Government of India (Bharat Sarkar)
Ministry of Railways (Rail Mantralaya)
(Railway Board)

RBE No. 205 /2019
New Delhi, Dated 27.11.2019

No. E(MPP)2019/3/49

The General Managers,
All Indian Railways/PUs,
Metro Railway/Kolkata
Railway Electrification/Allahabad
DG/RDSO/Lucknow
CAO/DMW/Patiala
CAO/COFMOW/New Delhi
ED/CAMTECH/Gwalior

DG/NAIR/Vadodara
The Directors,
IRITM/Lucknow
IRIEEN/Nasik
IRIMEE/Jamalpur
IRICEN/Pune
IRISET/Secunderabad

Sub: Revised Training Modules of Non-Gazetted Staff of Material Management Department and Metallurgy & Chemical Department Supervisors.

Ref: Chairman/Railway Board's letter No. E(MPP)/2016/3/20 dated 28.11.2018 and Board's letter dated 06.12.2018

Vide Board (CRB) letter No. E(MPP)/2016/3/20 dated 28.11.2018, DG/NAIR had been authorized as the Head of the Academic Council of all CTIs to develop Training Modules of all categories of Non-Gazetted staff. Accordingly, training modules of Material Management Department and Metallurgical & Chemical Department Supervisors were finalized and sent to this office.

2. Ministry of Railways (Railway Board) has reviewed the above Training Modules proposed and submitted by DG/NAIR. Board (MMM & MS) has approved the revised training modules.

3. The revised modules prepared have been scanned and uploaded under **E(MPP) Training Circulars of Railway Board Circular at railnet** and can be viewed or downloaded from **railnet.**

4. General Manager/PHOD shall identify the locations for conducting training of staff on the above revised modules in their respective Zones.

5. Kindly acknowledge receipt.

(Alka Arora Misra)
Principal Executive Director/MPP
Railway Board.

O/C

No.E(MPP)2019/3/49 New Delhi, dated: 27-11-2019

Copy to:

1) The General Secretary, NFIR, 3 Chelmsford Road, New Delhi for information with 35 spares
2) The General Secretary, AIRF, 4 State Entry Road, New Delhi for information with 35 spares.
3) The Secretary General, FROA, R.No.256-A, Rail Bhavan, New Delhi for information with 5 spares.
4) The Secretary General, IRPOF, R.No.268, Rail Bhavan, New Delhi for information with 5 spares.
5) All Members, Department Council & Secretary Staff side National Council 13-C, Ferozeshah Road, New Delhi with 90 spares.
6) The Secretary General, AIRPF Association, Room No.256-D, Rail Bhavan, New Delhi with 5 spares.
7) General Secretary, All India SC & ST Railway Employees Association, 171/B-3, Basant Lane Railway Colony, New Delhi (15 copies).

For Secretary/Railways

No.E(MPP)2018/3/49 New Delhi, dated: 27-11-2019

Copy to:

i) PS & ED(PG) to MR, MSR(A) & MSR(K)
ii) PSO/Sr.PPS to CRB, FC, ML, ME, MM, MS, MT, DG(RHS) & DG(RPF)
iii) Sr.PPS/PPS/PS to AM(Budget), AM(CE), AM(C&IS), AM (Comml.), AM(Elect), AM(Fin), AM(Mech.), AM(Plg.), AM(Project), AM(PU), AM(Sig.), AM(Staff), AM(RS), AM(T&C), AM(Tele), AM(Traffic), AM(Works), Adv.L (RS), Adv(Vig.), Adv.Fin (Exp), Adv(IR), Adv(Safety), LA, OSD(MIS).
iv) ED(Plg.), ED(Accts.), EDF(BC), EDCE(B&S), EDCE(G), EDCE(Plg.), ED(CHG), ED(CC), ED(C&IS), ED(E&R), EDEE(Dev), EDEE(G), EDE, ED(RRB), EDE(N), EDE(Res), EDF, EDF€, EDF(S), EDF(B), EDF(RM), EDF(X)I, EDF(X)II, ED(H), EDLM, ED(MIS), EDE(GC), ED(T&MPP), EDME(Chg.), EDME(Fr.), EDME(Tr.), EDME(TOT), EDME(Dev.), EDME(W), ED(PC)I, ED(PC)II, ED(PP), ED(Project), ED(Project)/DMRC, EDRE, ED(Safety), JS, JS(C), JS€, JS(P), IG./RPF(Hqs), IG/RS, ED(S9g.), ED(Stat & Econ.), EDRS(C), EDRS(G), EDRS(P), EDRS(S), EDRS(W), ED(TD), EDTT(M), EDT(MC), EDT(P), ED(T&C), EDCE(P), ED(PM), ED(PG), EDTC-I, EDTC(FM), EDTT(F), EDTT(FM), EDTT(S), EDV(A), EDVE, EDV(T), ED(W).
v) Chief Commissioner of Railway Safety, Lucknow.
vi) E(Trg.), E(NG)I, E(NG)II, E(G), F(E)I, F(E)II, F(E)III, E(SCT)I, E(SCT)II branches of Railway Board.

o/c

MODULES FOR STAGE WISE TRAINING OF STAFF OF MATERIALS MANAGEMENT DEPARTMENT

INDEX OF TRAINING COURSES

SN	Module No.	Description	Duration	Periodicity	Page Ref.
1	C1	Induction Course for Clerk/Sr. Clerk on Appointment	5 weeks	On Appointment	2-4
2	RC1	Refresher Course for Clerk/Sr. Clerk	1 week	Once in three years	5
3	DM1	Field Training for DMS (Direct Recruit)	20 weeks	On Appointment	6
4	DM2	Induction Training for DMS (Direct Recruit) at STC	5 weeks	After field training (DM1)	7-9
5	RDO1	Refresher Course for DMS/OS	1 week	Once in three years	10
6	CD1	Induction Training for CDMS (Direct Recruit)	5 weeks	On Appointment	11-14
7	RCDO1	Induction Training for CDMS/Ch. OS	1 week	Once in four years	15
8	D1	Induction Training for Group D	1 week	On Appointment	16
9	D2	Refresher Course for Group D	1 week	Every four years	17
10	DP	Group D to Group C Promotional	2 weeks	Before examination for Group "C"	18-19
11	P30	Selection for the Post of AMM (30%)	2 weeks	Optional	20-25
12	P70	Selection for the Post of AMM (70%)	2 weeks	Optional	26
13	SPO1	Special Course for Group "C" Staff	1 week	As per requirement	27
14	SPO2	Special Course for Computers for all staff	1 week	As per requirement	28

Remarks: Module of special courses and the periodicity of the special courses will be decided by Zonal railway depending upon the need.

Module: C1

Induction Course for Clerk/Sr. Clerk on Appointment

Duration: 5 Weeks: - Minimum number of periods : 200 (of approx. 45 Minutes each)
Periodicity: On Appointment

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	**Admission**	2
2	**Organization of Indian Railways and Stores Department**	
	Introduction to Railway Organisation	2
	Organisation of Stores Department on Zonal level, Divisional level & Depot level.	2
3	**Duties of Clerk / Sr.Clerk**	2
4	**Codification in Stores Department**	
	Codification of items in 8 digits (PL Numbers), Unification of PL Numbers, Advantages of Codification.	2
	Unit code, Code for category of stores, Card code, A R D code, Allocation code, Depot code, Consignee code. Its Purpose and Implementation.	2
5	**Procurement of Stores**	
	Sources of Supply, Various Agencies for Procurement of Stores.	2
	Canons of Financial Propriety & GFR provisions.	2
	Purchase powers of Stores Officers (HQ, Depot & Division)	2
	Tendering System, Types of Tenders, Tender Conditions, Eligibility criteria	4
	Tender Committee, Finalisation of Tenders.	2
	Various preferences in Purchase, Liquidated Damages.	2
	Contract Management	2
	Earnest Money, Security Deposits, Risk Purchase, Genl Damages.	2
	Local Purchase, Emergency Purchase, Spot Purchase.	2
	Registration of firms	2
6	**Computerisation**	
	Basic working in computer, MS Word, Excel etc.	2
	IREPS, iMMS (Purchase, Depot & EDP Modules), GeM, Reverse Auction	6
	Hands-on training for the above	6
7	**Ledger Section Working**	
	Provisioning of Material through Estimate Sheet, Computer generated recoupment.	4
	Recoupment, Shop work order, Issue order, Red Signal.	4
	Average Annual Consumption, Buffer Stock.	2
	Annual Estimate Method and Maxima-Minima Method of Recoupment, Other Methods of Recoupment.	4
SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
8	**Receipt Section Working**	

