SESSIONAL DETAILS

RJEs BATCH - R 15/ (TSD/SSB & NDLS Div.)

No. of Trainees – 2+1 (From T.No- 518 to 520)

Ist Session – 23.12.2024 to 19.01.2025
IInd Session – 20.01.2025 to to 16.02.2025

Note- The Dates of the theoretical session could be changed as per the Line Training schedule.

Days/Period	I (09:40-10:40)	II (10:40-11:40)	III (11:55-12:55)		IV (01:45-02:45)	V (02:45-03:45)	VI (04:00-05:00)
Monday	NCJ	Ads	RCS	**12:55 to 01:45 LUNCH**	PR	DK	AY
Tuesday	AdS	RCS	PR		AnS	AS	AKS
Wednesday	RCS	PR	AY		ALS	AKS	MK
Thursday	PR	DK	AS		AKS	MK	NCJ
Friday	AY	ALS	AKS		MK	NCJ	AdS
Saturday	9:40-10:35 ALS	10:35-11:30 AKS	11:40-12:35 RCS	12:35-01:30 AnS			

AKS - Shri Avadhesh Kumar
NCJ - Shri Naveen Chandra Jaiswal
PR - Shri Pushpak Ranjan
DK - Shri Dipesh Kumar
AS - Shri Abhishek Shukla
AdS - Shri Adarsh Soni
RCS - Shri Ratnesh Chandra Srivastava
AY -Anuj Yadav
ALS -Alok Srivastava
MK - Manish Kumar
AnS - Anurag Singh

NAVEEN CHANDRA JAISWAL
Digitally signed by NAVEEN CHANDRA JAISWAL
Date: 2025.01.02 11:20:27 +05'30'

Sr. Lecturer

Encl: Module & Subject details.

Module Code

1.	M	Mechanical
2.	SE	Section Engineer
3.	JR	JE- RRB
4.	JI	JE- Intermediate
5.	JP	JE-Promotional
6.	C	C&W
7.	D	Diesel
8.	W	Workshop

Subject Code

1.	M	Module
2.	R	Railway
3.	E	Engineering
4.	T	Theory
5.	C	C&W
6.	D	Diesel
7.	W	Workshop

For T.No-518

MODULE - MJP D

Name of the Post /Category	Junior Engineer
Stream	Diesel
Mode of Appointment	Promotion Through seniority
Min. Qualification	----
Total Duration of Training Period	13 weeks

Session	Type	Subject	Subject code	Duration in days	Activity Centre
I	THEO	Computer Awareness	MRT-14	06	STC
		Industrial Safety, First aid & Fire Fighting	MRT-16	03	
		Accident and Disaster Management	MRT-17	02	
		Supervisory Skills	MRT-18	03	
		Technical English	MRT-19	03	
		Manufacturing Processes (MP)	MET-12	04	
		Industrial Engineering	MET-13	01	
		Engineering Drawing (ED)	MET-14	02	
		Sub Total (Theory)		**24**	
II	THEO	Stream Specific Theory	MDT-05 M/E	**24**	STC
	PRACT	Diesel Loco POH Workshop		06	Respective Places
		Practical training Diesel Shed		06	
		On Job training		12	
		Total		**24**	
III		Refreshing/Examination/Viva		06	
Grand total				**78**	

EXAMINATION PATTERN

DIESEL			
Paper	Subjects	Marks*	Total
I	MRT-14	30	150
	MRT-16	30	
	MRT-17	30	
	MRT-18	30	
	MRT-19	30	
II	MET-12	75	150
	MET-13	25	
	MET-14	50	
TOTAL			**300**
I	MDT-05 M/E	100	100
II		50	50
III		50	50
TOTAL			**200**
GRAND TOTAL			**500**

For T.No-519 & 520

MODULE - MJP C

Name of the Post /Category	Junior Engineer
Stream	C&W
Mode of Appointment	Promotion Through seniority
Min. Qualification	----
Total Duration of Training Period	13 weeks

Session	Type	Subject	Subject code	Duration in days	Activity Centre
I	THEO	Computer Awareness	MRT-14	06	STC
		Industrial Safety, First aid & Fire Fighting	MRT-16	03	
		Accident and Disaster Management	MRT-17	02	
		Supervisory Skills	MRT-18	03	
		Technical English	MRT-19	03	
		Manufacturing Processes (MP)	MET-12	04	
		Industrial Engineering	MET-13	01	
		Engineering Drawing (ED)	MET-14	02	
		Sub Total (Theory)		**24**	
II	THEO	Stream Specific Theory	MCT-03 MCT-04	**24**	STC
	PRACT	C&W POH Workshop/Production Unit		06	Respective Places
		Practical training C & W depot		06	
		On Job training		12	
		Total		**24**	
III		Refreshing/Examination/Viva		06	
Grand total				**78**	

