematics and Science (Physics and Chemistry)

7. The private courses are conducted on a non-formal basis by the Institute and are meant for school drop outs. The minimum qualification required for admission to these courses is Std. VII and above, but any exception will be considered by the Principal. Candidates who have completed Std. X and above may also be eligible to undergo training in the Private courses.

8. The examinations for the I.T.I. trainees are conducted in the month of July every year by NCVT. The successful candidates are awarded certificates by NCVT. An unsuccessful candidate can avail of five consecutive attempts in 3 years for the I.T.I. examination. Successful private course trainees are awarded certificates by the Institute on passing their final examination.

Note: Trainees aspiring to join a diploma programme after successful completion of I.T.I., should have passed SSC with Maths/Mathematics with Code 71.

Non-I.T.I.: Examinations are conducted at the end of every year.

9. All the trainees of the institution will undergo the following modules of Workplace Readiness:
   - English Literacy
   - I.T. Literacy
   - Communication Skills
   - Personality Development
   - Entrepreneurship Skills
   - Productivity
   - Occupational Safety, Health and Environment Education
   - Labour Welfare Legislation
   - Quality Tools

RULES

1. Each trainee must have a copy of the Handbook, read and note its contents and bring it daily to class. The trainee's handbook must be perused regularly by the Parents/Guardians, so as to be conversant and in touch with his performance in the Institute. Loss of handbook constitutes a serious offence and must be replaced immediately on payment of a fine. A Trainee who loses his Handbook a second time during the course will be liable to summary dismissal.

2. The signature of the Parent/Guardian, who will sign all communications to and from the Institute, should be affixed at the appropriate place. This should be the same as the one furnished in the Admission and Declaration Forms. Any change in the person authorised to sign all correspondence to and from the Institute must be communicated in advance to the Institute authorities by the signatory.

3. Report and all remarks made in the handbook should be countersigned by the authorized signatory. The trainee should then show the same to the Instructor concerned. This should be done on the very next day of the report or of the remarks made.

4. The academic year of the Institute commences in August and ends in July.

5. The Institute hours are from 7.55 a.m. to 12:15 p.m. and from 1:15 p.m. to 4.45 p.m.

6. Each day begins with the assembly of trainees and staff. All must be in the Institute premises on time and cannot leave the premises without the permission of the concerned authority.

7. WORKING HOURS:

a)	Practical Instructions		25 hrs per week
b)	Theoretical Instructions		15 hrs per week
	i)	Trade Theory	9 hrs per week
	ii)	Workshop Science & Calculations	2 hrs per week
	iii)	Engineering Drawing	2 hrs per week
	iv)	Entrepreneurship Training, Soft Skill Employability Skills & Communication Skill	4 hrs per week

8. Absentees must bring a written justification in the prescribed leave form and report to the Principal before the assembly. A doctor's certificate must be produced in case of absence due to sickness for two days and more.

9. Leave, must be obtained by prior application in writing from Parents or Guardians on the prescribed leave application. Parents must check truancy.

10. Late comers should get the necessary sanction noted in their handbook and report to the Principal before entering the workshop or class.

11. Irregular attendance, late coming, habitual idleness, disobedience or misconduct justifies serious action and even dismissal at any time of the year.

12. a) The minimum compulsory attendance for trainees in regard to their eligibility for the final trade test has been fixed at 80 percent of the actual number of working days for I.T.I. trainees and 85 percent for one year and Private course trainees.

    b) For the purpose of calculating 85 percent of the actual number of working days in respect of a trainee, the number considered will be the number of days for which attendance was marked in the attendance register from the day of his admission to the date of the beginning of the trade test.

13. a) Trainees who are absent for 5 days or more without telephonic information or written permission and those trainees who according to the Institute authorities do not show adequate interest/progress in their work and duties are liable to be struck off the rolls and forfeit their deposit.

    b) Those trainees who remain absent before and after the weekend holiday and those who report late after any extended holiday which is given gratuitously, will be marked absent for the period of the holidays.

14. Trainees who remain absent at the examination for any reason will be considered as failed. Trainees who fail in two consecutive quarterly examinations are liable for disciplinary action or suspension not exceeding 15 days. Should they yet fail in the third consecutive quarterly examination, they can be dismissed from the Institute. The Institute will not hold itself responsible for the consequence of any communication missed during the time of suspension.

15. Every trainee MUST carry the Identity card to the Institute daily, failing which he may not be permitted to enter the premises. Similarly, no trainee will be permitted to the examination hall without a valid Identity Card.

16. There will be silence in those places where all assemble for study, class, work, assembly hall or wash places.

17. In the interest of individual and general safety, trainees are cautioned not to touch, operate or use any tools, equipment or machinery without adequate knowledge, guidance and permission.

18. The equipment entrusted to the trainees must be treated with care and consideration. Trainees must indemnify the Institute for breakage, damage or loss. This amount will be deducted from their deposit. In case the damage exceeds the deposit, a new deposit will have to be paid.

19. No books, newspapers, periodicals, mobile phones/gadgets or any other articles, which are not prescribed for training, may be brought to the Institute. Any report of observed or objectionable conduct of the trainee outside the Institute shall make him liable for disciplinary action.

20. The use of Mobile phones in classrooms and workshops are prohibited.

21. Consumption of alcohol, tobacco products (cigarettes, gutka, paan, supari, etc.) and drugs is strictly prohibited and punishable.

22. FEE: Enquiries about Fees may be made at the DBITI Office.

    Contingency fees may be collected during the course. Additional fees will be collected for allied courses.

    Foreign students will be charged additional fees.

23. The original SSC / Last Examination Mark sheet and the School/College Leaving Certificate / Residential Proof / Current Electricity Bill will have to be submitted to the Institute authorities at the time of admission. If it is required in the course of the training period, a suitable declaration and deposit will have to be made before it is handed over to the trainee. The amount of the deposit will be equal to the balance amount of fees for the entire course.

24. Trainees who leave or who are dismissed before the completion of the course forfeit their deposit and will not be entitled to any certificates.