	Sources of Receipts of Material in Depot	2
	Various Registers used in Receipt Section	2
	Registration of Purchase Orders, Challans, RRs, Inspection Notes.	2
	Collection of Materials from Parcel Office, Goods shed and Transport Companies, Part delivery, Open Delivery, I Bond, and Credit note book.	2
	Accountal of material in weighment registers, Material received without document, Material received from other depots	2
	Inspection of material, Inspection agencies, Sample	2
	Rejection of material, Rejection Memo, Ground rent on rejected material.	2
	Joint Inspection, Claim against carriers	2
9	**Custody of Stores – Working of Wards**	
	Duties of issue clerk, order of posting of receipt and issue vouchers. Imprest Stores.	4
	Sub-depot main-depot system, Custody stores, Requisition-cum-issue note, Issue order, Engineering plant reserve.	4
	Issue to Workshops, Receipt of shop manufactured items from workshops, Issue of items for fabrication, Procedure and Accountal.	4
	Methods of Stocking, Concept of shelf life	2
	Material handling equipment	2
10	**Dispatch Section Working**	
	Various modes of dispatch of material. Dispatch of material by registered post parcel, transport companies.	2
	Booking of material by parcel, goods. Booking of a full load wagons. Recent policies of Railways for booking through wagon & parcels.	2
	Road transport contracts, Tender Conditions, Delegation & Finalisation. Delivery per bearer, Precautions to be taken.	6
11	**Sale of Railway material – Scrap Section Working**	
	Returned advice note, its valuation, accountal and disposal	4
	Survey committee, its function and recommendations.	4
	Modes of scrap disposal.	2
	Survey sheet, lot register, bid sheet, delivery order.	4
	Recent changes in system of scrap disposal. e-Auction.	4
	Hands on for above & Live e-Auction.	4
12	**Inventory Control**	
	Prevention of inactive, overstock and surplus items.	4
	A B C, F S N and V E D analysis.	2
	Performance monitoring of stores department	2
	Inventory turn over ratio. Inventory valuation	2

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
13	**Stock Verification**	
	Frequency and object of verification of stock items in stores department.	2
	Verification by Accounts Department and also by Departmental officials.	2

	Finalisation of stock sheets and discrepancies.	2
13	**Disaster management – Fire fighting & first aid. Safety Policy Issues**	
	Duties in case of fire. Prevention of fire. Fire fighting equipments. Mock drill.	4
	Accidents like spilling of acids, burst of gas cylinders. First Aid.	2
	System of issues at the time of accidents on line, floods.	2
	Corporate safety plan. Safety issues identified for materials management. Periodic inspection schedule of Stores Department.	2
	Safety items as suggested by RDSO: Brief overview. Procurement of safety items:	2
	ISO certification of purchase office & Stores depots: Purpose & Advantages.	2
14	**Latest Developments**	2
15	**Ethics and Moral Values, Vigilance matters**	2
16	**Raj Bhasha**	
	Raj bhasha rules. Different areas.	2
	Raj bhasha promotion schemes.	2
17	**Establishment**	
	Leave Rules, Pass Rules, TA/OT Rules	2
	Industrial Relations, PNM, PREM etc.	2
	Pay Sheet preparation	2
	Discipline and appeal rules. Railway Service conduct rules, Welfare and Privileges	4
	Creation of work-charged establishment. Need, Yardsticks, D&G changes, Value of scrap sales procedure etc.	2
18	Works and M&P Programme, Various provisions, GMs Powers	2
19	**Study Tour** (Visit to Genl Stores Depot, Scrap Depot & Purchase office)	16
20	**Stress relieving: Yoga, Meditation**	2
21	**Examination**	4
	TOTAL	**200**

Module: RC1

Refresher Course for Clerk/Sr. Clerk.

Duration: 1 Week - Minimum number of periods : 40 (of approx. 45 Minutes each)
Periodicity: Once in three years

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	**Admission & Introduction -** Organization structure at zonal level, depots, divisions. Different Departments, their role and how they are related to Stores Department.	2
2	**Organization of Indian Railways with reference to Stores Department** Organisation of Stores Department on Zonal level, depots & Divisional level. Functions of Stores Department. Set up of a major Stores Depot.	2
3	**Codification in Stores Department** Purpose of codification, Various Codes and their uses, Unit code, Depot code, Consignee code, P L Code. Category of stores code, Card code, A R D code and Allocation code.	2
4	**Ledger Section Working** Provisioning of Material through Estimate Sheet, Computer generated recoupment. Recoupment, Shop work order, Issue order, Red Signal. Average Annual Consumption, Buffer Stock. Annual Estimate Method and Maxima-Minima Method of Recoupment, Other Methods of Recoupment.	2
5	**Receipt Section Working** - Sources of Receipts of Material in Depot, Various Registers used in Receipt Section, Registration of Purchase Orders, Challans, RRs, Inspection Notes. Collection of Materials from Parcel Office, Goods shed and Transport Companies, Part delivery, Open Delivery, I Bond, Credit note book. Accountal of material in weighment registers, Material received without document, Material received from other depots. Inspection and testing of material, Inspection agencies, Sample Rejection of material, Rejection Memo, replacement of material. Claim against carriers e.g. Railways.	4
6	**Procurement of Stores – Policy and Rules** Sources of supply, various agencies for procurement of stores. Purchase through central purchase agencies. Purchase of some critical items. Tender system, acceptance of tender, tender committee, placement of purchase orders. Procurement through Railway Board. Contract Management, Liquidated damages, Risk purchase Earnest money and Security deposit	4
7	**Custody of Stores – Working of Wards -** Duties of issue clerk, order of posting of receipt and issue vouchers. Imprest Stores. Sub-depot main-depot system, Custody stores, Requisition-cum-issue note, Issue order, Engineering plant reserve. Issue to Workshops, Receipt of shop manufactured items from workshops, Issue of items for fabrication, Procedure and Accountal. Methods of Stocking Material handling equipment, Concept of shelf life.	4
8	**Scrap Disposal**	2
9	**Computerisation & Related topics** Live IREPS, iMMS, GeM, e-Auction, Reverse Auction and Hands-on training for the above	8
10	**Establishment matters: leave rules, pass rules, DAR & other Estt. matters.**	2
11	**Latest Developments**	2
12	**Ethics & Moral Values and Vigilance matters**	2
13	**Rajbhasha**	2
14	**Yoga & Meditation**	2
	TOTAL	**40**

Training for DMS – Direct Recruits
Duration: 20 Weeks
Periodicity: Field Training After joining

SN	Main Subjects / Detailed Topics	Duration
1	General Stores Depot-complete working.	2 weeks
2	Depot attached to Workshop -complete working- including shop visit.	2 weeks
3	Depot attached to Elect Loco shed-complete working.	1 week
5	Depot attached to Diesel shed - complete working.	1 week
6	Working of Scrap depot, e auction, latest guidelines.	4 weeks
7	Working in of two major divisions including Supply of material, Scrap mobilization & Disposal, General working.	2 weeks (1 week in each division)
8	Head quarters working: demands, purchase proposals, floating of tenders, acceptance of cases -both direct acceptance, Tender committee cases, release of purchase orders, modification to POs, Risk purchase, EMD, SD, IRS conditions of contract, Special conditions of contract, Eligibility criteria, SVC, PVC, Latest purchase policies. Case studies.	4 weeks
10	IMMS, Reverse auction, IREPS, GeM, Latest developments.	2 weeks
11	Printing Press: Printing and supply of stationeries	1 week
12	Divisional Stores Depot	1 week
	TOTAL	**20 Weeks**

Induction training for DMS at STC.