EXAMINATION PATTERN

		C&W			
Session	Type	Paper	Subjects	Marks*	Total
I	THEO	I	MRT-14	30	150
			MRT-16	30	
			MRT-17	30	
			MRT-18	30	
			MRT-19	30	
		II	MET-12	75	150
			MET-13	25	
			MET-14	50	
	TOTAL				**300**
II & III	THEO	I	MCT-03 & 04	100	100
	Pract	II		50	50
	Posting	III		50	50
	TOTAL				**200**
	GRAND TOTAL				**500**

Marks*: Showing the approximate weightage of subject topic in the examination paper.

Subject Faculty-Sri Anuj Yadav

SUBJECT NAME	**COMPUTER AWARENESS**
SUBJECT CODE	**MRT-14**
MODULE	**MJI, MJP**

SL NO.	TOPIC	TIME IN HRS
1	Introduction to Computers and Application of Computers/Windows, CMM, FMM	06
2	MS Word	09
3	MS Excel	09
4	MS Power Point	06
5	Internet usage	03
6	Review	03
	Total	**36**

Subject Faculty- Sri Naveen Chandra Jaiswal (1 to 7)
Sri Anurag Singh (7-15)

SUBJECT NAME	**INDUSTRIAL SAFETY, FIRST AID & FIRE FIGHTING**
SUBJECT CODE	**MRT - 16**
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 of fire extinguishers
3	Precautions to be taken while extinguishing fire
4	Render first aid to the burn injuries; Render first aid to persons affected by suffocation; Communication
5	Scope and Rules of first Aid; Structure and function of body
6	General idea about circulation of blood; Wound & Hemorrhages; Dressing & Bandages
7	Shock & its management; Asphyxia & Artificial respiration
8	Injuries to bones & joints - fractures; Unconsciousness and General rules for the treatments of unconsciousness person
9	Practical demonstration of Transport of injured persons, stretcher exercises, preparing and blanketing stretcher
10	Principles of Accident, Causation & Its Prevention, Unsafe Acts & Unsafe Conditions
11	House Keeping & Material Handling, 5S
12	Safety on Small Tools and Electrical Appliances
13	Use of PPE
14	Role of Supervisors on Safety, Accident Reporting & Investigations
15	Review

Subject Faculty- Sri Manish Kumar (S.No-1 to 6)
Sri Dipesh Kumar (S.No-7 to 12)

SUBJECT NAME	**ACCIDENT & DISASTER MANAGEMENT**
SUBJECT CODE	**MRT - 17**
MODULE	**MJP- C, D & W**
DURATION	**2 Days**

SL NO.	TOPIC
1	Definition of Disaster, Types of Accidents, Accident Manual, Rail wheel interaction
2	Permanent way parameters, Readings in permanent way
3	Rolling stock parameters, Readings in rolling stock
4	Signal aspects to be recorded at the accident site
5	Recording of track, Rolling Stock
6	Role of supervisors at the accident site
7	Disaster Management Equipment in Railways, Composition and upkeep of ART/ARMV/SPART/ 140T, Hooter Codes
8	Civil Defense & First-Aid after an accident
9	Duties of Officials at Accident Site
10	Rescue Extrication Techniques & Fire Fighting
11	Rescue Techniques- Medical Relief, Golden Hour, CPR
12	Duties of on-board staff at accident site

Subject Faculty- Sri Avadesh Kumar

SUBJECT NAME	**SUPERVISORY SKILLS**
SUBJECT CODE	**MRT - 18**
MODULE	**MJP- C, D & W**
DURATION	**3 Days**

SL NO.	TOPIC
1	Leadership & Leadership styles
2	Motivation
3	Communication Skills
4	Time Management
5	Stress management
6	Interpersonal Skills
7	Ethics

Subject Faculty- Sri Naveen Chandra Jaiswal

SUBJECT NAME	**TECHNICAL ENGLISH**
SUBJECT CODE	**MRT-19**
MODULE	**MJP- C, D & W**
DURATION	**3 Days**

SL NO.	TOPIC
1	Communication Vocabulary
2	Grammar - Important terms
3	Common Errors
4	Official Correspondence
5	Business Correspondence
6	General Report Writing
7	Technical Report Writing

