

COURSE MODULE			
<u>Course No. CE 28: Initial Technician-III</u>			
Duration: 13Weeks		Effective Days:78	
S. N.	CM No.	Subjects	Periods
1	28.1	Introduction to Railway Organization, P.Way and Track Machines	36
2	28.2	Electrical & Electronics	70
3	28.3	Hydraulics, Pneumatics & Mechanical	70
4	28.4	I.C. Engine & Workshop Technology	70
6	28.5	Track Machines & Working Principles	70
7	28.6	Establishment, Stores & Rajbhasha	20
8	28.7	Group Inter Personal Skill Development (GIPSD)	10
9	28.8	Computer	10
10	28.9	Technical Film Show	10
11	28.10	Library	08
12	28.11	Visit to CPOH & Track Machines Working Sites	34
13	28.12	Examination (Theory/Practical/Viva-voce)	32
14	28.13	Introduction & Valediction	2
		Total	442

- Note:**
- 1. Eligibility:** Directly Recruited Technician-III and such Promoted Technician-III, who has no exposure of track machines working.
 - 2. Medical Awareness Programme** shall be covered under Module No. 28.6. Faculty for this programme may be drawn from Medical Department.
 - 3. Faculty for GIPSD** may be drawn from CBWE, Min. of Labour & Employment or from Management Institutes.
 - 4. Computer, Technical Film Show and Library periods** shall be scheduled during the afternoon session.
 - 5. To bridge the gap between theory and practical,** fortnightly visit to CPOH for demonstration and giving hands-on training and monthly visit Track Machines Working Sites for proper understanding of machine working shall be arranged.
 - 6. Practical demonstration in Model rooms** shall be given along with theoretical sessions as and when required besides Practical sessions specifically earmarked for Model Rooms.

PROMOTIONAL COURSE – INITIAL TECHNICIAN

Course No.CE 28

Module No.28.1

Duration: = 36 Periods

SUB: Introduction to Railway Organization, P.Way and Track Machines

Sub-discipline	Lesson	Session wise Contents	Periods	Total Period
Track Technology	Introduction to Railway Organization.	History of Railways, Zonal Railways, Divisions, Production units. Track machine Organization on Indian railways,	1	2
		Organization at headquarters and Divisional levels, CPOH etc.	1	
	Railway Track and Rails	Constituents of Railway Track. Requirements of Good Railway Track, Classification of Routes.	1	2
		Different Gauges. Functions, Types & Standard Rail Section, Standard length, Rolling marks & UTS.	1	
	Sleepers and Fastenings	Functions, Types & Sleeper Density, Requirements of PRC sleepers- their advantages and disadvantages	1	2
		Rail to Rail fastenings, Rail to Sleeper fastenings	1	
	Points Crossings	Functions & Important terminology, Constituents of Turnout,	2	6
		Switch Angle, Flange way clearance, Heel divergence Throw of switch	2	
		Types of Crossings, Crossing number & Main constituents of Built-up Crossing.	1	
		Yard Visit	1	
	Welding Rails	Evil effects of Rail joints.	1	6
		Different types of welding	1	
		Welding Terminology, Theory of Welded rails	2	
		Thermal forces in LWR	1	
		Yard visit	1	
	Track Renewals	Classification of Track Renewals.	2	2
	Maintenance of Track	Provisions on Works incidental to Regular Track Maintenance with thrust on Deep Screening.	1	4
		Provisions on Maintenance of Track in Track Circuited Areas as contained in IRPWM	1	
		Provisions on Maintenance of Track in Electrified Areas as contained in IRPWM	1	
		Precautions during Machine working	1	
	Engineering Restrictions & Indicators	Categories of Engineering Works, Engineering Fixed Signals/Indicators: Temporary and Permanent	1	2
		Emergency Protection of track: Single Line& Double Line, Detonators & Flare Signals.	1	
	Railway Curves	Necessity of curves: their types	1	6
		TTP, CTP& Transition lengths	1	
		Radius, Degree, Versine and Field Measurement	1	
		Super-elevation: Cant deficiency, Cant excess	1	
		Cant gradient, Equilibrium cant	1	
		Field Visit curve	1	
	Track Tolerances	Different Track Parameters	1	2
		Service tolerances	1	