Duration: 5 Weeks: - Minimum number of periods : 200 (of approx. 45 Minutes each)
Periodicity: On Appointment after Field Training

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	**Admission, Brief Introduction, Canons of Financial propriety.**	4
2	**Organization of Indian Railways with reference to Stores Department** Introduction to Railway and its Organization. Organization of stores department on zonal level, district level and depot level.	4
3	**Codification in Stores Department** Purpose of codification. Unification of items, PL Nos, Check Digit Unified PL Groups, Major PL groups, Nominated agency for unification Standardisation & variety reduction, Advantages of standardisation Drawings and specifications, Important Railway specifications Computerised price ledger Unit code, Depot code, consignee code, category of stores code, card code, A R D code and allocation code	10
4	**Procurement of Stores – Policy and Rules** Sources of supply, various agencies for procurement of stores. Purchase powers of Stores department officers. Demands, AAC –Vetting procedures Description, drawing and specification Purchase proposal and approval Tender system, types of tenders Earnest Money & Security deposits Eligibility criteria Special tender conditions and general conditions of contract Uploading of tenders Tender committee, Drafting of TC & TC proceedings Various preferences in purchase. Contract Management, Liquidated damages, General damages, Risk purchase PVC, GeM, GST	20
5	**Computerisation & Related topics** Live IREPS, iMMS, GeM, e-Auction, Reverse Auction. Hands-on training for the above	26
6	**Ledger Section Working** Provisioning of material through estimate sheet. Recoupment, shop work order, issue order, red signal. Average annual consumption, buffer stock. Issue orders. Maxima, Minima, average annual consumption, buffer stock Difference between Annual Estimate method and Max-Min method and implications, Other methods of recoupment, Computer Generated Recoupment	10

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
7	**Receipt Section Working** Sources of receipt of material in depot. Various registers used in receipt section. Registration of purchase orders, RR, challans, inspection notes Collection of material from parcel office and goods shed, part delivery, open delivery, I bond, Credit note book. Accountal of material in weighment registers, material received without document, material received from other depots. Inspection of material, inspection agencies, sample. Rejection of material, rejection memo, ground rent on rejected material. Joint inspection. Replacement of rejected material. Claim against carriers	10
8	**Custody of Stores – Working of Wards** Duties of D M S, order of posting of receipt and issue vouchers in bin card. Imprest stores. One for one items. Sub-depot main-depot system, Custody stores. Requisition-cum-issue note. Issue to workshops. Receipt of shop manufactured items from workshop. Issue of items for fabrication and procedure.	10
9	**Dispatch Section Working** Various modes of dispatch of material. Booking of material by parcel, goods. Booking of a full load wagons. Recent policies of Railways for booking wagons & less than wagon parcels Dispatch of material by registered post parcel. Delivery per bearer, Precautions to be taken Conclusion of road transportation contracts & door delivery	18
10	**Sale of Railway material – Scrap section working** Categories of scrap materials and their generation Returned stores, advice note for returned stores, its valuation, accountal and disposal. Recent policy instructions issued by Railway Board on scrap disposal e-auction- preparation of catalogue with photographs, general conditions and special conditions for auction. Uploading of catalogues. Survey sheet, lot register, bid sheet. Witnessing of deliveries. Ground rent on scrap material. Sales suspense and its clearance Other modes of scrap disposal	20
11	**Inventory Control** Inactive, overstock and surplus items and its prevention. A B C, F S N and V E D analysis. Performance monitoring of stores department/ Inventory ratio	8
12	**Stock Verification** Stock verification, frequency and object of verification of stock items in stores department Verification by accounts department and also by departmental officials. Finalization of stock sheets and discrepancies.	6

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
13	**Disaster management – Firefighting & First Aid. Safety Policy Issues.** Duties in case of fire. Prevention of fire. Fire fighting equipment. Accidents like spilling of acids, burst of gas cylinders. First aid. System of issues at the time of accidents on line, floods. Corporate safety plan Safety issues identified for materials management Safety items as suggested by RDSO: Brief overview Procurement & stocking of safety items: Differences compared to other items Life cycle costing based procurement Periodic inspection schedule of stores department ISO certification of purchase office & stores depots: Purpose & advantage Environmental protection & initiatives	10
14	**Raj Bhasha** Raj bhasha rules. Different areas. Raj bhasha promotion schemes.	4
15	**Establishment** Leave rules, Pass rules, TA/OT Rules Industrial Relation, PNM, PREM etc. Discipline and appeal rules. Railway service conduct rules. Creation of work-charged establishment. Need, yardsticks D&G changes, value of scrap sales procedure etc.	8
16	Works and M&P Programme, various provisions, GMs powers	2
17	**Stores Finance and Accounts**	4
	Brief about functioning of stores finance, stores budget, allocation	
18	**Ethics and Moral Values and Vigilance Matters**	2
19	**Latest Developments**	2
20	**Yoga & Meditation**	2
21	**Study Tour**	16
22	**Examination**	4
	TOTAL	**200**

Refresher course for DMS & OS

Duration: 1 Week: - Minimum number of periods : 40 (of approx. 45 Minutes each)
Periodicity-Once in three years

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	Admission, Organization of Indian Railway with reference to stores department.	2
2	Schedule of Power	2
3	Purchase procedures: Latest policy and rules	6
4	Computerization-IREPS, iMMS, Reverse auction, Gem with hands on training.	10
5	Depot Working-Ledger Section Working Receipt Section working Custody of stores – working of wards Dispatch section working, preservation, stock verification, inventory control.	6
6	Road transport, hiring of vehicles	2
7	Scrap Disposal, e- auction	2
8	Establishment Matters	2
9	Latest developments, environmental issues etc	2
10	Finance matters-budget allocation	2
11	Ethics and moral values, Vigilance matters	2
12	Yoga & Meditation	2
	TOTAL	**40**

Induction Training for CDMS (Direct Recruits)

Duration: 5 Weeks :- Minimum number of periods : 200 (of approx. 45 Minutes each)
Periodicity: On Appointment

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	**Admission, Brief Introduction, Canons of Financial propriety.**	4
2	**Organization of Indian Railway with reference to stores department.**	
	Introduction to Railway and its Organization.	2
	Organization of Stores department at Zonal level, Divisional level and Depot level.	2
3	**Codification in stores department.**	
	Purpose of codification. Unification of items, PL Nos, Check Digit, Unified PL Groups, Major PL groups, Nominated agency for unification.	2
	Standardisation & variety reduction, Advantages of standardisation, Drawings and specifications, Important Railway specifications.	2
	Computerised price ledger, Unit code, Depot code, consignee code, category of stores code, card code, A R D code and allocation code	2
4	**Purchase of stores – policy and rules**	
	Sources of supply, various agencies for procurement of stores.	2
	Purchase powers of Stores officers (HQ, Division & Depot).	2
	Demands, AAC –Vetting procedures	2
	Description, drawing and specification	2
	Purchase proposal and approval	2
	Tender system, types of tenders, Earnest Money & Security deposits	2
	IR conditions of contract, Special tender conditions and general conditions of contract, Eligibility criteria.	2
	IREPS, iMMS, Uploading of tenders	4
	Hands on for the above	4
	Tender committee, Drafting of TC & TC proceedings	2
	Various preferences in purchase, MSME procurement.	2
	Contract Management, Liquidated damages, General damages, Risk purchase, PVC, SVC, GST.	4
	Procurement through GeM	2
	Hands on for the above	4
	Reverse auction- Technical bids, commercial bids.	2
5	**Ledger Section Working**	
	Provisioning of material through estimate sheet.	2
	Recoupment, shop work order, issue order, red signal.	2
	Average annual consumption, buffer stock, Issue orders.	2
	Maxima, Minima, average annual consumption.	2
	Difference between Annual Estimate method and Max-Min method and implications, Other methods of recoupment.	2
	Computer Generated recoupment.	2
6	**Receipt Section working**	
	Sources of receipt of material in depot.	2
	Various registers used in receipt section.	2