Subject Faculty- Sri Manish Kumar

SUBJECT NAME	**MANUFACTURING PROCESS**
SUBJECT CODE	**MET-12**
MODULE	**MJP- C, D & W**
DURATION	**04 Days**

SL NO.	TOPIC
1	Production of metals
2	Hot and cold working
3	Smithy and forging
4	Foundry
5	Metal Joining
6	Metal Cutting Operations using different machines: Lathe, Drilling machine, Shaper and Planner, Grinding, Milling (CNC& non-CNC) etc.
7	Machining Operations in Wheel Shop
8	Basics of Metrology and Calibration
9	Physical Testing of materials (DT & NDT)
10	Un-conventional machines (Laser, Electron Beam etc.)
11	Review

Subject Faculty- Sri Ratnesh Srivastava

SUBJECT NAME	**INDUSTRIAL ENGINEERING**
SUBJECT CODE	**MET-13**
MODULE	**MJP- C, D & W**
DURATION	**01 Days**

SL NO.	TOPIC
1	Introduction
2	Method Study
3	Principle of Motion Economy
4	Plant Layout
5	Work Measurement
6	Incentive Schemes in Railway Workshops
7	Job Evaluation and Merit Rating

Subject Faculty- Sri Adarsh Soni

SUBJECT NAME	**ENGINEERING DRAWING**
SUBJECT CODE	**MET-14**
MODULE	**MJP- C, D & W**
DURATION	**02 Days**

SL NO.	TOPIC
1	Introduction about Engg. Drg.
2	Drawing Board, Instruments & its use
3	Lettering & Types of Lines
4	Dimensioning systems
5	Geometrical Constructions
6	Scales
7	Engineering curves
8	Principle of Projection - Projection of Points, Lines, Planes & Solids

Sri Alok Srivastava (S.No-1 to 6,12 & 13)
Sri Puspak Ranjan (S.No-7,8 & 9)
Sri Abhisekh Shukla (S.No-10 & 11)

SUBJECT NAME	**C & W THEORY-03**
SUBJECT CODE	**MCT-03**
MODULE	**MJP-C**

Sl. No.	Topic	Duration in Hours
1	Overview of C&W organization	03
2	Design, Repair & Maintenance of Shell: ICF, LHB, MEMU/EMU coaches and all variants like double decker, Tejas, Gatiman, Hamsafar, Dindayalu, Project Swarn & Project Utkristh, Train-Sets etc.	06
3	Air Brake System: Components, BMBC, EP brake, WSP, Pipe joints, Testing of coach brake, Loco capability test, continuity test	09
4	Twin pipe air brake system in wagon, BMBS in wagon, Brake Binding -Causes & remedies	03
5	Repair and maintenance of Passenger Amenities and Safety fittings	03
6	Bogie and Suspension system including Air Suspension: Repair and Maintenance, FIBA	08
7	Wheel & its defects, Wheel shelling in LHB coaches, Axles & bearings of all rolling stocks including MSU	06
8	Couplings & Buffers, IRS, CBC, Schaku, Dellnor, BDG: Design, repair and maintenance	06
9	Train Parting - Causes & remedies	03
10	Train Examination -Coaches: Maintenance schedules, Revised RPC-IV, Issue of BPC, CMM, En-route trouble shooting	03
11	IRCA Part IV, Modifications, TSOs, CAIs, Technical Pamphlets, Latest JPOs in Coaching Stock	03
12	Train lighting & Air-Conditioning: Maintenance of Battery and Battery box, RMPU, Lay-out of TL & AC equipment in Non-AC/AC and Power cars, Alternator, Invertor, RRU, IVC (inter vehicle couplers), SG, EOG, HOG	16
13	Toilet Systems: WRA and plumbing system, Bio-toilets & Bio-vacuum toilets	03
	Total	**72**

Sri Puspak Ranjan (S.No-1 to 8)
Sri Naveen Chandra Jaiswal (S.No-16)
Sri Alok Srivastava (S.No-9 to 21 except-16)
Subject only for T.No-519 & 520 only