	IRTMM	Introduction of Track Machines in chronological order, different types of track machines on Indian Railways, their Functions and output.	1	2
		Duties of AEN, SSE, Operator & Technician.	1	
		Total	36	36

PROMOTIONAL COURSE – INITIAL TECHNICIAN

Course No.CE 28

Module No.28.2

SUB: ELECTRICAL & ELECTRONICS SYSTEM

Duration: = 70 Periods

Sub-discipline	Lesson	Session wise Contents	Period	Total Periods
Electrical System:	Fundamentals of Electricity	Symbols, Basic Concept of Voltage and Current, Ohm's law, Power law, Resistor: Definition, Unit, Symbol, Power Rating, Tolerance, Types	1	2
		Resistor: Definition, Unit, Symbol, Power Rating, Tolerance, Types	1	
	Electrical Components	Resistor: Color coding, Combination, Application, Combinations, Faults & Troubleshooting.	1	4
		Capacitor: Definition, Unit, Symbol, Types, Combinations, Application, Faults and Troubleshooting	1	
		Inductor: Definition, Unit, Symbol, Types, Combinations, Application, Faults and Troubleshooting	1	
		Checking of Resistor, Capacitor and Inductor in Electronics Model Room.	1	
	Auto Electrical	Battery: Definition of Cell & Battery, Types, Rating, Specific Gravity.	1	14
		Battery Construction Working of Lead-acid Cell & Battery, Maintenance, Testing by Hydrometer and Load Tester	1	
		Alternator, Regulator: Construction, Working, Maintenance and Troubleshooting	1	
		Self starter :Construction, Working, Maintenance and Troubleshooting	1	
		Relay: Definition, Construction & Operation, Types, Pin diagrams,	1	
		Testing. Demonstration, checking and testing of Relays in Electronics Model Room	1	
		Engine Circuit: Description, Functions, Types, Safety Components, Faults& Troubleshooting	2	
		ZF Circuit: Description, Functions, Types, Safety Components, Faults& Troubleshooting	2	
		Description & Functions of Lighting circuits of different machines	1	
		Description & Functions of Warning circuits of different machines	2	
		Description & Functions of Locking and Unlocking circuits of different machines	1	
Electronic System: Lessons:15 Sessions:24	Fundamentals of Electronics	Symbols, Nomenclatures, Fundamentals of Electronics and Applications.	1	2
		Active components & Passive components	1	
	Semiconductor Theory	Difference between Conductor, Semiconductor & Insulator, Properties of Semiconductor, Covalent Bonds, Energy Bands,	1	2
		Types of Semiconductor i.e .Intrinsic, Extrinsic- P Type & N Type	1	