25. A trainee joining or leaving the Institute in the middle of the training period shall pay the fees for the entire duration of the course. A trainee wishing to leave the Institute shall give notice in writing to the Principal. No certificates will be returned until all dues to the Institute have been paid and all tools and equipment taken from the Institute returned to the Head of the Department concerned. NO FEES WILL BE REFUNDED.

26. Trainees coming from financially weak families have to apply for scholarships and concession in fees and maybe considered as per the discretion of the Management.

27. Any variation required by the Government authorities as regards the I.T.I./M.S.B.V.E.E. trainees will be notified from time to time on the Institute notice board. Directives from the Institute authorities to all trainees, will also be similarly displayed.

28. Every trainee will provide himself with two sets of uniforms and a pair of safety shoes as prescribed by the Institute. No trainee will be allowed to work in the workshop / classroom without proper uniform and shoes.

29. Refund of Security Deposit, if any, MUST be collected against return of the receipt of Deposit Money within one month from the date of completion of the course. Refund not collected during the specified time will be forfeited.

30. Similarly, Original Certificates submitted to the Institute at the time of admission should be collected within one month from the date of completion of the course. The Institute does not hold itself responsible for certificates not collected within the specified period.

31. Trainees joining the Trade shall not engage themselves in other Training/Courses or Colleges.

A brief description of the various courses offered at the Institute

I. Government Certificate Courses

A. I.T.I. COURSES (NCVT) CERTIFICATE – 2 YEARS

1. FITTERS

The Fitters course entails the following job description, which will qualify a person to skilfully work in any mechanical workshop. He is conversant in the subject of his trade with theoretical knowledge, has the ability for calculations related to workshop practice and can execute fabrication work from Blue Print reading of Engineering Drawings.

After successful completion of this course the trainee shall be able to perform the following tasks with proper sequence.

1. The trainee will be qualified to work in the industry as a semi-skilled fitter.
2. The trainee will be qualified to work in the field of pipe fitting, lathe, drilling, welding, inspection & measurement, general fitting work observing safety precautions.
3. The trainee will be qualified to work on dismantling & assembling of various valves, testing the accuracy of machine tools.
4. Perform simple repair on machinery, dovetail slides and assemble with location dowel pins, stud and bolts.
5. Prepare snap gauge for checking diameters to an accuracy of ± 0.02 mm.
6. Handle different types of fire extinguishers.

The student also gets to learn to do jobs coming from different companies with a high degree of accuracy.

Employment Opportunities:

On successful completion of this course, the trainees shall be gainfully employed in the following industries:

1. Production & manufacturing industries.
2. Structural Fabrication like bridges, roof structures, building & construction.
3. Automobile and allied industries
4. Service industries like road transportation and railways.
5. Ship building and repair
6. Infrastructure and defense organizations
7. In public sector industries like BHEL, BEML, NTPC, etc and private industries in India & abroad.
8. Self-employment

Further learning pathways:

- On successful completion of the course trainees can pursue apprenticeship training in the reputed Industries / Organizations.
- On successful completion of the course trainees can opt for a diploma course (Lateral entry).
- On successful completion of the course trainees can opt for CITS course.

2. MACHINIST

The Machinist Course trains the candidate to skilfully work on various precision machine tools used in Machine Shop. He is conversant in the subjects of Trade Theory, Workshop Calculations and Science related especially to this trade, Engineering Drawing (Blue Print reading of Orthographic and Isometric views according to specifications) and Workshop Practical.

After successful completion of this course the trainee will be able to perform the following tasks with proper sequence:

1. The trainee will be qualified to work as a semi-skilled worker in industry.
2. The trainee will be qualified to work as a basic fitter and perform various operations like drilling, shaping, slotting, planer, lathe, milling, grinding.
3. The trainee will be qualified to do simple programming & operate CNC machines.
4. The trainee will acquire knowledge of technical English terms used in industry.

The student also gets to learn to do jobs coming from different companies with a high degree of accuracy.

Employment Opportunities:

On successful completion of this course, the trainees shall be gainfully employed in the following industries:

1. Production & manufacturing industries.
2. Service industries like road transportation and railways.
3. Ship building and repair.
4. Infrastructure and defence organizations.
5. In public sector industries like BHEL, BEML, NTPC, etc. and private industries in India & abroad.
6. Self-employment.

Further learning pathways:

- On successful completion of the course trainees can pursue apprenticeship training in the reputed Industries / Organizations.
- On successful completion of the course trainees can opt for a diploma course (Lateral entry).
- On successful completion of the course trainees can opt for CITS course.

3. ELECTRONICS MECHANIC

The Electronics Mechanic Course trains the candidate to work skilfully in the industry. He is conversant in the subjects of Trade Theory, Workshop Calculations & Science especially related to his trade, Engineering Drawing (Circuit Diagrams, Component Layout, Test Points, etc.) and Workshop Practical.

After successful completion of this course the trainee will be able to perform the following tasks with proper sequence.

1. Identify various active and passive components and their applications.
2. Handle different types of electronic measuring instruments
3. Identify different types of faults in electronics equipment.

4. Repair & maintenance of computer hardware & networking
5. Repair and maintenance of SMPS, UPS, inverter, solar power system and various analog and digital circuits.
6. Repair and maintenance of electronics communication equipment and fibre optics.
7. Installation of various transducer, sensor.
8. Repair and maintenance of microcontroller based systems.
9. Repair, maintenance and installation of LED/ LCD TV, cell phone (Mobile).

Employment Opportunities:

On successful completion of this course, the trainees shall be gainfully employed in the following industries:

1. Various electronics equipment manufacturing industries.
2. Automobile electronics and allied industries.
3. Industries manufacturing solar power based inverters.
4. Industries manufacturing LED lights
5. Service industries like BSNL, MTNL, home appliances manufacturing company, railways, ISRO, naval dockyard, RCF, BPCL etc.
6. Various mobile industries like LG, Samsung, Nokia, Sony, etc.
7. In public sector industries like BHEL, BEML, NTPC and private industries in India & abroad. Petrochemical industries like ONGC, OCL, and HPCL etc.
8. Self-employment.

