



**GOVERNMENT OF INDIA (भारत सरकार)**  
**MINISTRY OF RAILWAYS (रेल मंत्रालय)**  
**RAILWAY BOARD (रेलवे बोर्ड)**

**RBE No. 107/2014**

No.E (MPP) 2013/3/22

New Delhi,

dated: 26-09-2014

The General Managers,  
All Indian Railways.

Sub: Revision of Training period for promotee JEs of Mechanical Deptt.

The Committee constituted for modification of the Training Modules of Junior Engineers selected through seniority and revision of Refresher Course for Supervisors of Mechanical Department has submitted its report.

2. After considering the Report submitted by the Committee, Board (MM, MS) have approved that the training module for promotee JEs of Mechanical Department (selection on seniority-cum-suitability basis) would consist of 13 weeks. The Training Modules/detailed course contents are enclosed at Annexure- I & II.

3. The revised training module will constitute of 8 weeks of Theoretical Training at STC and 4 weeks of Practical Training – one week each at Production Unit/POH Workshop and two weeks on the job in the parent unit. The last one week of training will be at STC for exam/vivo etc. The revised training module will be applicable to the trainees reporting for training after issue of this letter.

4. Kindly acknowledge receipt.

DA: Training Module (Annexure I & II)

Hindi version will follow

  
(Anuradha Singh)  
Director(MPP)  
Railway Board.

**ANNEXURE 'I'****Revised Training Programme For Promotee JEs(Selection on Seniority-cum-suitability basis)**

<b>Session-I (Theory)</b>				
<b>S.No.</b>	<b>Training Module</b>	<b>Subject Code</b>	<b>No. of Days</b>	<b>Approx. No. of Weeks</b>
1.	Industrial Safety, First Aid & Fire Fighting	MRT-17	3	1
2.	Accident and Disaster Management	MRT-19	2	
3.	Industrial Engg.	MET-13*	1	
4.	Supervisory Skills	MRT-20	3	1
5.	Technical English	MRT-22	3	
6.	Computer Awareness	MRT-21	6	1
7.	Manufacturing Process	MET-12*	4	1
8.	Engineering Drawing	MET-16	2	
<b>Sub Total (Theory)</b>			<b>24</b>	<b>4</b>
9.	Stream specific (Theory) C&W Stream	MCT-06 MCT-07	<b>24</b>	<b>4</b>
	Diesel Stream	MDT-07E MDT-07M		
	Workshop Stream	MWT-05		
<b>Session-II (Practical Training)</b>				
10.	Practical Training at Production Units		6	1
11.	Practical Training at POH Workshop		6	1
12.	On the Job Training		12	2
<b>Sub Total(Practical)</b>			<b>24</b>	<b>4</b>
<b>Session-III (Refreshing/Exam/Viva etc.</b>				
13.	Refreshing/Exam/Viva at STC		6	1
<b>Grand Total</b>			<b>78</b>	<b>13</b>

\*As per existing syllabus

## ANNEXURE-II

Subject Name	Industrial Safety, First Aid & Fire fighting
Subject Code	MRT 17
Module	MJP – C,D & W
Duration	3 days

Sl.No.	Topic
1	Causes of fire, identification of unsafe conditions and unsafe acts
2	Identifying and handling of various types fire extinguishers, precautions to be take while extinguishing fire
3	Scope and rules of first aid, structure and function of body, General idea about circulation of blood, wound and haemorrhages, Dressing & Bandages.
4	Shocks & its management, Asphyxia & Artificial respiration, Render first aid to the burn injuries, Rendering first aid to the burn injuries, Rendering first aid to persons affected by suffocation, and communication.
5	Injuries to bones & joints – fractures, unconsciousness and general rules for the treatments of unconscious persons
6	Transport of injured persons, stretcher exercise
7	Principles of Accident, Causes & Prevention, unsafe act & unsafe condition, safety on small tools and electrical appliances, Housekeeping and Material Handing
8	Role of supervisors on safety, Accident reporting & investigations
9	Review

Subject Name	Accident & Disaster Management
Subject Code	MRT 19
Module	MJP – C,D & W
Duration	2 days

Sl.No.	Topic
1	Rail wheel interaction
2	Permanent way parameters, reading in permanent way
3	Rolling stock parameters, readings in rolling stock
4	Signal aspects to be recorded at the accident site
5	Duties of officials at Accident site, Duties of on board staff at Accident site, Role of supervisors at the accident site
6	Features of disaster management, Civil defence & First Aid
7	High Level safety Committee and Railway Safety Review Committee recommendations & Corporate safety plan
8	Rescue techniques – medical relief
9	Review

Subject Name	Supervisory skills
Subject Code	MRT 20
Module	MJP – C, D & W
Duration	3 days

Sl.No.	Topic
1	Role of supervisor in mechanical department
2	Leadership & leadership style
3	Motivation
4	Communication
5	Time management
6	Stress management
7	Interpersonal skills
8	Review

Subject Name	Computer Awareness
Subject Code	MRT 21
Module	MJP - C, D & W
Duration	6 days

SLNo.	Topic
1	Introduction to computers and applications of computers/windows
2	MS Word
3	MS Excel
4	MS Power point
5	Internet usage
6	Review

Subject Name	Technical English
Subject Code	MRT 22
Module	MJP - C, D & W
Duration	3 days

SLNo.	Topic
1	Communication Vocabulary
2	Grammar – Important terms
3	Common errors
4	Official/Business correspondence
5	General Report writing
6	Technical Report writing

Subject Name	Engineering Drawing
Subject Code	MET 16
Module	MJP – C, D & W
Duration	2 days

Sl.No.	Topic
1	Introduction and Use of Drawing Instruments
2	Geometrical Construction
3	Lettering and Dimensioning
4	Scales
5	Symbols used in Engineering drawing
6	Sketching simple objects
7	Principles of Projections
8	Orthographic Views
9	Isometric drawing



Subject Name	C&W Theory
Module	MJP - C
Duration	24 days.