	Semiconductor Diode:	Semiconductor Diode: Construction, Working,	1	4
		Forward bias & Reverse bias, V-I Characteristics of P.N. Junction	1	
		Application as Rectifier - Half wave & Full wave Rectifiers- Centre Tap and Bridge Rectifier, Polarity, Protection Device	1	
		Types, Construction, Working, Application Of Zener Diode, LED, Photo Diode.	1	
	Transistor	Construction, Description of Terminals, NPN & PNP Transistor, Mode of Connections, Amplifying function, Applications as Switch & Amplifier, Testing	2	4
		Demonstration, checking and testing of Diodes And Transistors in Electronics Model Room	2	
	Transducer	Principle, Classification, Types, Function of Tamping Depth Transducer.	1	6
		Function of Lining & Transducer, Measuring Transducer, Height Transducer, Encoder	2	
		Function of Satellite Transducer & Hook Transducer:	1	
		Calibration, Demonstration, checking and calibration of Transducers in Electronics model room	2	
	Operational Amplifier	Definition, Symbol, Function of each terminal, Open loop, Close loop, +ve feed back, -ve feed back, Characteristic,	1	2
		Application of Operational Amplifier as Buffer, Inverter, Non Inverter, Adder, Subtractor, Integrator etc.	1	
	Digital Electronics	Number system i.e. Binary, Decimal, Hexadecimal,	1	2
		Logic Gates , Basic Idea of Microprocessor	1	
	Electronic Circuits and PCBs:	Discrete Circuit & Integrated Circuit: Advantage & Disadvantage,	1	2
		PCBs used in different machines: Description, Name Quantity and Functions	1	
	Power Supply	Need, Types, DC to DC Converter & Regulator, Functional description of Power supply PCBs EK813SV, EK816SV.	1	4
		Functional description of Power supply PCBs EK819SV, EK 812 SV and EK851SV	1	
		Demonstration, checking, Troubleshooting and calibration of Power supply PCBs in Electronic Model Room.	2	
	Programmer unit and Logic Plan	Function and Description of Programmer Unit, Description of different PCBs of Programmer Unit i.e. EK 501P,EK553P, EK552P, EK554P.	1	4
		Function and Description of Logic Plan	1	
		Demonstration of Programmer unit & Logic Plan in Electronics Model Room.	2	
	Multi-check/ Multiplexer PCB	Description of Multi-check PCB EK28V & EK 702V	1	2
		Demonstration of Multi-check PCB in Model room	1	

	Tamping Unit Control Circuit UNO/DUO/CSM/3X/3X Dynamic /Unimat	Functional Description of Tamping Unit Control Circuit of Different machines.	1	4
		Different Positions of Tamping Unit & their Description	1	
		of Proportional valve, Calibration, Troubleshooting & Fault finding	1	
		Demonstration of Tamping control PCBs in model room	1	
	Front Input Circuit: UNO/DUO/CSM/3X/3X Dynamic /Unimat	Description of Front Input Circuit of different machines.	2	4
		Front Input Potentiometer: Slew, Versine, General Lift & cant.	1	
		Basic idea of ALC, GVA and Laser Lining etc.	1	
	Lining Control Circuit, UNO/DUO/CSM/3X/3X Dynamic /Unimat	Functional Description of Lining Control Circuit of different machines.	2	4
		Lining PCBs, Basic concept of 3 Point Regulator / 3 Stage Regulator, calibration, troubleshooting & Faultfinding.	2	
	Leveling & Lifting Control Circuit of UNO/DUO/CSM/3X/3X Dynamic /Unimat	Functional Description of Leveling Control Circuit of different machines.	1	2
		Leveling PCBs, calibration troubleshooting & Fault finding.	1	
	Plasser Intellegent Control System (Pics)	Description of Plasser Intellegent Control System (Pics)	1	2
		Electronics Model Room for demonstration and calibration of Plasser Intellegent Control System (Pics)	1	
		Total	70	70

INDUCTION COURSE – INITIAL TECHNICIAN
Course No.CE 28 **Module No.28.3**
SUB: HYDRAULICS, PNEUMATICS & MECHANICAL
Duration: = 70 Periods