Further learning pathways:

- On successful completion of the course, trainees can opt for additional NCVT certificates in the following courses by doing the third and forth semester since the first and second semester is common for all three Electronics courses.
    1) Mechanic Electronic Consumer appliance (Only 4th Semester)
    2) Technician Power Electronics Systems (3rd and 4th Semester)
- Also on successful completion of the course they can pursue apprenticeship training in the reputed Industries / Organizations.
- They can have lateral entry to diploma courses.

4. MECHANIC MOTOR VEHICLE

The Mechanic Motor Vehicle (4 Wheeler) course trains the candidate to work skilfully by himself or in the Industrial Workshop. He is conversant in the subjects of Trade Theory, Workshop Calculations and Science especially related to his trade and Engineering Drawing (Components, Assembly and Systems).

After successful completion of the above course, the trainee will be able to perform the following tasks with proper sequence.

1. Mechanic, automobile repairs, overhauls and services of motor vehicles to keep them in good running condition.
2. Examine vehicles to ascertain nature and location of defects either by running the engine or driving the vehicles.
3. Dismantle partially or completely defective units or parts of vehicle such as engine, gear box, rear axle, front axle, steering assembly, radiator, etc. according to the nature of repairs to be done, using hoist, jack, pullers, hand tools and other devices.
4. Measure essential parts like cylinder, bores piston, sizes crank pins etc. using gauges, micrometers and other precision tools and get cylinders re-bored, liners filled, valve seats refaced, bearings replaced etc. as necessary.
5. Repair or overhaul and assemble an engine by replacing defective parts, scrapping bearings, setting timing, cleaning injectors, tuning carburettor etc. according to the maker's specification.
6. Replace or repair defective parts of gear box, rear axle, steering mechanism etc. and set them right ensuring correct alignment, clearance, meshing of gears, specified movements and operations.
7. Realign and build brakes, set wheel alignment, adjust steering, clutch, hand brakes etc. fit new or repaired accessories and body parts, make electrical connection, and perform other tasks to effect repairs.
8. Lubricate joints, tighten loose parts, test performance of vehicle by driving on road and make necessary adjustments to attain desired standard.

Employment Opportunities:

On successful completion of the course the trainee can either get employed, or become a self-employed entrepreneur in any one of the following fields.

a) Wage Employment

1. Auto Mechanic
2. Vehicle Service Technician
3. Auto Fitter in Manufacturing Concern in Assembly Shop or Test Shop
4. Mechanic in Auto Manufacturing Industry
5. Dealer's service mechanic
6. Driver/Vehicle Operator
7. Spare Parts Sales Assistant / Manufacturers' Representative
8. Laboratory Assistant
9. Auto Electrician

b) Self Employment

1. Automobile Mechanic
2. Diesel Fuel System Service Mechanic
3. Vehicle Operator
4. Spare Parts Salesman
5. Spare Parts Dealer

Further learning pathways:

- On successful completion of the course, trainees can get themselves enrolled in apprenticeship training in reputed Industrial organisations.
- The qualified candidates have scope for lateral entry into the Diploma courses offered by some of the State Governments

- The qualified candidates can also get themselves upgraded by taking up the second semester at their own convenience in the CTS scheme, since the first semester is common to the following trades.

5. ELECTRICIAN

The Electrician course trains the candidates to install, maintain and repair electrical machinery equipment and fittings in factories, workshops power house, business and residential premises etc. He studies drawings and other specifications to determine electrical circuit, installation details, etc. This course also helps him to position and install electrical motors, transformers, switchgears, switchboards, microphones, loud-speakers and other electrical equipment, fittings and lighting fixtures. He learns to make connections and solders terminals. He tests electrical installations and equipment and locates faults using megger, test lamps etc.

After successful completion of this course the trainee will be able to perform the following tasks with proper sequence.

1. Carry out installation, maintenance and repair works of electrical AC, DC, machinery, lighting circuits, domestic appliances and equipment used in industries.
2. Read and interpret the blue print reading (Electrical layout Drawing as per BIS specification & standards)
3. Carry out domestic and industrial wiring, earthing system.
4. Test electrical wiring installation, locate and rectify the faults by using megger and earth tester.
5. Make and solder the wire joints, wires on PCB and do de-soldering technique.
6. Use electrical instrument (analog/digital) like voltmeter, ammeter, wattmeter, energy meter, wheatstone bridge, oscilloscope, earth tester, tong tester, etc. to measure different electrical quantities.
7. Armature winding, single & three phase motor winding and small transformer winding.
8. Operate, maintain and test the switch gears, circuit breakers, relays and transformers.
9. Identify and maintain the power generating stations (conventional and non-conventional), transmission and distribution system protecting devices.
10. Construct & test semiconductor devices.
11. Practice on using fitting carpentry and sheet metal tools.
12. Carry out break down, overhauling, routine & preventive maintenance of electrical machines and equipment.

Employment Opportunities

1. All state Electricity Boards and departments
2. Public sectors, MNC, Private and Govt. Industries
3. License Certificate for self-employment
4. Wiring Contractors
5. Huge job opportunities in power generation, transmission, distribution station.
6. Huge job opportunities abroad.

Further Learning Pathways:

- Apprentice training in designated trades
- Craft Instructor certificate course
- License Certificate in all State Electricity Boards
- Diploma in Electrical Engineering

6. DRAUGHTSMAN MECHANICAL

This course will prepare the trainee to work on drawing of machine parts and components independently by taking sketches from shop floor, either manually or by using mechanical design software like Auto CAD 2008, inverters, etc. and specialisation in different designing like Civil, Electrical, Piping and Landscaping. He will be conversant in the subjects of Trade Theory, Workshop Calculations and science related especially to the trade.

After successful completion of this course the trainee will:

1. Be qualified to work as a Junior Draughtsman in industry
2. Be able to prepare drawings, design new parts, assembly, details, section drawings
3. Have knowledge of CAD/CAM.
4. Know the technical English terms used in industry.