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
	Registration of purchase orders, RR, challans, inspection notes	2
	Collection of material from parcel office and goods shed, part delivery, open delivery, I bond, Credit note book.	2
	Accountal of material in weighment registers, material received without document, material received from other depots, R-Notes.	2
	Inspection of material, inspection agencies, sample.	2
	Rejection of material, rejection memo, ground rent on rejected material. Joint inspection. Replacement of rejected material, Warranty Claims	4
	Claim against carriers	2
7	**Custody of stores – working of wards**	
	Duties of C D M S, order of posting of receipt and issue vouchers. Imprest stores. One for one item.	2
	Sub-depot main-depot system, Custody stores. Requisition-cum-issue note.	2
	Issue to workshops. Receipt of shop manufactured items from workshop. Issue of items for fabrication and procedure.	2
8	**Dispatch section working**	
	Various modes of dispatch of material.	2
	Booking of material by parcel, goods. Booking of a full load wagons. Recent policies of Railways for booking wagons & less than wagon parcels	2
	Dispatch of material by registered post parcel. Delivery per bearer, Precautions to be taken	2
	Conclusion of road transportation contracts & door delivery	4
9	**Sale of railway material – Scrap section working**	
	Categories of scrap materials and their generation	2
	Returned stores, advice note for returned stores, its valuation, accountal and disposal.	2
	Recent policy instructions issued by Railway Board on scrap disposal	2
	e-auction- preparation of catalogue with photographs, general conditions and special conditions for auction. Uploading of catalogues. Fixation of Reserve Price.	4
	Hands on for the above.	4
	Survey sheet, lot register, bid sheet. Witnessing of deliveries. Ground rent on scrap material.	2
	Sales suspense and its clearance, Other modes of scrap disposal	2
10	**Inventory control**	
	Inactive, overstock and surplus items and its prevention.	4
	A B C, F S N and V E D analysis.	2
	Controlling inventory parameters, Performance monitoring of stores department, Inventory TOR.	2
11	**Stock verification**	
	Stock verification, frequency and object of verification of stock items in stores department	2
	Verification by accounts department and also by departmental officials.	2
	Finalization of stock sheets and discrepancies.	2
12	**Computerization – Application in stores department**	
	Computer basics- Word, Excel, PPT, Multimedia, e-mail,	2

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
	Input and output data, Computers printouts. Feeding of stores vouchers as per card codes.	2
	Rejection of vouchers, their rectification	2
	Salient features of IREPS, iMMS- with hands on Training.	6
13	**Disaster management – Fire fighting & first aid. Safety Policy Issues/ Working of other departments**	
	Duties in case of fire. Prevention of fire. Fire fighting equipment. Mock drill.	4
	Accidents like spilling of acids, burst of gas cylinders. First aid.	2
	System of issues at the time of accidents on line, floods.	2
	Corporate safety plan. Safety issues identified for materials management.	2
	Safety items as suggested by RDSO: Brief overview. Procurement & stocking of safety items: Differences compared to other items.	2
	Life cycle costing based procurement.	2
	ISO certification of purchase office & stores depots: Purpose & advantage	2
	Periodic inspection schedule of stores department . Environmental protection & initiatives	2
14	**Raj Bhasha**	
	Rajbhasha rules. Different areas & Rajbhasha promotion schemes.	2
15	**Establishment**	
	Leave rules, Pass rules, T A rules, Other Estt. Matters.	2
	Discipline and appeal rules. Railway service conduct rules, Industrial Relations, PNM, PREM etc..	2
	Creation of work-charged establishment. Need, yardsticks D&G changes, value of scrap sales procedure etc.	2
16	Works and M&P Programme, various provisions, GMs powers	2
17	**Stores Finance and accounts**	
	Brief about functioning of stores finance, stores budget, allocation	2
18	**Theft/Loss embezzlements**	
	Theft/loss **embezzlements**	2
19	**Audit reports/Accounts notes**	
	Audit reports- Part –I & part -II	2
	Special letters, draft para, account notes	2
20	**Ethics and Moral Values and Vigilance Matters**	2
21	**Latest Developments**	2
22	**Yoga & Meditation**	2
23	**Study tour** (Visit to Genl Stores Depot, Scrap Depot & Purchase office)	14
24	**Examination**	2
	TOTAL	**200**

Module: RCDO1

REFRESHER COURSE FOR CDMS / Ch.OS

Duration: One Week: - Minimum number of periods : 40 (of approx. 45 Minutes each)
Periodicity- Once in 4 years

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	Admission- Codification, Sources of supply, various agencies for procurement of stores.	2
2	Schedule of Power for Stores matters	2
3	AAC –Vetting, Demands – Types and generation	2
4	Description, Drawing and Specification	2
5	Purchase proposal and approval	2
6	Tendering system, Types of tenders, Tender conditions, Eligibility criteria, uploading of Tenders.	4
7	IR conditions of contract, Special tender conditions and general conditions of contract, Various preferences in purchase, MSME procurement, PVC, SVC.	2
8	Finalisation of Tenders - Tender committee, Drafting of TC & TC proceedings. Release of PO.	2
9	Earnest Money & Security deposits, GST	2
10	Contract Management, Liquidated damages, General damages, Risk purchase, Option Clause.	2
11	IREPS, GeM, Reverse Auction, IMMS, e-auction & Hands on Training.	10
12	Depot Matters	2
13	Latest Developments	2
14	Ethics and Moral Values, Vigilance Matters	2
15	Yoga & Meditation	2
	Total	**40**

Module: D1

Induction training for Group- D

Duration: 1 Week: - Minimum number of periods : 40 (of approx. 45 Minutes each)
Periodicity: At the time of joining.

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	**Organization of Indian Railway with reference to Stores department.** Organization structure at HQ level, depots, divisions. Different Departments, their role and how they are related to Stores Department. Ethics and Moral values.	4
2	**Basic Computer Knowledge** (MS Office, Windows, Networking, Internet, Digital Signature, iMMS)	6
3	**General working procedures-working knowledge in depots -** Preparation of Gate pass, Challan, Identification of Material to issue, Counting of material, Units of material, Weight calculation, Volume calculation, How to use pallets, Vertical Stacking arrangements.	8
4	Practical session on voucher entry, IREPS, IMMS working and e-Auction	4
5	**Safe working and Stacking procedures -** Personal safety while working, Safety Gears, Storage, House keeping, Handling of material, Machine handling, Stacking of material, Preservation of materials.	8
6	**Establishment -** Pass rules, SR, DAR, Leave Rules, Advances, Other Estt. Matters, deductions etc, Loans, Surety, Advances etc. including its safeguards, Quarter allotment, Different Privileges of Railway Employees	4
7	Yoga, Meditation.	2
8	Visit to a Depot	4
	Total	**40**

Module: D2

Refresher training for Group D

Duration: 1 Week - Minimum number of periods : 40 (of approx. 45 Minutes each)
Periodicity: Every Four years

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	**Basic Computer Knowledge (MS Office, Windows, Networking, Internet) with hands on training**	4
2	**Digital Signature, iMMS, Transaction posting with hands on training**	6
3	**IREPS, GeM, e-Auction with hands on training**	8
4	**Safe working and stacking procedures -** Personal safety while working, Safety Gears, Storage, House keeping, Handling of material, Machine handling, Stacking of material, Preservation of material.	4
5	**Working in major depot:** Material handling, Lister truck, Pallets, loading unloading procedures, packing, preservation, identification of materials etc.	6
6	**Establishment matters**	2
7	**Latest Developments**	2
8	**Ethics & Moral values, Vigilance matters.**	2
9	**Visit to Depots**	4
10	**Yoga and Meditation**	2
	Total	**40**

Module: DP

Group D to Group C (Promotional)

Duration: 2 Weeks: - Minimum number of periods : 80 (of approx. 45 Minutes each)