Sub-discipline	Lesson	Session wise Contents	Periods	Total Periods
Hydraulics	Fundamentals & Hydraulic Symbols	Introduction, Advantages of Hydraulic system and Hydraulic Symbols	1	1
	Hydraulic Oil, Hydraulic Tank	Functions and Properties of Hydraulic oil	1	2
		Functions, Parts and cleaning of Hydraulic tank.	1	
	Hydraulic Filter and Hydraulic Cooler	Functions, Types, Importance of filtration,	1	2
		Function of Hydraulic Cooler, Maintenance aspects.	1	
	Hydraulic Hose and Fitting	Functions, Types, Hose specification: DIN, SAE & EN standards	1	2
		Hydraulic Fittings, Precautions during mounting Hydraulic Hoses and Fittings	1	
	Hydraulic Seal and 'O' Ring	Functions, Types, Precautions during mounting hydraulic Seals, Causes of Failure.	1	1
	Hydraulic Pump	Functions and Classification, working and Construction of Vane pump& Gear pump,	1	8
		Practical Assembly and Disassembly of Vane pump	2	
		Working and Construction of Axial Piston Pump	1	
		Practical Assembly and Disassembly of Axial Piston Pump.	2	
		Precautions during mounting, Troubleshooting, Aeration & Cavitation	2	
	Pressure Control Valve	Working and Construction of Relief Valve & Unloader valve	1	4
		Practical Assembly and Disassembly of Relief Valve & Unloader valve	2	
		Working and Construction of Pressure reducing valve and Troubleshooting.	1	
	Direction Control Valve	Function and Types of DC valve such as Spring centered valves , spring offset valve.	1	3
		Practical Assembly and Disassembly of D.C. valve	1	
		Check valve, POC valve and Troubleshooting	1	
	Proportional Valve, Servo Valve and Flow Control Valve	Function and Troubleshooting of Proportional valve and Servo valve and flow control valve	2	4
		Practical Assembly and Disassembly of Proportional valve and Servo valve	2	
	Accumulator	Functions, Types, Working of Bladder & Diaphragm Type	2	2
	Hydraulic Cylinder	Function, Types and Parts	2	2
	Hydraulic	Definition, Working of Vane motor, Gear motor	1	3

	Motor	Definition, Working of Axial Piston motor, Troubleshooting	1	
		Practical Assembly and Disassembly of Vane motor and Demonstration of piston motor	1	
	Demonstration of Hydraulic Transparent Models	Hydraulic motor, D.C. Valves, Cylinder, Accumulator, Pressure Gauge, ,	1	2
		Pressure control valves Flow control valve, Check Valve, Pilot Operated Check Valve etc.	1	
	Hydraulic Circuits	Hydraulic circuit of, DUO, Unimat.	2	4
		Hydraulic circuit of CSM, 3X	2	
	Demonstration of Hydraulic Equipment Sets	Demonstration of Hydraulic circuits using FluidsimH Work exercises.	1	2
		Demonstration of Hydraulic circuits using FluidsimH Software & Work exercises	1	
Pneumatics	Pneumatic Symbols	Pneumatics symbols and Application of air on Track machines.	1	1
	Pneumatic Components	Working and maintenance of Air Compressor, Cooling Coil, Safety valve, Air dryer, .	1	2
		Working and maintenance of Water separator, Air oiler, DC Valve, Cylinder and Pneumatic hoses, KE valve	1	
	Pneumatic Circuits and Troubleshooting	Working circuits and Brake circuits, Failure Analysis	2	3
		Troubleshooting of Pneumatic assemblies	1	
	Demonstration Of Pneumatic Equipment Sets	Demonstration of Pneumatic circuits using FluidsimP Software & Work exercises	1	2
		Demonstration of Pneumatic circuits using FluidsimP Software & Work exercises.	1	
Mechanical	Power Transmission	Block Diagram, Types of Power Transmission,	1	2
		Transmission, 'V' belt, Chain, Pulley, Cardon Shaft.	1	
	Gear Box and Clutch Assembly in UNO/DUO	Construction and Maintenance practices of Main gear box, Clutch assembly	1	2
		Working, Construction and Maintenance practices of Reversing gear box, Six speed gear box and distributor Gear Box	1	
	Driving and Running Axle	Function, Parts and Maintenance aspects	1	2
		Setting of crown & tail pinion.	1	
	Z. F. Hydro-Dynamic Gear Box	Function and Construction, Precautions during working and Maintenance aspects	1	2
		Failure Analysis and Troubleshooting	1	