Employment Opportunities:

On successful completion of this course, the candidates shall be gainfully employed in the following industries:

1. Production & manufacturing industries.
2. Structural Fabrication like bridges, roof structures, building & construction.
3. Automobile and allied industries.
4. Service industries like road transportation and railways.
5. Ship building and repair.
6. Infrastructure and defence organizations.
7. In public sector industries like BHEL, BEML, NTPC, etc. and private industries in India & abroad.
8. Self-employment.

Further learning pathways:

- On successful completion of the course trainees can pursue Apprenticeship training in the reputed Industries / Organizations.
- On successful completion of the course trainees can opt for a Diploma course.
- On successful completion of the course trainees can opt for CITS course.

7. REFRIGERATION & AIR CONDITIONING TECHNICIAN

The Air Conditioning and Refrigeration Mechanic course is a private course designed to train candidates to work skilfully in any workshop or even set up a private business. The candidate is conversant in the subject of Trade Theory, Workshop Calculations and Science especially related to his trade and Engineering Drawing.

The course contents are:

1. Handling of Fitters tools and equipment for repairs, measuring and marking tools used for fabrication and simple fitting, chipping, chiselling, grinding, filing and drilling.
2. Electrical circuits, measurement of electrical units of current, voltage, power. Types of circuits – wiring and layout of electrical connections using conductors, switches, fuses, plug, sockets, holders, circuit breakers, etc.
3. Welding (gas and arc) and brazing particularly for use in the trade.
4. Use of refrigeration Service tools. Knowledge of their applications and types.
5. Cutting, bending, flaring, swaging of copper tubing. Use of different types of reamers to provide proper fitting.
6. Identifying the different systems. Stripping components of refrigeration system, checking for wear and tear and possible repairs and replacements.
7. Servicing and testing of different compressors, valve shaft seals, piston assembly and valve plate assembly.
8. Cutting gaskets of compressor, assembling of compressor parts – Leak and seal testing after pressurizing of whole assembly.
9. Servicing and cleaning of Evaporators and cooling coil.
10. Checking out refrigeration controls, writing of the control system, Servicing of automatic expansion valve, thermostatic expansion valve and capillary. Checking out the operation of the related system components.
11. Dismantling of rotary compressor, checking and servicing components and parts. Assembly of rotary compressor and testing. Servicing of water pumps and pipeline valves.
12. Working with different refrigerants of Freon group – knowing their properties, storage and appropriate usage, gas charging using pressurized gas.
13. Window Air Conditioners, Types, functions and applications, trouble shooting, diagnosis and remedies.
14. Handling of gas cylinders, gas regulators, oil charging to compressors, installation of compressors, cooling coil and condenser of refrigeration unit. Wiring of system using conductors, capacitors, fan motors and relay units, switching system, motor speed control.

15. Water coolers: servicing, maintenance and repairs, checking of gas charging system, compressor and fan motors, evaporators and switching relay with thermostatic switch, switching of over load, electrical assembly.

16. Checking leaks, vacuuming the whole system, repair and testing of the system, checking and servicing of capillary tubes and expansion valves, servicing refrigerator cabinets, checking body, liner, door liner, replacing thermal insulating material, adjusting door alignment and service of other related mechanical parts.

17. On site/ Outdoor servicing, maintenance and repairs of Air Conditioners (One and two tons capacity) together with service/ supervisory personnel.

18. Hands on experience at assembly and repair workshop. On site installation and commissioning of Air Conditioners, room and split units, tubing and insulation of refrigeration pipes.

19. Introduction of Central Air Conditioning plant, automobiles Air Conditioning, railways and aircraft Air conditioning.

    Project Works

8. TECHNICIAN MECHATRONICS

Technician Mechatronics is a specialized trade which caters to the environment of Industrial revolution 4.0. Mechatronics technicians will usually assist design, development and engineering staff, as well as working closely with other trades persons to install, maintain, modify and repair Mechatronics systems, equipment and component parts.

After successful completion of this course the trainee will be able to perform the following tasks with proper sequence.

- Manufacture, install, modify, repair and fault-find Electro-hydraulic and electro-pneumatic equipment and systems
- Build and install electrical, pneumatic, hydraulic and mechanical assemblies and systems.
- Install and test hardware and software components.
- Perform Robot installation and maintenance, automation equipment installation, troubleshooting and maintenance and PLC program debugging.
- Debug programming logic for manufacturing equipment.
- Debug AC, DC Drive & Control
- Communicate HMI with PLC
- Design and prototype mechatronic devices with motors, solenoids, gears, sensors and springs.

Employment opportunities:

On successful completion of this course, the trainees shall be gainfully employed in the following industries:

- Production & manufacturing industries.
- Automation system integrator industries
- Pharmaceutical industries
- Food and beverage industries
- Paper and pulp industries
- Automobiles industries
- Textile industries
- Electronics industries
- SPM (Special purpose machine) industries
- Self-employment

Further learning pathways:

- On successful completion of the course trainees can pursue apprenticeship training in the reputed Industries and Organizations.
- On successful completion of the course trainees can opt for a diploma course (Lateral entry).
- On successful completion of the course trainees can opt for CITS course

9. . MECHANIC TWO & THREE WHEELER

After successful completion of the above course, the trainee will be able to perform the following tasks with proper sequence.

1. Repairs, services and overhauls of motor cycles, auto rickshaws, scooters; etc., to make and keep them roadworthy.
2. Examine motor cycle or scooter to locate faults by running the engine in stationary position or by driving it on the road.
3. Dismantle parts such as engine, ignition system, dynamo forks, shock absorbers, gear box etc., as necessary.

4. Grind valves, set timings, reline brakes, re-bush steering mechanism, replace worn out parts, assemble gear box clutch etc.
5. Perform other tasks to effect repair, clean and set carburettor, fit driving chain, wheels silencer, kick, gear, clutch and brake levers and other accessories.
6. Adjust control cables for brake, clutch and accelerator, set tappets and wheel alignment, tighten loose parts and make necessary fittings and connections.
7. Change engine and gear box oil, start engine and tune it up.
8. Test performance of vehicle by driving on the road and make further adjustments to remove defects noticed if any.
9. May assemble motor cycles or auto-rickshaws.