Periodicity: Before Selection for Eligible Candidates

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	**Organization of Indian Railway with reference to stores department.** Organization structure at zonal level, depots, divisions. Different Departments, their role and how they are related to Stores Department. Abbreviations.	6
2	**Basic Computer Knowledge (MS Office, Windows, Networking, Internet, Digital Signature, iMMS)**	6
3	**Codification in stores department**	
	Purpose of codification. Unification of items, PL Nos, Check Digit, Unified PL Groups, Major PL groups, Nominated agency for unification.	2
	Computerised price ledger, Unit code, Depot code, consignee code, category of stores code, card code, A R D code and allocation code	2
4	**Ledger Section Work**	
	Provisioning of material through estimate sheet, Types of recoupment.	2
	Computer Generated recoupment.	2
5	**Working of Depot**	
	Transactions of Receipts, Acceptance and issue of material	2
	Preservation of material	2
	Stacking of material	2
6	**Scrap Disposal, e-Auction**	4
7	**Accounts department working**	
	Demands for grants, Allocation	2
	Indent vetting	2
8	**Stock verification**	
	Stock verification, frequency and object of verification of stock items in stores department.	2
	Verification by accounts department and also by departmental officials.	2
9	**Purchase Matters**	
	Purchase powers of Stores officers (HQ, Division & Depot).	2
	Purchase proposal and approval, Tender system, types of tenders, Earnest Money & Security deposits.	2
	IR conditions of contract, Special tender conditions and general conditions of contract, Eligibility criteria.	2
	IREPS, iMMS, Uploading of tenders.	2
	Contract Management, Liquidated damages,General damages,Risk purchase.	2
	Procurement through GeM.	2
	Hands on for the above.	6
SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
10	**Inventory Control, Overstock, Surplus, TOR**	4
11	**Establishment matters –**Leave Rules, pass rules, DAR rules and other Establishment matters.	4
12	**Rajbhasha**	4
13	**General -** Letter, Essay, General English, General Arithmetic, Common GK.etc.	12

	TOTAL	**80**

Module: P-30

Selection for the post of AMM (GR.C to B – 30 %)-promotional

Duration: Two weeks: - Minimum number of periods: 80 (of approx. 45 Minutes each)
Periodicity- Optional

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	Functions of the Principal Chief Materials Management & other officers assisting him Organization of Stores Dept. on Zonal Railways & Production Units. Objectives of Stores Dept. in brief Cannons of Financial Propriety & its application to Stores Matters Delegation of Powers: i) its' need & necessary safeguards ii) Powers of PCMM & other officers for: a) Purchase b) Sale c) Write off d) Other misc. matters	2
2	Purchase of Stores i) Important Stages in purchase cycle ii) Purchase Policy & Rules of IR iii) Channels & procedures of purchase of indigenous stores iv)Modes of tendering [including PAC purchase] & their limitations v) Tender consideration: a) Price determination (Reasonability/Workability) b) Negotiations, Cartel Formation & related instructions c) Concept & Constitution of Tender Committee vi) Purchase of M&P/RSP items. vii) Emergency Purchases viii) Basics of iMMS, IREPS, Reverse Auction, GeM	4
3	Purchase through Centralized agencies like i) Railway Board, PCMM of DLW, CLW, CORE etc Procedure of Purchase from Govt. Dept. – GFR in brief	2
4	Govt. Policy of Preference a) Purchase/Price Preference i) Small Scale industries 1) items reserved for Procurement from SSIs(Gr IV items) b) Purchase Preference to Central PSUs c) Special benefits available to NSIC firms, KVIC & Handloom Sector	2
5	Supply Contracts i) Important provisions of Indian Contract Act – Sale of Goods Act & GST act. ii) IRS Conditions of Contract, DGS&D Genl. Conditions of Contract iii) "Force Majeure Clause" iv) Rate/Running & Fixed quantity contracts, Long term Contracts. v) Special conditions of Contract, followed by a) Railways, RB & DGS& D vi) EMD & SD vii) PO draft /numbering scheme and vetting considerations viii) Contract Management	4

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
	i) Extension of DD/modifications of PO ii) Penalties for breach of contracts (LD, GD, RP) ix) Settlement of disputes a) Arbitration clause in IRS conditions b) Arbitration and Conciliation Act 1996 & amendment 2005 c) Dispute resolution between two Govt. Deptt. or (CPSU)	
6	Other types of Contracts i) AMC ii) Service Contracts iii) TPC iv) Fabrication Contracts – Important conditions and safeguards	**2**
7	Import of Material i) Direct import by Zonal Railways/Production Units ii) Import through Railway Board iii) Types of Import Contracts a) INCO Terms iv) Modes of payment, letter of credit and types v) Sea and Air Freighting of Railway Materials and insurance coverage vi) Court clearance of Imported consignments vii) Claims Settlements	**2**
8	Concept of strategic sourcing (rational source selection) a) Registration of firms on Railways as approved suppliers. b) Vendor performance evaluation, vendor rating, penal action against vendors, alternatives available with Railways, PUs. c) Registration by RDSO d) Supply chain concept – relevance to railway especially PUs.	**4**
9	Important statistics on stores matters a) submitted to Railway Board periodically. b) included in Railway Board's annual report and GM's narrative report. c) Yardstick to measure efficiency of stores department.	**2**
10	Printing and supply of a) Railway Card tickets, SPT tickets, Money value forms. b) other books and forms for use on Railways.	**2**
11	Stores budget. a) Compilation and various reviews/amendments to the budget during financial year. b) Control to adhere to the budget provisions, exchequer control c) Control over stores expenditure to minimize working expenses d) Purchase grant e) Zero based budgeting (ZBB) f) Financial Rules	**4**
12	ISO certification i) Procedure for obtaining the certification and subsequent complaints for continuation of the same. a) for purchase office b) for Stores depot.	**2**

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
13	General Knowledge i) General knowledge ii) Official language a) Official Language Act 1963, b) Official Language Rules 1976.	2
14	Stores Depots a) Location b) Functions c) Typical layout of a stores depot. 2) Design aspects of a typical Stores depot/Warehouse. a) Important parameters to be considered for design b) Space management i) Buildings, Yards, Roads, ii) Various types of storage arrangements. c) Materials handling i) Equipments ii) Unit piling, Container/Pallet systems iii) Vertical Storage system d) Important fire safety aspects and latest fire fighting techniques e) Security arrangements to prevent, and action called by the depot officers in case of following incidents i) theft ii) pilferage iii) misappropriation f) Procedure for locking and sealing of wards/godowns in a depot and depositing/collecting the keys g) Gate Pass 3) Depot Organization a) Functions/responsibilities of Depot officer and subordinate staff b) Various sections of stores depot, its functions and working procedure	8
15	Receipt and Accountal of Materials a) Procedure for receipt and accountal in a depot b) Consequent clearance of purchase suspense c) Accounts checks on suppliers bills Inspection of Stores a) Inspection techniques b) Various agencies for inspection of raw materials c) Acceptance of materials against WTC d) Inspection of firms premises and inspection at depot. e) Rejection of pre-inspected materials and procedure for joint inspection. f) Disposal of rejected materials Sampling for inspection a) Sampling methods b) Indian Standards relating to sample Testing methods of common materials used by Railways like Steel,	8

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
	Rubber, PVC items, Cloth, Resin, Oils, Paints, Non-Ferrous items Receipt and issue of Stores a) Procedure for accountal of receipts from attached Workshops and debiting the workshop for stores issued to them. b) Procedure of issue of materials from stores depot to consumers other than attached workshops and debiting the indentors for stores issued Procedure of Receipt and Issue of serviceable items Properties and preservation of stores such as a) Rubber items, timber, chemicals, explosive/inflammable items	
16	Shop manufactures items a) System of recoupment of items manufactured in workshops b) Different types of manufacturing processes in workshops Imprest Stores a) Procedure for issue and supply through stores delivery van. Returned Stores a) Its receipt and accountal in the depot b) Valuation of returned stores c) Monthly credit summaries	**4**
17	Sale of Railway Materials a) SAG committee recommendations b) Survey committee and its functions for various categories of stores c) Procedure for condemnation of an asset (M&P items including Motor vehicles) d) Procedure for sale by tender e) Procedure for disposal of scrap by e-auction sale. f) General and special conditions of sale g) Reclamation of Scrap h) Sales suspense	**4**
18	Purchase by Depot Officer a) Purchase powers – Local and Cash purchases b) Procedure for recoupment of cash imprest	**2**
19	Important Components and its usages a) In Carriages, Wagons, Diesel Loco, Electric Loco and MU/EMUs	**2**
20	Dispatch of Railway Materials a) by Rail, Road b) by Sea and Air c) Safeguards against loss/damage in transit d) Settlement of claims with carriers Inter Depot transfers and clearance of SINT suspense	**2**
21	Stock verification a) by Accounts b) Departmental c) Disposal of Stock sheets Classification of Heads of Accounting and various suspense heads relating to Stores	**2**
22	Stores computerization Exception reports and action documents Codification	**2**