	Funk Gear Box, Reduction Gear Box and Satellite Axle Gear Box	Working, Construction and Maintenance practices.	2	2
	Tamping Unit	Function and Parts, Precautions during working& Repairing. Maintenance schedule, setting of bearings and spacers on vibration shaft	1	2
		Failure Analysis and Troubleshooting.	1	
	Lifting and Lining Unit, Bearings	Function, Assembly and Maintenance aspects.	2	2
	BCM Assemblies	Working, Construction and Maintenance practices of Excavation Chain.	1	2
		Working, Construction and Maintenance practices of Conveyor Belts and Screens	1	
	Lesson-IX-Lubrication	Oil and Lubricants used in different gear boxes, Tamping unit, Lifting unit, Screen -drum etc., types and their capacities.	2	2
	Maintenance Schedules	Maintenance Schedules and IOH/POH of machines.	2	2
		Total	70	70

INDUCTION COURSE – INITIAL TECHNICIAN
Course No.CE 28 **Module No.28.4**
SUB: I.C. ENGINE & WORKSHOP TECHNOLOGY
Duration: = 70 Periods

Sub discipline	Lesson	Session wise Contents	Period	Total Period
I.C. Engine	General	I.C. Engine & its classification , Main Systems of I.C. Engine.	2	2
	Constructional Details of Engine	Cylinder, Cylinder head Piston and Piston rings	1	6
		Connecting rod & Crank shaft. Fly wheel	1	
		Cam shaft and Sump Inlet and Exhaust valve	1	
		Push rod, Rocker arm, Valve clearance	2	
		Demonstration of Engine components in I.C. Engine Model Room	1	
	Basic Terminology & Working Principle of I.C. Engine	T.D.C., BDC, Swept volume, Clearance volume, Compression ratio, Stroke length, Cylinder bore	1	2
		Working Principle of 2 Stroke Diesel Engine	1	
	Air Supply system of Diesel Engine	Requirement of Air, Types of Air cleaner, Cleaning and Checking of Dry type Air cleaner. Drawbacks of choking of Air Cleaner	2	4
		Supercharging, Turbocharger and After cooler, Importance of After cooling	1	
		Demonstration in I.C. Engine Model Room	1	
	Fuel Supply system of Diesel Engine	Functions and classification of Fuel supply system, Block diagram	1	6
		Fuel Injection Pumps, Injectors and Filters	1	
		Mico Bosch and Cummins PT Fuel supply system.	1	
		Difference between Bosch and Cummins PT Fuel supply system Air lock	1	
		Demonstration in I.C. Engine Model Room	2	
	Lubricating system of Diesel Engine	Concept of lubrication and functions of Lubricating oil, Properties of Lubricant and Lubricating circuit.	1	6
		Different types of Lubricating systems, Oil pump,	1	
		Relief Valve, Filters, Oil Cooler, Strainer, Oil Pressure Gauge	1	
		Oil Pressure Indicating light. Blow bye, Crank case ventilation	1	
		Reasons of Low lubricating oil pressure high Oil consumption	1	
		Demonstration in I.C. Engine Model Room	1	

	Cooling system of Diesel Engine	Necessity of Cooling, Different methods of Engine cooling,	1	4
		Air Cooling system, Water Cooling system	1	
		Drawbacks of Air cooling Over water cooling and reasons for over heating	1	
		Demonstration in I.C. Engine Model Room	1	
	Maintenance Steps	Maintenance Schedules.	2	14
		Adjustment of Valve (Tappet) clearance	2	
		Adjustment of Injection timing and testing of Nozzles	2	
		Troubleshooting of Engines	2	
		Visit to TM Workshop, PD/MGS.	6	
Workshop Technology	Welding and Related Processes	Types of Welding, Gas Welding	1	4
		Arc Welding and Electrodes, Related Processes: Soldering, Brazing etc	1	
		Procedure for welding of tamping tool and defects in Tamping Tool welding Welding of BCM turret gears, main links, intermediate links	1	
		Cutter bar and grinding operation	1	
	Bench Work and Fitting	Various Tools, their uses and Bench work.	2	2
	Measurement and Inspection	Standards of Measurement	1	2
		Classification of Measuring Instruments and Linear Measurement	1	
	Limits, Fits and Surface Quality	Interchangeability, Limits, Fits	1	2
		Allowances, Tolerances and Surface finish.	1	
	Workshop Machines	Lathe Machines.	2	14
		Different Lathe Machines Operations	2	
		Drilling and Boring Machines	2	
		Shaper and Planner	2	
		Milling Machine	2	
		Gear Cutting	2	
		Workshop visit to Plasser India	2	
	Threads	Different types of threads.	2	2
		Total	70	70