On successful completion of the course the candidates can either get employed, or become self-employed Entrepreneurs in any one of the following fields.

a) Wage Employment

1. Mechanic Motor cycle
2. Motor Cycle Service Technician
3. Auto Fitter in Manufacturing Concern in Assembly Shop or Test Shop
4. Mechanic in Auto Manufacturing Industry
5. Dealer's service mechanic
6. Driver/Vehicle Operator
7. Spare Parts Sales Assistant / Manufacturer's Representative
8. Laboratory Assistant

b) Self Employment

1. Two/Three wheeler Mechanic
2. Diesel Fuel System Service Mechanic
3. Spare Parts Salesman
4. Spare Parts Dealer

10. PLUMBER

This course is designed to train candidates to work skilfully as plumbers (Sanitary Hardware Fitter). The training period is nine months of institutional training and three months on job training in different enterprises/sites. A trainee receives on job training which enhances his skill. He can work at any plumbing sites at constructions, households or set up his own business. After successful completion of the course a trainee should be able to perform the following tasks:

1 Install European / Indian water closet
2 Install high / low flushing cistern
3 Install urinals, automatic tank, flush valve, wash basin, sink, bathtub, water heater (geyser).
4 Know the method of installing a bidet, working through range urinals.
5 Lay jointing of drainage pipes.
6 Fix gully trap / vent pipe in drainage.
7 Maintain sanitary fitting.

8 Estimate material requirement for pipe layout for building.

9 Have knowledge of Hydro-Pneumatic System.

11. COSMETOLOGY – ONE YEAR COURSE (Proposed)

The Cosmetology course, offered by Don Bosco ITI, is a comprehensive one-year program designed to prepare trainees for a successful career in the beauty and wellness industry. Covering a wide range of topics, the course offers hands-on training in personal grooming, client handling, skin care treatments, manicure, pedicure, epilation, hair styling, hair cutting, hair treatments, make-up, and traditional beauty services like mehendi and saree draping. Emphasis is placed on developing professional ethics, health and safety practices, client consultation skills, and overall personality development. Through practical sessions, guest lectures, role plays, yoga exercises, and industrial visits, trainees build the confidence and expertise needed to thrive in the cosmetology profession or start their own ventures.

Employment Opportunities:

On successful completion of the course, candidates can either get employed or become self-employed in one of the following fields:

a) Wage Employment	*b) Self-Employment*
1. Cosmetologist	1. Freelance Beauty Expert
2. Beauty Therapist	2. Mobile Beauty Service Provider
3. Hair Stylist	3. Make-up and Hair Stylist
4. Skin Care Specialist	4. Nail Artist
5. Make-up Artist	5. Salon/Spa Owner
6. Nail Technician	6. Mehendi Artist
7. Salon Assistant	7. Beauty Product Retailer
8. Beauty Consultant	

Further Learning Pathways:

- On successful completion, trainees can pursue specialized and advanced courses in skin therapy, advanced hairdressing, spa therapies, make-up artistry, or enroll in apprenticeship programs with reputed beauty salons and wellness centers.

B. BACHELOR COURSES

1. BACHELOR IN AUTOMOTIVE SERVICING TECHNOLOGY

1. COURSE DESCRIPTION

The Bachelor in Automotive Servicing Technology programme trains students in the techniques of installing, maintaining, repairing, and replacing automotive components. It is specially designed for those passionate about working with vehicle systems such as brakes, engines, electricals, steering, and suspension.

India's automotive industry is one of the largest globally, contributing over 7% to the country's GDP. The servicing and repair sector alone was estimated to be worth Rs. 34,000 crores by 2020. With the sector growing steadily, trained professionals are in great demand.

After successful completion of this course, the trainees shall be able to perform the following skills with proper sequence:

1. Understand the construction and working of petrol and diesel engines.
2. Carry out maintenance and repair of brakes, suspension, and transmission systems.
3. Perform diagnostics using modern tools on vehicle electronic and mechanical systems.
4. Work on air conditioning and refrigeration systems in transport vehicles.
5. Use quality control techniques for performance and safety compliance.
6. Apply knowledge of automotive fuels, lubricants, and alternative systems.
7. Implement shop-floor safety practices and customer service ethics.

Employment Opportunities

On successful completion of this course, the trainees shall be gainfully employed in the following areas:

1. Automotive dealerships and authorized service centers
2. Manufacturing and assembly units of automotive OEMs
3. Vehicle inspection and certification agencies
4. Government and private transport fleets
5. R&D centers for automotive technology
6. Auto component and spare parts companies
7. Startups in mobile automotive servicing
8. Self-employment in garages or service workshops

Further Learning Pathways

- Eligible for Master's or PG Diploma in Automotive Engineering.
- Can pursue international certifications in hybrid/electric vehicle servicing.
- Entrepreneurship programs or business incubation in the mobility sector.

Eligibility for Admission

- 2-year ITI qualification OR 10 + 2 or its equivalent (any stream)

2. BACHELOR IN MECHATRONICS TECHNOLOGY

1. COURSE DESCRIPTION

The Bachelor in Mechatronics Technology is an interdisciplinary program that combines mechanical engineering, electronics, computer control, and automation. With the rise of Industry 4.0 and smart manufacturing, the demand for professionals who can integrate sensors, actuators, control systems, and digital technologies is growing rapidly across industries.

This program imparts essential hands-on skills in mechanical-electronic integration, problem-solving, and system-level design thinking, empowering graduates to work in high-demand industries like manufacturing, robotics, automotive, aerospace, and consumer electronics.

