

Advance Diploma in Radio & TV Technician

Mechanic Radio & Television is an electronic component vocational trade. The duration of trade is two years with four semesters of six months each. The syllabus for the trade mainly comprises topics like maintenance, testing and repair of radio and television transmitting and receiving equipment; inspecting the signal strength of transmissions, replacing defective components such as wiring, or performing equipment inspections. There are many ITIs offering trade in the country due to its employment offering nature like government, private and self-employment.

Mechanic Radio & Television Trade Syllabus

Syllabus of Mechanic Radio & Television trade as prescribed by various ITIs.

Sr. No.	Subjects of Study
	Shop Floor Training
1	Safety: Safety precautions, first aid and artificial respiration, Elements of fire Fighting various types of fire fighting equipments.
2	Manufacturing Techniques/ Processes: The shop floor training to be given in as many manufacturing techniques/processes as possible depending upon the facilities available in the industry concerned e.g. i) Soldering, brazing and welding ii) Wire stripping & forming iii) Sheet metal working, punching & drilling iv) Finishing processes-polishing, buffing, spray painting v) Electrode position of metals on non-conductors

	<ul style="list-style-type: none"> vi) Electroplating processes vii) P.C.B. single layer-multilayer viii) Vacuum impregnation ix) Bakelite and plastic molding
3	<p>General Testing:-</p> <p>(a) Testing of components such as-</p> <ol style="list-style-type: none"> 1. Resistors 2. Coils 3. Capacitors 4. Ferrite components 5. Transducers 6. Crystals 7. Relays 8. Micro-switches 9. Plugs and sockets 10. Active components 11. Plated metal parts <p>(b) Bulk Testing of Electronic Components using Test Rigs & Jigs</p> <p>(c) Use of Test Instruments such as:</p> <ol style="list-style-type: none"> 1. Insulator Tester 2. Megger 3. Transistor Tester 4. I.C. tester 5. Logic circuit Tester 6. Logic analyzer
4	<p>Inspection: Step-wise and final inspection procedures and other quality control techniques.</p>
5	<p>Maintenance:</p> <ol style="list-style-type: none"> 1. Wiring of an electronic maintenance/test bench 2. Modern trouble shooting sequences & techniques for electronic equipments.

	<p>3. Replacement of defective components in–</p> <ol style="list-style-type: none"> Simple electronic circuits on chassis. P.C.B. circuits Hybrid circuits <p>4. Care and replacement of sockets for–</p> <ol style="list-style-type: none"> Transistors I.Cs
6	<p>Transformers & Coils:</p> <p>(a) Care and maintenance of the following transformers:</p> <ol style="list-style-type: none"> Power A.F.-Input-Driver-output I.F. R.F. Rewinding of small transformers Winding of R.F. coils, deflection coils, etc. <p>Shop Training in assembling, aligning, testing and servicing of the following equipment:</p>
	<p>Domestic Electronics:</p> <ol style="list-style-type: none"> Radio Receiver (Transistor & Hybrid Versions) T.V. Receiver (Transistor and Hybrid Versions) LCD/ LED P.A. Systems, Stereo Amplifier Systems VCD/DVD Player, Blue Ray player Colour T.V. Receivers, LCD, Plasma, LED TV Set Top Box, DTH Receiver
	<p>Civil Aviation and Navigation Electronic communication System: Manufacturing/repairing, Maintenance, operation, Installation and Testing of following equipment used in Navigation and Aeronautical System along with study of associated Measuring Instruments-</p> <ol style="list-style-type: none"> Radar Aeronautical Equipment.

	<p>3. Navigation Equipment. 4. Satellite Based Communication 5. Global Positioning System 6. GPRS System 7. GSM & CDMA Mobile technique</p>
	<p>Telecommunication Transmission System: Manufacturing/repairing, maintenance, operation, Installation and Testing of following Telecommunication transmission Equipment along with study of associated Measuring Instrument.</p> <ol style="list-style-type: none"> 1. Open wire Carrier System 2. Co-axial System 3. Analog/Digital Radio Communication System (VHF/UHF/Microwave) 4. Multiplexing: FDM, TDM Multiplexing including Higher Order Multiplexing. 5. Optical Fiber System 6. Satellite Communication
	<p>Telecommunication switching System: Manufacturing/repairing, maintenance, operation, Installation and Testing of following Telecommunication switching equipment along with study of associated Measuring Instrument.</p> <ol style="list-style-type: none"> 1. PSTN and ISDN: Different subscribers Instruments, Intercom equipment, EPABX, Mechanical and Electronic and Digital Exchanges. 2. Mobile Communication System: Cellular, Pager, Wireless Local Loop System. Global Positioning System. etc. 3. Data Communication System.
	<p>Professional Electronics: Shop Training in assembling, aligning, testing and servicing of any one or more of the following equipment:</p>

1. A.F. Signal generator, pulse generator.
2. R.F. Signal generator
3. V.T.V.M. and multi-meters
4. C.R.O. & Digital Oscilloscope
5. Power supplies and stabilizers.
6. Electronic desk calculators
7. Digital systems
8. Electronic exchanges

Digital Electronics:

1. Number System
2. Logic Gates
3. Sequential circuit
4. A to D & D to A Converter
5. Microprocessor & Microcontroller
6. PLC
7. Computer Hardware & Networking