INDUCTION COURSE – INITIAL TECHNICIAN
Course No.CE 28 **Module No.28.5**
SUB: TRACK MACHINES & WORKING PRINCIPLES
Duration: = 70 Periods

Sub-discipline	Lesson	Session wise Contents	Periods	Total Periods
Tamping Machines	08-Duomatic/WS T/VPR	Main features, Main assemblies and components,	1	2
		Working Principle and Power Transmission	1	
	09-32-CSM	Main features	1	4
		Main assemblies & components	1	
		Working Principle	1	
		Power Transmission	1	
	08-275-2S UNIMAT	Main features,	1	4
		Main assemblies & components.	1	
		Working Principle	1	
		Power Transmission	1	
	08-275-3S,4S UNIMAT	Main features, Main assemblies & components,	1	2
		Working Principle and Power Transmission, Difference between 2S & 3S Unimat.	1	
	09-3x Tamping Express.,3X Dynamics	Main features, Main assemblies & components	1	2
		Working Principle.	1	
Ballast Handling Machines	BCM: RM-76	Main features main units and their functions,	1	2
		Working Principle.	1	
	BCM: RM-8092U and HOTBCM	Main features main units and their functions,	1	2
		Working Principle.	1	
	FRM-80, 85F	Main features main units and their functions,	1	2
		Working Principle.	1	
	B.R.M.	Main features main units and their functions,	1	2
		Working Principle.	1	
Track Laying Machines	TLE	Main features main units and their functions	1	4
		Yard Activities, Fabrication of Panels,	1	
		Rake Formation, Amenities at Base Depot	1	
		Working Principle, Auxiliary Track and Mode of working.	1	
	TRT	Main features main units and their functions, Yard activities	1	2
		Modified BRHs & Rake Formation, Working Principle & SRs after relaying.	1	
	T-28	Main features main units and their functions,	1	2
		Working Principle	1	

Dynamic Track Stabilizer	DTS/DGS	Main features main units and their functions	1	2	
		Power Transmission	1		
RGM	RGM-72	Main features main units and their functions,	1	2	
		Power Transmission	1		
Material Handling Machines	UTV,RBMV, MDU	Main features main units and their functions,	1	2	
		Power Transmission	1		
Quality Control	Tamping Machines	Pre-requisites, Pre-tamping Operations,	1	2	
		Operations during tamping and Post tamping Operations.	1		
	BCM	Pre-requisites, Operations prior to deployment	1	2	
		Operations during Traffic Block and Post Block Operations	1		
	TLE, TRT & T-28	Pre-requisites, Operations prior to deployment,	1	2	
		Operations during Traffic Block and Post Block Operations.	1		
	Maintenance Schedule	Tamping Machines	Maintenance schedules of Tamping machines.	1	2
		BCM & FRM	Maintenance schedules of RM-76, RM-80,	1	2
Maintenance schedules of FRM-80 and FRM-85.					
DTS & BRM		Maintenance schedules of DTS	1	2	
		Maintenance schedules of BRM.	1		
UNIMAT		Maintenance schedule of 2S & 3S,	1	2	
		Maintenance schedule of 4s-Unimat.	1		
IRTMM		Introduction to IRTMM and RDSO TM Reports	Rules for Movement & Working of Track	1	4
	Machines and Planning,		1		
	Operation &Monitoring of Track Machines.		1		
	Brief on other Chapters of IRTMM and RDSO TM Reports.		1		
Working Principle	Lining	Principle of Lining Design lining,	1	10	
		Single chord system	1		
		Type of lining i.e. 4 Point & 3 Point lining	1		
		Principle of 4 Point lining & Left over error.	1		
		Calculation of V _m value on Transition & Reverse Curve, Toggle switch Direction	1		
		Non- suitability of 4 Point lining on Straight,	1		
		V _m value feeding at Reverse & Compound curve.	1		
		3 Point lining & Left over error,	1		
		Calculation of ‘V’ value, Method of feeding ‘V’ value.	1		
		Laser lining and measuring run method, Potentiometers & their calibration.	1		
	Leveling	Types of leveling system, , Double chord system	1	6	
		General lift, ramp in & ramp out, Criteria for selection of Base line.	1		