After successful completion of this course, the trainees shall be able to perform the following skills with proper sequence:

1. Interpret and apply principles of electronics, sensors, and actuators in automated systems.
2. Design and maintain integrated systems involving mechanical and electronic components.
3. Work with CNC machines, microcontrollers, and PLC programming.
4. Apply robotics, artificial intelligence, and IoT technologies in industrial settings.
5. Handle diagnostics, testing, and quality control in smart manufacturing.
6. Implement Industry 4.0 standards for efficiency and automation.
7. Collaborate on system integration projects across domains.

Employment Opportunities

On successful completion of this course, the trainees shall be gainfully employed in:

1. Smart manufacturing and automation firms
2. Robotics and AI solution providers
3. Electric vehicle design and control system development
4. Aerospace and defense equipment manufacturing
5. Industrial control and instrumentation companies
6. Automation in healthcare, agriculture, and logistics
7. Mechatronics product R&D and testing labs
8. Self-employment or consultancy in embedded automation systems

Further Learning Pathways

- Master's/PG Diploma in Robotics, AI, or Automation.
- Certifications in Industry 4.0, IoT, PLC, and Embedded Systems.
- International research fellowships and advanced internships in mechatronics.

Eligibility for Admission

- 2-year ITI qualification OR 10 + 2 or its equivalent (any stream)

3. BACHELOR IN REFRIGERATION AND AIR CONDITIONING

1. COURSE DESCRIPTION

The Bachelor in Refrigeration and Air Conditioning (RAC) programme offers an in-depth understanding of air conditioning and refrigeration systems, including their everyday operations, maintenance, diagnostics, safety, and the latest technologies.

It is ideal for:

- Maintenance Technicians
- HVAC Operators & Technicians
- Multi-Craft Tradespeople
- Building Maintenance Managers
- Professionals seeking skills in RAC servicing

After successful completion of this course, the trainees shall be able to perform the following skills with proper sequence:

1. Understand fundamentals of electricity and electronics as applied in RAC systems.
2. Install and maintain domestic and commercial refrigerators and air conditioners.
3. Perform routine servicing, safety checks, and emergency actions.
4. Troubleshoot faults using modern diagnostic methods.
5. Operate and maintain chillers and smart air conditioning systems.
6. Follow energy efficiency practices and environmental safety norms.
7. Comprehend and apply regulatory and legal policies in the HVAC industry.

Employment Opportunities

On successful completion of this course, the trainees shall be gainfully employed in the following sectors:

1. Residential and commercial HVAC service companies
2. Facility and infrastructure maintenance organizations
3. Cold chain logistics and refrigerated transport
4. Retail chains, malls, and corporate office maintenance
5. Energy-efficient AC solution providers
6. Food and pharmaceutical industries (cold storage)
7. Public sector industries and green building projects
8. Self-employment in RAC service and installation

Further Learning Pathways

- Trainees can pursue specialized certifications in Green HVAC, Chiller Systems, or Smart AC Controls.
- Eligible for Master's or PG Diploma in HVAC/R Design & Technology.
- Can apply for international internships or work in energy conservation projects.

Eligibility for Admission

- 2-year ITI qualification OR 10 + 2 or its equivalent (any stream)

C. MAHARASHTRA STATE BOARD VOCATIONAL EDUCATION EXAMINATION (MSBVEE) COURSES -1 YEAR

1. AUTOMOBILE MECHANIC TECHNICIAN - Ford Asset

The objective of vocational education, in the context of the fulfilment of the national goal, is to train the students for self-employment.

After successful completion of the above course, the trainee will be able to perform the following tasks with proper sequence.

1. Repair, service and overhaul motor cycles, auto rickshaws, scooters, etc., to make and keep them roadworthy.
2. Examine a motor cycle or scooter to locate faults by running the engine in stationary position or by driving it on the road.
3. Dismantle parts such as engine, ignition system, dynamo forks, shock absorbers, gear box etc., as necessary.
4. Grind valves, set timings, reline brakes, re-bush steering mechanism, replace worn out parts, assemble gear box, clutch, etc.
5. Perform other tasks to effect repair, clean and set carburettor, fit driving chain, wheels, silencer, kick, gear, clutch and brake levers and other accessories.
6. Adjust control cables for brake, clutch and accelerator, set tappets and wheel alignment, tighten loose parts and make necessary fittings and connections.
7. Change engine and gear box oil, start engine and tune it up.
8. Test performance of vehicle by driving on road and make further adjustments to remove defects noticed if any.
9. May assemble motor cycles or auto-rickshaws.

Automobile Mechanic Technician can have ample opportunities if skills are learned with commitment.

- Can seek employment as a Technician in any Automobile concern / Garage .
- Can start an Automobile repair shop / Garage.

2. AIR CONDITIONER MECHANIC

Air Conditioning Mech. course by MSBVEE, has been evolved in such a way that after completion of the course of 6 months, the student would acquire good working skills suited to work as an Air Conditioning Mechanic. He would also gain confidence in handling all types of tools and equipment. The trainee will also be certified with Bosco Tech & Acme Certification.

The trainee will develop skills in Air Conditioning repairing, brazing, handling tools and equipment and have adequate knowledge of maintenance of air conditioners.

The Course will generally comprise of servicing of Air-Conditioners & Refrigerators. This will fulfill the long felt need of availability of lower grade Technician in this field.

After completion of the course, the trainee would be able to open service centre or work with wage employment.

II. NSDC / DON BOSCO TECH CERTIFICATE COURSES

1. EV SERVICE TECHNICIAN

On completion of this course, trainees will have a sound knowledge of:

- Safety to be observed while working with electric vehicles.
- Fundamental electrical and electronics concepts.
- Importance of earthing.
- How do common semiconductors like diodes, transistors etc. work
- Working knowledge of power electronics.
- How do batteries work, different kinds of batteries used in electric vehicles.
- How do motors work, different kinds of motors used in electric vehicles.
- EV Charging and charging infrastructure.
- EV power transmission.
- Sensors used in EVs.
- EV troubleshooting.