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
	i) Stores nomenclature and pricelists (unified and non-unified) ii) Unified vendor code iii) Consignee code iv) advantages of codification Standardization and variety reduction	
23	Provisioning and recoupment of stores a) Maximum/Minimum method (Q system) b) Annual review method (P System) c) Main depot – Sub depot arrangement d) Economic order quantity (EOQ) e) Lead time and safety /buffer stock f) Computerized forecast of demand /consumption for stock recoupment (generation of estimate sheet) g) various forecasting statistical techniques	**2**
24	Inventory Management a) Types of inventories b) Various inventory models i) the basic (EOQ) model, Constant demand and lead time ii) variable demand but constant lead time iii) JIT inventory model c) Computer as an aid to inventory control and inventory management d) Periodical prints from computer and its use for inventory control e) Selective control techniques i) ABC, BED, FSN and XYZ analysis for inventory control and improvement in service levels ii) related multi criteria matrix f) inventory performance indices on IR g) Overstock, inactive and surplus stores i) Definitions ii) Reasons for accrual and its disposal iii) Steps for prevention Computerized price ledgers a) Preparation of Price ledgers – Role of stores depot b) Book average rates c) Debiting the indentors for cost of materials issued and preparation of debit summaries	**4**
25	Audit a) Narrative reports, Special letters, factual statements, draft paras and its disposal Accounts a) Accounts objections, special reports, stock sheets, inspection reports Part-I and Part-II	**2**
26	M&P, RSP and Works Programme	**2**
27	Establishment	**2**
	TOTAL	**80**

Module: P-70

Selection for the post of AMM (GR.C to B – 70 %)-promotional

Duration: Two weeks:- Minimum number of periods: 80 (of approx. 45 Minutes each)
Periodicity- Optional

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	Organization of Stores Dept. on Indian Railways. Functions of Purchase office and storage depots Organization of Stores Dept. on Indian Railways Functions of Purchase office and storage depots	4
2	Classification of stores, nomenclature lists, standard specifications, drawings.	4
3	Annual estimates – Preparation in Depots and processing in purchase office – Stock control – Recoupment sheets and Red signals.	6
4	Principals, agencies and methods of purchase – Purchase procedure, special powers of Railway administration for direct purchase – Purchase Orders – Testing and inspections Conditions and procedure for purchase through GeM, type of indents and contract payments' Purchase of stationery stores, office machinery and appliances and printing stores – Procedure, Railway's Powers and limitations	16
5	Schedule of Powers	4
6	Stores Depots – Organization – Location – Arrangements for receipts, inspection, accountal and storage – preservation – handling of stores, departmental stock verification. Procedure for issue and dispatch of stores, receipts from and issues to workshops – materials, schedule and custody stores' Depot ledgers, functions of ledger section Receipt, acceptance, evaluation and disposal of returned stores advices of credit Imprest stores – Scale of imprests – sanctions and divisions – distribution of imprest on line Surplus stores – causes for prevention of accumulation – disposal of surplus stores – survey committee	16
7	Disposal of scrap – Scrap depots – Auctions and deliveries	4
8	Stock verification	4
9	Inventory control – Mechanization of stores transactions	4
10	Priced ledgers –Reconciliation between numerical and priced ledgers, priced ledger and general goods – annual statement of stores transactions Stores budget – Allotment of funds and control of expenditure	4
11	Working knowledge of establishment rules / Stores accounting, Arbitration	4
12	Official language, Policy and Rules	4
13	Stores Computerisation – iMMS, IREPS, e-Auction & Reverse Auction Basic working knowledge on computer and internet	6
	TOTAL	80

Remarks: The periodicity of the Special Course will be decided by Zonal Railway depending upon the need.

Module: SP01

Special Course for all Group C Staff

Duration: One Week - Minimum number of periods : 40 (of approx. 45 Minutes each)
Periodicity: As per the requirements

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	M&P and Works programme	4
2	Audit Inspection reports -PartI ,Part II, special letters Draft paras and disposal	4
3	Court Cases	2
4	Arbitrations and settlements	4
5	Importation	4
6	Stock sheets and it's disposal	4
7	Stores budget and its importance, preparation of Stores Budget	4
8	Allocations, Plan Heads etc.,	4
9	Transportation contracts	4
10	Latest Developments	2
11	Ethics & moral values, Vigilance matters	2
12	Yoga & Meditation	2
	TOTAL	40

Module: SP02

Special Course on Computers for all Staff

Duration: One Week - Minimum number of periods: 40 (of approx. 45 Minutes each)
Periodicity: As per the requirements

SN	Main Subjects / Detailed Topics	No. of Periods of approx. 45 minutes each
1	Basics of Computer	**4**
2	Windows	**4**
3	MS Office	**4**
4	Networking	**2**
5	RDBMS	**2**
6	IREPS	**4**
7	iMMS	**4**
8	GeM	**4**
9	Reverse Auction	**4**
10	e-auction	**4**
11	Other latest Developments	**2**
12	Yoga & Meditation	**2**
	TOTAL	**40**

Remarks: The periodicity of the Special Course will be decided by Zonal Railway depending upon the need.

Training Module for M&C Supervisors (June 2019)

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2.	Description of Subjects	5-21
3.	General Guidelines for Training	22
4.	Examination	23-24

Abstract of Modules

S. No.	Name of post	Module No.	Duration in weeks	Page No.
1.	Directly recruited Chemical & Metallurgical Assistants	CMTA	**52**	**3**
2.	Directly recruited Chemical & Metallurgical Superintendents	CMTS	**52**	**4**

MODULE – CMTA					
Name of the Post/category		**Directly recruited Chemical & Metallurgical Assistant**			
Stream		**M&C**			
Mode of appointment		**Through RRB**			
Min. Qualification		**BSc.**			
Duration		**52 Weeks**			
Sessions	**Type**	**Subject**	**Subject Code**	**Duration in weeks**	**Activity Centre**
1.	Theory	Initial Course	CMT 01-14	08	IRIMEE
	Theory	General Awareness about IR & Supervisory Skills	CMT-15	01	STC
		Soft Skills, Stores & Accounts matters		01	
		Rolling Stock and its components		01	
	Practical	Computer Lab, Fire Fighting & Diesel and C&W Model Rooms		01	
2.	Field Training /Demonstration	Diesel Locomotives and Related M&C testing	CMT-16	01	Diesel/DEMU Shed/DTTC
	Field Training/ Demonstration	Electric Locomotives and related M&C testing	CMT-17	01	Electric Loco Shed/ CLW/Electrical Training School
	Field Training/ Demonstration	Visit to C&W Workshop & Depot	CMT-18	02	Zonal HQRS C&W Workshop/Depot
3.	Field Training /Demonstration	Training in NDT Testing of Loco and C&W Components	CMT-19	17	Parent Unit/ Place of posting
4.	Field Training /Demonstration	Training in Physical Testing of Metals	CMT-20	01	Zonal HQRS/Any Well Equipped CMT Labs
	Field Training /Demonstration	Training in Chemical Analysis of Metals & Water	CMT-21	02	Zonal HQRS/Any Well Equipped CMT Labs
	Field Training /Demonstration	Training in Integrated Management System and Pollution Control	CMT-22	02	Zonal HQRS/Any Well Equipped CMT Labs
	Field Training /Demonstration	Training in Metallography	CMT-23	02	Zonal HQRS/Any Well Equipped CMT Labs
5.	Field Training /Demonstration	Training in Rubber, Plastic, Composite & FRP Testing/ Non-Metallic Materials & Paint	CMT-24	04	RCF/ICF
	Field Training /Demonstration	Training in Foundry Practice & Heat Treatment	CMT-25	01	RWF Bengaluru
	Field Training /Demonstration	Training in Welding	CMT-26	01	PU/ Zonal centers of Excellence for welding
	Field Training /Demonstration	Training on Spring Manufacturing Process	CMT-27	01	ICF/RSK Gwalior
6.	Theory & Demonstration	Training on Ultrasonic Testing of Wheels & Axles	CMT-28	04	RDSO/LKO
	Theory & Demonstration	Training on Investigation & Testing of Failure Cases	CMT-29	01	RDSO/LKO
TOTAL				**52**	