SUBJECT NAME	**C & W THEORY-04**
SUBJECT CODE	**MCT-04**
MODULE	**MJP-C**

Sl. No.	Topic	Duration in Hours
1	Design features of various wagons including Stainless steel wagons, Aluminum wagons, Higher Axle load wagons, BOBRN Wagon including its door opening mechanism	06
2	New pattern of Train examination of goods stock-CC/Premium/End to End, long haul, heavy haul, Issue of BPC, e-BPC, FMM	03
3	Wagon manufacturing - use of huck bolts	03
4	ODC: classification, procedure for sanction, movement guidelines	03
5	Container wagons-BLC Train operation and maintenance practice	03
6	IRCA Part III	03
7	Repair & maintenance of goods stock-ROH	03
8	Tank Wagons - repairs & maintenance	03
9	Accident Relief Train	03
10	Derailment Mechanism	03
11	Accident Investigation, CRS Enquiry	03
12	Disaster Management - Role of Supervisors	03
13	Prevention of accident on C&W account	03
14	ART/MFD/SPART/140 T Crane Maintenance	03
15	WILD, Hot Box detector, Track side bogie monitoring system, Action to be taken on reporting	03
16	Depot stores management	03
17	Marshalling of trains	03
18	Role of Supervisors to minimize sick figures/coach detachment/ineffective %	03
19	Weigh bridge: AMC, Test special, Calibration, action to be taken in case of overloading	03
20	EnHM: MCC, OBHS, CTS, Pest control, Rodent control & Bed bugs control, Linen distribution, laundry: BOOT Laundry Equipment, disposal of solid waste, quick watering system, automatic coach washing plant, waste water recycling, Station cleaning, cleaning of IT device, electrical equipment	09
21	Layout of Coaching & goods stock yard and its infrastructural facilities	03
	Total	**72**

Subject Faculty- MDT-05 M/E

Subject only for T.No-518 only

Name	S.No
Sri Avadesh Kumar	MDT-05 M 1,2,3,4 & 5
Sri Anurag Singh	MDT-05 E 1,2,3,4 & 5
Sri Adarsh Soni	MDT-05 M 6,7,8,9,10,11& 12
Sri Ratnesh Srivastava	MDT-05 E 6,7,8,9,10,11& 12

SUBJECT NAME	**DIESEL LOCOMOTIVE THEORY(MECHANICAL)-5M**
SUBJECT CODE	**MDT-05 M**
MODULE	**MJR-D**
DURATION	**24 Days**

Sl. No.	Topic	Duration in Hours
1	Power pack – Cylinder head, cylinder liner, connecting rod, cam shaft etc (Alco & HHP)	24
2	Supercharging principles, methods and various testing parameters, Air and Computer Control Brake	18
3	Air compressor, types, function and overhauling procedures; Air-Dryer	12
4	Fuel system – components, function, defects and remedy, Fuel injection system (Alco & HHP)	12
5	Lube oil system – components, function, defects and remedy (Alco & HHP)	12
6	Cooling water system – components, function, defects and remedy, Radiator fan – principle, operation and maintenance (Alco & HHP)	12
7	Layout of shop and shed, Schedule of maintenance (Alco & HHP), Shed management, Record keeping, Outages, Super checking	12
8	Loco maintenance procedure; Bogies- types, load transfer, transmission of TE, suspension system; Cattle guard, gear case, wheel profile, specification & defect, coupling, bearing fitment etc. (Alco & HHP)	12
9	GE loco- Mechanical System	08
10	DEMU-DPC Power pack and its mechanical system	12
11	Safety & Misc items- Cab equipment, Driver seat, Sanding equipment, Hand brake etc	04
12	Testing of Engines - Dry-run-Test, Blow-bye test, Random test, Load Box testing	06
	Total	**144**

SUBJECT NAME	**DIESEL LOCOMOTIVE THEORY (ELECTRICAL)-5E**
SUBJECT CODE	**MDT-05 E**
MODULE	**MJR-D**
DURATION	**24 Days**

Sl. No	Topic	Duration in Hours
1	Various types of Transmission, feature of an Ideal transmission in Diesel Loco, AC-DC, AC-AC transmission	06
2	Various rotating equipment such as TA, TM, EG, AG, DB Blower, CCEM, ECC, Fuel booster motor- Description/Overhauling/Repair/Testing, common problems & remedy for Alco loco	18
3	Excitation systems for Alco and HHP loco	12
4	Various rotating equipment such as TA, CA, AG, DB blower, starting motor, DB grid motor, Radiator fan motor, TCC Blower, FP motor etc for HHP loco	18
5	Dynamic brake system, Transition system - circuit analysis, defects and remedy for Alco	12
6	Microprocessor based controls, APU, REMMLOT, Distributed Power Control System (DPCS)	18
7	Types of governors, overhauling procedure, testing methods	08
8	Various safety devices, Horn, Head light, Wiper, Emergency switches and alarm fitted in Loco - working principles	08
9	Testing of Engines - Load Box testing, MU operation testing	12
10	Dynamic brake system, circuit analysis defect and remedy for HHP loco	12
11	GE Loco- electrical machines and control system	08
12	DEMU-DPC Electrical and control system, EP Brake, train lighting, SPART	12
	Total	**144**