Trainees will be able to perform the following tasks:

- Mount the electric vehicle safely on a ramp/vehicle lift.
- Mount/unmount the EV battery pack, use of battery lifter.
- Assemble/disassemble the EV motor.
- Remove/replace key sections like on-board charger, power distribution unit, motor controller unit etc.
- Diagnose and troubleshoot common faults in an EV.
- Retrofitting (conversion) of ICE 2/3-wheeler into EV.
- Build a basic battery pack by spot welding.
- Common servicing tasks like replacing brake/gear fluids, coolant, etc.

Employment opportunities:

On successful completion of the course the candidates can either get employed, or become self-employed Entrepreneurs in any one of the following fields

a) Wage Employment:

1. EV Service Technician at Dealerships or Independent Garages: Working for EV dealerships or garages to perform routine maintenance, basic repairs, and diagnostics on electric vehicles.
2. Battery Technician (Entry-Level): Assisting senior technicians with tasks related to EV battery pack maintenance, removal, and installation.
3. EV Charging Station Installer Assistant: Working with companies that install EV charging infrastructure, helping with the physical installation under guidance.
4. EV Fleet Maintenance Assistant: Supporting the maintenance of electric vehicle fleets for companies or government organizations.
5. Component Replacement Technician: Focusing on replacing specific, modular components in EVs like the on-board charger or motor controller.
6. Assistant in EV Retrofitting Workshops: Helping skilled technicians in workshops that convert petrol/diesel vehicles to electric.
7. Basic EV Assembly Line Worker: In EV manufacturing plants, assisting with the assembly of electric vehicle components.
8. EV Wiring Harness Companies: Learning the assembly and quality checks of the complex wiring systems (harnesses) used in EVs. Your electrical knowledge is directly applicable here.
9. Junior Technician in Testing/Validation (Ancillary/Harness): Assisting engineers in testing the performance and reliability of EV components or wiring harnesses.
10. Logistics/Inventory Assistant (EV Parts): Working with the supply chain of EV components, understanding what parts are needed for service and manufacturing.

b) Self-Employment:

1. Mobile EV Service for Basic Issues: Offering on-site service for common EV problems like tire changes, basic diagnostics etc.
2. EV Cleaning and Detailing Services (Specialized): Focusing specifically on the unique cleaning needs of EVs, including the charging port area.
3. EV Accessory Installation: Installing accessories like dash cams, chargers, or lighting in electric vehicles.
4. EV Retrofitting for 2/3 Wheelers (Small Scale): If you gain expertise in retrofitting, you could start a small workshop focusing on converting scooters and auto-rickshaws to electric.
5. EV Charging Station Maintenance (Local): Offering basic maintenance and troubleshooting services for privately owned EV chargers in your neighborhood.
6. Consultation for EV Owners (Basic): Offering basic advice to new EV owners on charging, maintenance, and general care.

Further learning pathways:

The skills gained from this course provide a solid foundation for entering the growing EV service industry in various roles. As you gain experience, both in jobs and potentially through your own ventures, you can specialize further and pursue more advanced opportunities. Starting with simpler roles or services will help build expertise and network in the EV sector.

2. ASSISTANT BEAUTY THERAPIST – 3 MONTHS

The Assistant Beauty Therapist course, offered by Don Bosco ITI, is NSDC certified and is a comprehensive 3 months program designed to equip trainees with essential skills for a successful career in the beauty industry. Spanning 330 minutes daily, the course provides hands-on training in threading, waxing, manicure, pedicure, basic skin care, simple makeup, hair styling, and mehendi application. It also emphasizes professional workplace practices, customer service, and safety standards. Through practical sessions, guest lectures, role plays, and assessments, trainees gain the confidence and expertise needed to excel in beauty therapy roles or start their own ventures.

Employment Opportunities:

On successful completion of the course, candidates can either get employed or become self-employed in one of the following fields:

a) Wage Employment

1. Assistant Beauty Therapist
2. Salon Assistant
3. Manicurist/Pedicurist
4. Makeup Artist Assistant
5. Hair Styling Assistant

b) Self-Employment

1. Freelance Beauty Therapist
2. Mobile Beauty Service Provider
3. Mehendi Artist
4. Makeup and Hair Stylist
5. Beauty Product Retailer

Further Learning Pathways:

- On successful completion, trainees can enroll in advanced beauty therapy courses or apprenticeships in reputed salons.

3.. MULTI SKILL TECHNICIAN (3 months)

The **Multi Skill Technician – Home Appliances** course at Don Bosco ITI is a 3-month, NSDC-certified program delivered in collaboration with leading industry partners. The course equips trainees with the technical and customer-handling skills needed to service and repair commonly used home appliances.

TRAINEES WILL LEARN TO SERVICE:

- WASHING MACHINES
- REFRIGERATORS
- MICROWAVE OVENS
- AIR CONDITIONERS

The curriculum includes: Basic Life Skills & Safe Work Practices, Fault Diagnosis & Troubleshooting Techniques, Technical Skills for Repair & Installation, Customer Interaction & Service Etiquette

Training is delivered through practical sessions, role plays, real-time demos, and expert-led guidance to ensure hands-on experience.

EMPLOYMENT OPPORTUNITIES

WAGE EMPLOYMENT ROLES: Home Appliance Service Technician, Field Technician – Appliances, Customer Care Technician, Installation Technician, Service Centre Technician, Laboratory Assistant

SELF-EMPLOYMENT ROLES: Independent Appliance Repair Technician, Appliance Installation & Maintenance Services, Spare Parts Dealer (Home Appliances), Home Appliance Sales & Service Provider

FURTHER LEARNING PATHWAYS

Trainees can progress to: Advanced Technical Training Courses, Specialized Appliance Servicing Certifications, Apprenticeships with Reputed Industries

4. COMPUTERISED NUMERICAL CONTROL PROGRAMMING & OPERATING (90 hrs)

This course trains the candidate to develop skills in CNC programming to boost employability. It teaches the concepts and operations of CNC to candidates who have passed I.T.I./NCVT in the Trade of Turners and Machinists or 3 years of work experience in Industry.