MODULE – CMTS					
Name of the Post/category		**Directly recruited Chemical & Metallurgical Superintendents**			
Stream		**M&C**			
Mode of appointment		**Through RRB**			
Min. Qualification		**B. Tech./MSc.**			
Duration		**52 Weeks**			
Sessions	**Type**	**Subject**	**Sub-Module Code**	**Duration in weeks**	**Activity Centre**
1.	Theory	Initial Course	CMT 35-48	10	IRIMEE
	Theory	Railway Organization & Management	CMT-15	02	STC
		Rolling Stock and its components		01	
	Practical	Computer Lab, Diesel, C&W Model Rooms & Fire Fighting Mock Drill		01	
2.	Field Training /Demonstration	Diesel Locomotives and Related M&C testing	CMT-16	01	Diesel/DEMU Shed/DTTC
	Field Training/ Demonstration	Electric Locomotives and related M&C testing	CMT-17	01	Electric Loco Shed/ CLW/Electrical Training School
	Field Training/ Demonstration	Visit to C&W Workshop & Depot	CMT-18	02	Zonal HQRS C&W Workshop/Depot
3.	Field Training /Demonstration	Training in NDT Testing of Loco and C&W Components	CMT-19	15	Parent Unit/ Place of posting
4.	Field Training /Demonstration	Training in Physical Testing of Metals	CMT-20	01	Zonal HQRS/Any Well Equipped CMT Labs
	Field Training /Demonstration	Training in Chemical Analysis of Metals & Water	CMT-21	02	Zonal HQRS/Any Well Equipped CMT Labs
	Field Training /Demonstration	Training in Integrated Management System and Pollution Control	CMT-22	02	Zonal HQRS/Any Well Equipped CMT Labs
	Field Training /Demonstration	Training in Metallography	CMT-23	02	Zonal HQRS/Any Well Equipped CMT Labs
5.	Field Training /Demonstration	Training in Rubber, Plastic, Composite & FRP Testing/ Non-Metallic Materials & Paint	CMT-24	04	RCF/ICF
	Field Training /Demonstration	Training in Foundry Practice & Heat Treatment	CMT-25	01	RWF/Bengaluru
	Field Training /Demonstration	Training in Welding	CMT-26	01	PU/ Zonal centers of Excellence for welding
	Field Training /Demonstration	Training on Spring Manufacturing Process	CMT-27	01	ICF/RSK Gwalior
6.	Theory & Demonstration	Training on Ultrasonic Testing of Wheels & Axles	CMT-28	04	RDSO/LKO
	Theory & Demonstration	Training on Investigation & Testing of Failure Cases	CMT-29	01	RDSO/LKO
TOTAL				**52**	

Index for Subject Codes

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Topics for Initial Course at IRIMEE for CMTA

SUBJECT CODE	DESCRIPTION	DURATION IN HOURS
CMT-1	Theoretical Metallurgy of Ferrous & Non-Ferrous Metals & Alloys	35
CMT-2	Theoretical Chemical Analysis of Metals & Water	28
CMT-3	Theoretical Physical Testing of Metals	21
CMT-4	Theoretical NDT Testing	28
CMT-5	Theoretical Lubricant & Fuel Oil Testing/ Lube Oil, Fuel Oil & Transformer Oil Testing	14
CMT-6	Theoretical Rubber, Plastic, Composite & FRP Testing	21
CMT-7	Theoretical Foundry Practice	14
CMT-8	Theoretical Pollution and Waste Management in IR	14
CMT-9	Theoretical Welding	28
CMT-10	Theoretical Engineering Drawing	07
CMT-11	Theoretical Lube Oil, Fuel Oil, Transformer Oil & Coolant Water/ Basics of Diesel & Electric Locomotives including HHP Locos	21
CMT-12	Theory of Basics of Carriage & Wagon	14
CMT-13	Theory of Paint & Corrosion	21
CMT-14	Miscellaneous Topics	14
TOTAL		**280**

Note: Detailing of content under the topics will be done by IRIMEE.

SUBJECT NAME	**RAILWAY ORGANISATION & MANAGEMENT**
SUBJECT CODE	**CMT-15**
MODULE	**CMTA, CMTS**
DURATION	**4 WEEKS**
VENUE	**NEAR BY SUPERVISOR TRAINING CENTRE**

SL NO.	TOPIC	DURATION in HRS
1.	Organization of Indian Railways & Role of Mechanical Department in IR	06
2.	Leave Rule, Pass Rule, D &AR, APAR, RESS	06
3.	General Conditions of service, NPS, HOER, Factory Act, Unions, Incentive Scheme, Over time, Allowances	09
4.	Stock & Non-Stock Items, PL. No., procurement & drawal procedure through stores, introduction to IREPS, Budget & Expenditure heads, liasoning with Accounts department, Scrap Disposal,	12
5.	MSOP, Tenders and Contracts including AMC	06
6.	Use of Ms Word, Excel & Power Point	09
7.	Basic Yoga Aasanas	06
8.	Ethics and Integrity, Role of Vigilance Department in IR	03
9.	Industrial Safety, Disaster Management (Brief only), Firefighting & Emergency Preparedness, First Aid, General Housekeeping	03
10.	Rajbhasha	06
11.	Types of Rolling Stock being used in IR Coaches, Wagons, Self-propelled train sets, their components and identification, Basic operation of Diesel & Electric locomotives, transmission system and major components	36
12.	Technical English and Official communication (Communication Vocabulary, Official Correspondence, General & Technical Report Writing)	06
13.	Visit to Computer Lab	18
14.	Visit to Diesel Model Room	06
15.	Visit to C&W Model Room	06
16.	Fire Fighting Drill	06
TOTAL		**144**

SUBJECT NAME	**Diesel Locomotives and Related M&C testing**
SUBJECT CODE	**CMT-16**
MODULE	**CMTA, CMTS**
DURATION	**1 WEEK**
VENUE	**DIESEL SHEDS**

SL NO.	TOPIC	DURATION in HRS
1.	Demonstration of Diesel Locos types and nomenclature, basic working, DEMUs, Knowledge about Repair Schedules (half yearly, quarterly, heavy schedule) and Familiarization with different components especially those subject to M&C testing.	12
2.	Testing of Lube Oil, Coolant Water (flash point, viscosity, viscosity index, and water contamination), and spectrographic analysis of used lube oil.	24
TOTAL		**36**

SUBJECT NAME	**Electric Locomotives and Related M&C testing**
SUBJECT CODE	**CMT-17**
MODULE	**CMTA, CMTS**
DURATION	**1 WEEK**
VENUE	**ELECTRIC LOCO SHEDS, ELECTRIC TRAINING SCHOOLS, CLW**

SL NO.	TOPIC	DURATION in HRS
1.	Demonstration of Electric Loco, types and nomenclature, working, components, transmission.	18
2.	Testing of transformer oil and other related tests viz. Breakdown voltage, DGA Analysis etc., testing of Grease.	18
TOTAL		**36**

SUBJECT NAME	**Visit to Carriage &Wagon Workshop & Depot**
SUBJECT CODE	**CMT-18**
MODULE	**CMTA, CMTS**
DURATION	**2 WEEKS**
VENUE	**CARRIAGE & WAGON WORKSHOP & DEPOT**

SL NO.	TOPIC	DURATION in HRS
1.	Familiarize about different rolling stock components, their nomenclature, roles and exposure about especially those components pertaining to M&C testing viz. Components frequently subjected to DPT, Zyglo, and Hardness Testing. Coach, Wagon & Diesel POH Schedule.	**48**
2.	Bio Toilet & its Effluent Water Testing to DPT, Zyglo, Hardness Testing. Coach, Wagon & Diesel POH Schedule.	**24**
TOTAL		**72**

SUBJECT NAME	**Training in NDT Testing of Loco and Carriage &Wagon Components**
SUBJECT CODE	**CMT-19**
MODULE	**CMTA, CMTS**
DURATION	**17 WEEKS for CMTA & 15 WEEKS for CMTS**
VENUE	**PARENT UNIT/PLACE OF POSTING**