Subject Code MCT 06(Mechanical)		Subject code MCT 07 (Electrical)	
S.No.		Topic	
1.	Overview of C&W organization	1	Design features of various wagons
2.	Design & construction of coaches	2	Wagon manufacturing use of Huck bolts
3.	Air brake system	3	SS wagon, A1 wagons, Higher Axle load wagons
4.	Vacuum brake system	4	Train examination of goods stock CC, Premium
5.	Bogies Mounted Brake System	5	Container wagon - BLC train operation & maintenance
6.	Maintenance manual	6	WILD, Hot box detector, track side bogie monitoring system
7.	Couplings	7	Repair and maintenance of goods stock/ROH
8.	Passenger and Amenity fittings	8	Tank wagon repair and maintenance
9.	IRCA part IV	9	IRCA part III
10.	Maintenance manual Couplings	10	ODC
11.	Repair and maintenance of coaching stock	11	Brake binding causes & remedies
12.	Brake power rules	12	Train parting causes & remedies
13.	Train lighting and AC	13	Accident Relief train
14.	LHB coaches	14	Derailment mechanism
15.	DEMU air suspension	15	Accident Investigation
16.	Depot sores management	16	ART/MFD maintenance
17.	Role of supervisors to minimize sick, coach detachment, ineffective %	17	Prevention of accident on C&W account
18.	Visit to major coaching depot	18	Layout of coaching/Goods yard & infrastructural facilities
		19	Disaster management, role of supervisors
		20	Marshalling of trains
		21	Visit of major goods depot
		22	Review

Subject Name	Diesel Locomotive Theory
Module	MJP - D
Duration	24 days.

Subject Code MDT 07M (Mechanical)		Subject code MDT 07E (Electrical)	
S.No.		Topic	
1.	Power pack - Cylinder head, cylinder liner, connection rod, cam shaft etc	1	Various types of Transmission, feature of an Idea transmisslon in Diesel Loco, DC-DC, AC-DC, AC-AC transmisslon
2.	Supercharging principles, methods and various testing parameters, Air brake and Vacuum brake system	2	Various rotating equipments such as TG, TM, EG, AG, DB Blower, CCEM, ECC, TACHO, Fuel booster motor escription/Overhauling/ Repair/ Testing, common problems & remedy
3.	Air compressor/Exhauster, types, function and overhauling procedures	3	Excitation systems, Dynamic brake system, Transition system - circuit analysis, defects and remedy
4.	Fuel system - components, function, defects and remedy, Fuel injector	4	Microprocessor based controls
5.	Lube oil system - components, function, defects and remedy	5	Types of governors, overhauling, testing methods
6.	Cooling water systems - components, function, defects and remedy, Radiator fan - principle, operation and maintenance	6	Various safety devices and alarm fitted in Loco - working principles
7.	Layout of shop and shed and schedule of maintenance	7	Testing of Engines - Dry-n-Test, Blow by test, Random test, Load Box testing, MU operation testing.
8.	Loco maintenance procedure, wheel specification, bearing fitment, suspension system		
9.	GM Locos		

Subject Name	Workshop Theory
Subject Code	MWT-05
Module	MJP – W
Duration	24 days

Sl.No.	Topic
1	Organization set up of Railway from Board to Workshop
2	Functions of each department in Shop
3	Layout of Workshop with important facilities for each shop functions
4	Role of Workshop, different shops and its functions in brief
5	Role of Supervisors in Workshop and their responsibilities
6	Material handling methods and equipments
7	Jigs, Fixture and Gauges
8	Quality management system (QMS) and TQM
9	ISO and EMS system in workshops
10	Value Engineering, types of needs and demands
11	Production planning & Scheduling
12	Process inventory control
13	Industrial safety requirement and procedure
14	Drawings usage, preparation, modification and its record maintenance
15	Job costing
16	Standardization, Rationalization, Specification etc
17	Inspection and testing procedures DT and NDT methods
18	CMT lab functions
19	POH procedure of Carriages and Wagons
20	Corrosion repair practices in Coaches and Wagons
21	Performance indices
22	Airbrake system and POH procedures and testing methods
23	Coach body repair
24	Modification on Coaches for crash worthy concept
25	Under gear system and its POH procedure
26	Wheel shop
27	NTXR examination on Coaches and Wagons
28	Stores drawal procedure
29	Stocking application procedure for new stock items
30	Workshop manufacturing suspense
31	Work order system and procedure
32	On cost booking and methods to reduce On cost
33	Condemnation and return to stores
34	Machineries plants and equipment used in workshops
35	Machinery & Plant maintenance
36	Painting schedules and types of paints used in C&W
37	Workshop visit
38	Revision