		Double chord follow up system & fixed chord system	1	
		Proportional leveling, Error reduction ratio	1	
		Cant on CSM, Method of feeding of Cant on other machines	1	
		Function of Pendulum- Front, Middle, Rear & Twist correction, Method of data feeding on Tamping Machines - Manually and by Computer (ALC	1	
		Total	70	70

INDUCTION COURSE – INITIAL TECHNICIAN
Course No.CE 28 **Module No.28.6**
SUB: P.WAY, ESTABLISHMENT, STORES & RAJBHASHA
Duration: = 20Periods

Sub-discipline	Lesson	Session wise Contents	Period	Total Periods
Establishment	Leave Rules	Various types of Leaves, Eligibility etc.	2	2
	Pass Rules	Various types of passes, Eligibility etc.	2	2
	D & A Rules	Minor Penalties	1	2
		Major Penalties	1	
	HOER	Classification and Duty roster.	2	2
Store	Introduction to Engg. Stores & Inventory Control	Stock heads of Accounts	1	2
		Disposal of released and surplus materials	1	
		Indenting procedure, Issue note and Write-off statement.	2	2
		Stock verification and Inventory Control Technique.	2	2
Medical Awareness	Medical Awareness Programme	Family Welfare, AIDS, Family Management & First Aid	2	2
Rajbhasha	Rajbhasha	Constitutional Provisions, Official Language Act 1963, Official Language Rules 1976.	2	2
		Policy Guidelines & Instructions.	2	2
		Total	20	20

INDUCTION COURSE – INITIAL TECHNICIAN
Course No.CE 28 **Module No.28.7**

SUB: GROUP INTER PERSONAL SKILL DEVELOPMENT (GIPSD)
Duration: = 10 Periods

Sub-discipline	Lesson	Session wise Contents	Periods	Total Period
GIPSD	Communication & Work Culture	Communication Skills in Railway and Importance Organization, Work Culture.	2	2
	Inter Personal Relations	Need for Inter Personal Relations in Railway Organization.	2	2
	Motivation	Motivation Skills.	2	2
	Attitude Building & Team Work	Importance of Positive Attitude , Team Work and Team Building.	2	2
	Self Development	Self Development.	2	2
		Total	10	10

INDUCTION COURSE – INITIAL TECHNICIAN**Course No.CE 28 Module No. 28.8****SUB:COMPUTER****Duration: = 10 Periods**

Sub-discipline	Lesson	Session wise Contents	Periods	Total Period
Computer	Internet & E-mail	Internet& Web-surfing,e-mailand demonstration for making e-mail ID	2	2
	Automatic Guiding, Computer,ALC,CMS,CWS & DRP	Introduction of Automatic Guiding Computer (ALC) & its Hardware, Introduction of Win ALC Software.	4	8
		Hands on ALC ,CMS,CWS & DRP	4	
		Total	10	10