The course contents:

1. Computer Basic Training, CNC Fundamental Classification and working system.
2. Difference between CNC and NC. Advantages and disadvantages of CNC.
3. What is a G code and M code and how to use it. How to use G90 (ABS) & G91 (INC) Group 1G code.
4. Simple programming on Graph paper.
5. How to use NC to verify software. How to use G02 and G03 with I JK (circular I.P.).
6. How to use subroutine and file editing. Introduction of CNC machine & controlling system.
7. How to take Data Settings. How to use all cycles. Planning of job operation, tool path, simulation, setting, clamping and holding.

8. How to use CNC & DNC. Full practical on industry grade and CNC milling machine. Hands on experience on programming and processing of Industrial jobs CNC milling machine (with Siemens Controller and Preventive maintenance).

5. AUTOTRONICS TECHNICIAN (6 months)

After successful completion of the above course, the trainee will be able to perform the following tasks with proper sequence.

1. Install, repair, replace and overhaul wiring, starters, generators, distributors and other electrical equipment of motor vehicles.
2. Examine vehicle battery, check voltage and specific gravity using special equipment such as voltmeter hydrometer, heavy discharge tester, etc. and ensure that battery is in good condition.
3. Check vehicle wiring, locate faults and rectify defects by replacing damaged wire or connecting ends with insulation tape.
4. Start engine to check whether alternator is charging correctly, and if distributor, condenser coil and cut out are functioning properly.
5. Estimate nature of defects and report components to be replaced or repaired.
6. Dismantle and repair electrical units and components such as generator, distributor etc. where required.
7. Replace repaired kit or unit in vehicle and connect it with battery.
8. Conduct thorough examination of various electrical fittings such as lights, panel indicators, fuel pumps, etc. and rectify defects.
9. Check condition and make necessary adjustments. May do armature winding. May drive vehicles on road. May charge batteries.
10. Fit, assemble and repair various kinds of electronic equipment in factory or workshop or at place of use.
11. Examine drawings and wiring diagrams; check parts for accuracy of fit and minor adjustments; assemble parts or mount them on chassis or panels with aid of hand tools; Install and connect wiring, soldering joints equipment, diagnose faults with aid of electronic testing equipment;
12. Dismantle equipment if required and replace faulty parts or wiring.

Training Stand:

1. Functional Model – Sensors/ Actuators, CAN BUS System, Locktronics CAN BUS System (Basic CAN BUS System Learning), Dual Zone Climatronic Control.
2. Working with maintenance plans, circuit diagrams, terminal designations, cables, cable connections.
3. Document, analyze and evaluate the measured values, signals and error logs.
4. Take advantage of the possibilities of workshop-standard measuring and diagnostic devices.
5. Identification of individual components and getting to know their operating characteristics and parameters.

6. Check individual components and decide on necessary repair measures.
7. Documenting work results and evaluating by comparing with calculated sizes and manufacturer specifications.
8. Inclusion of problem-solving strategies or alternatives in the diagnosis.
9. Encoding ECUs, customizing software releases, and checking data communication lines in compliance with legal and manufacturer-specific regulations.
10. Testing and repair of mechanical, electrical and electronic circuits and systems.
11. Measuring and assessing electrical quantities and signals.
12. Processes in the control and in the control circuit.
13. Functions of sensors and actuators according to the EVA principle (input processing output)
14. Sequential and selective final control diagnosis, basic setting of actuators
15. Constructing a fully functional CAN BUS system with 5 MIAC Electronic Control Units (ECUs). Can be simulated z. B. Instrument panel ECU, Front ECU, Powertrain ECU and rear ECU. The fifth MIAC Electronic Control Unit is used for system diagnostics (Gateway) and for displaying CAN bus messages. It also allows you to enter errors. Tasks include, for example, building a fully functional CAN bus system, inserting faults, and troubleshooting with hardware and software fault diagnosis tools to understand and learn about the various procedures and practices.

Employment opportunities:

On successful completion of the course the candidates can either get employed, or become self-employed Entrepreneurs in any one of the following fields.

a) Wage Employment

1. Auto Electrician
2. Spare Parts Sales Assistant / Manufacturers' Representative
3. Laboratory Assistant
4. Diagnostic Mechanic
5. Car AC Mechanic

b) Self Employment

1. Diagnostic Mechanic
2. Spare Parts Salesman
3. Spare Parts Dealer

6. DRAUGHTSMAN MECHANICAL & CAD (2 Year)

Basic Mechanical Drafting & Modeling with Autocad and Solid Works.

1. Able to Read & draw various geometrical figures.
2. Able to construct various curves, scales, lines.
3. Able to draw Views of different object in both 1st & 3rd angle projection method
4. Able to draw isometric & oblique projection plans, solid & objects, sectional views of different objects.
5. Able to develop surface of various solid objects in parallel & Radial Method
6. Able to draw different curves obtained at intersection & interpenetration of solids
7. Able to Read & draw simple Machine Parts & Industrial Drawings.

8. Do the work on Mechanical 3D Modeling & design.
9. Apply this knowledge to understand the engineering design work flow process in the Manufacturing Industry.
10. Acquire knowledge of 3D design visualization.

7. DOMESTIC WIREMAN (1 Year)

The Domestic Wireman course enables a student to carry on any electrical maintenance on both Domestic and Industrial Installation & Equipment.

The course contents include:

1 Hand tools specifications, care and maintenance.
2 Fundamentals of electricity wires and cables types.
3 Electrical circuit (AC & DC) cells and batteries.
4 Wiring circuits, repair of domestic wiring and appliances.
5 Connecting, testing and running DC motor.
6 To study different types of meters, magnetism, resistors, transformers, DC generators, DC motors, AC motors (1ø & 3ø), alternator, converter, inverter, rectifier circuits, different types of lamps, electrical measuring instruments, diodes, transistors, amplifiers, oscillators.
7 Carry out simple winding, rewinding of detected faults in both AC & DC machines.
8 Repairing lighting circuits, horn circuits etc.
9 Working principles of UJT, FET, SCR, DIAC & TRIAC Stabilizer.
10 Carrying out commercial lighting for decorators, etc.