SL NO.	TOPIC	DURATION in HRS
1.	Demonstration and practice of DPT, MPT, Zyglo (testing as well as components subject to testing), Ultrasonic Testing (familiarization with prevalent COP, data saving in UST machine), X ray, Gamma Ray, EMCD, and other NDT methods prevalent at the place of posting.	612 hrs (CMTA)
		540 hrs (CMTS)

SUBJECT NAME	**Training in Physical Testing of Metals**
SUBJECT CODE	**CMT-20**
MODULE	**CMTA, CMTS**
DURATION	**1 WEEK**
VENUE	**ZONAL HQRS OR ANY WELL EQUIPPED CMT LABS**

SL NO.	TOPIC	DURATION in HRS
1.	Demonstration of Hardness, Tensile, Impact, Bend Tests & Macro examination of different ferrous and non- ferrous materials, their testing equipments and testing procedure	36

SUBJECT NAME	**Training in Chemical Analysis of Metals & Water**
SUBJECT CODE	**CMT-21**
MODULE	**CMTA, CMTS**
DURATION	**2 WEEKS**
VENUE	**ZONAL HQRS OR ANY WELL EQUIPPED CMT LABS**

SL NO.	TOPIC	DURATION in HRS
1.	Demonstration and practice of Wet Analysis, chemical composition estimation, Basic Principle of Spectrograph, Practical Demonstration of chemical analysis of carbon, manganese, Sulphur, phosphorus, nickel, chromium, molybdenum, Strohelling apparatus. Complete testing of store supply including theft cases reported by RPF.	24
2.	Demonstration of Spectrographic analysis (OES, AAS), Spectro sample preparation, calibration, standardization	24
3.	Water testing (battery grade, potable as per IS 10500 and DM water- pH, TDS, hardness, alkalinity etc.)	24
TOTAL		**72**

SUBJECT NAME	**Training in Integrated Management System and Pollution Control**
SUBJECT CODE	**CMT-22**
MODULE	**CMTA, CMTS**
DURATION	**2 WEEKS**
VENUE	**ZONAL HQRS OR ANY WELL EQUIPPED CMT LABS (SHOULD BE NABL ACCREDITATED)**

SL NO.	TOPIC	DURATION in HRS
1.	Pollution, Waste management (segregation and disposal), Operation of ETP, STP and chemicals used for operation, Form-3, Form -8, Pollution Control Board monitoring, Ambient air quality & sound monitoring, illumination level, report making, AMC of ETPS, Measurement Book filling, Safety Cell of any organization, PPEs for ETP.	24
2.	Integrated Management System (ISO 9001, 14001, OHSAS 18001,50001), ISO 3834, implementation, familiarization with related documents	24
3.	NABL accreditation and its procedure	24
TOTAL		**72**

SUBJECT NAME	**Training in Metallography**
SUBJECT CODE	**CMT-23**
MODULE	**CMTA, CMTS**
DURATION	**2 WEEKS**
VENUE	**ZONAL HQRS OR ANY WELL EQUIPPED CMT LABS**

SL NO.	TOPIC	DURATION in HRS
1.	Metallography i.e. familiarization with microstructure of steels and stainless steels & cast iron used in IR, applicability of different structures with respect to their mechanical properties, ASTM grain size.	36
2.	Macro examination, etching, case depth, presence of seam in tubes, inclusions and inclusion rating	24
3.	Failure Investigation & report making	12
TOTAL		**72**

SUBJECT NAME	**Training in Non -Metallic Materials & Paint**
SUBJECT CODE	**CMT-24**
MODULE	**CMTA, CMTS**
DURATION	**4 WEEKS**
VENUE	**RCF/ICF**

SL NO.	TOPIC	DURATION in HRS
1.	Demonstration/ sampling of different types of rubber (silicon, viton, hytrel, neoprene, chloroprene, EPDM etc.), their polymer identification. Tests conducted on Rubber viz. Elongation, Tensile, Shore Hardness equipment, Aging Test.	48
2.	Vinyl wrapping, FRP, Composite Materials, NFTC, Glass, cushioning materials, sealants and additives and tests conducted on these materials viz. tensile, elongation, hardness, LOI, toxicity index test etc. Polymer Identification by FTIR.	48
3.	Different types of Paints, Paint testing, Paint sampling, Demonstration of paint defects and their remedies, DFT & Gloss Value measurement	48
TOTAL		**144**

SUBJECT NAME	**Training in Foundry Practice & Heat Treatment**
SUBJECT CODE	**CMT-25**
MODULE	**CMTA, CMTS**
DURATION	**1 WEEK**
VENUE	**RAIL WHEEL FACTORY/BENGALURU**

SL NO.	TOPIC	DURATION in HRS
1.	Electric Arc Furnace, Furnace charge calculation, refractories used in furnace, Ladle analysis, Casting defects and their identification.	12
2.	Wheel casting, Manufacturing of axles, Forging, Normalizing, Rim quenching	18
3.	NDT/DT Tests conducted on Wheels & Axles during manufacturing and final inspection	06
TOTAL		**36**

SUBJECT NAME	**Training in Welding**
SUBJECT CODE	**CMT-26**
MODULE	**CMTA, CMTS**
DURATION	**1 WEEK**
VENUE	**COACH PRODUCTION UNITS OR ZONAL CENTERS OF EXCELLENCE FOR WELDING**

SL NO.	TOPIC	DURATION in HRS
1.	Demonstration about different welding processes, their identification, process parameters, defects and their identification through visual examination	24
2.	Welding related tests viz. Bend test, tensile test, micro examination, x ray radiography.	06
3.	Welder certification practices	06
TOTAL		**36**

SUBJECT NAME	**Training on Spring manufacturing process**
SUBJECT CODE	**CMT-27**
MODULE	**CMTA, CMTS**
DURATION	**1 WEEK**
VENUE	**ICF/CHENNAI OR RSK GWALIOR**

SL NO.	TOPIC	DURATION in HRS
1.	Production process of different types of Springs, raw material inspection, NDT and other testing between stages and final inspection.	30
2.	Cases of spring failure	06
TOTAL		**36**

SUBJECT NAME	**Training on Ultrasonic Testing of Wheels & Axles**
SUBJECT CODE	**CMT-28**
MODULE	**CMTA, CMTS**
DURATION	**4 WEEKS**
VENUE	**RDSO**

SL NO.	TOPIC	DURATION in HRS
1.	Ultrasonic Testing of Wheels & Axles of Carriage, Wagon & Locomotives	140

SUBJECT NAME	**Training on Investigation & Testing of Failure Cases**
SUBJECT CODE	**CMT-29**
MODULE	**CMTA, CMTS**
DURATION	**1 WEEK**
VENUE	**RDSO**

SL NO.	TOPIC	DURATION in HRS
1.	Failure Investigation Techniques and Case studies	35

Topics for Initial Course at IRIMEE for CMTS

SUBJECT CODE	DESCRIPTION	DURATION in HOURS
CMT-1	Theoretical Metallurgy of Ferrous & Non-Ferrous Metals & Alloys	35
CMT-2	Theoretical Chemical Analysis of Metals & Water	28
CMT-3	Theoretical Physical Testing of Metals	28
CMT-4	Theoretical NDT Testing	21
CMT-5	Theoretical Lubricant & Fuel Oil Testing/ Lube Oil, Fuel Oil & Transformer Oil Testing	14
CMT-6	Theoretical Rubber, Plastic, Composite & FRP Testing	21
CMT-7	Theoretical Foundry Practice	21
CMT-8	Theoretical Pollution and Waste Management in IR	14
CMT-9	Theoretical Welding	35
CMT-13	Theory of Paint & Corrosion	28
CMT-14	Miscellaneous Topics	28
CMT-35	Theoretical Rolling Stock	35
CMT-36	Theory of Modern Instruments	07
CMT-37	Industrial Visit to RDSO	35
TOTAL		**350**

Note: Detailing of content under the topics will be done by IRIMEE.

Some General Guidelines:

a. All the CMA /CMS trainees must report to their Zonal Controlling Officers (ACMTs/ CMTs/ Dy. CCMTs) or the Depot In-charges (Sr. DMEs/ Sr. DEE wherever applicable) for training purpose and the entire training schedule shall be coordinated by them duly incorporating the mandatory component of theoretical as well as field training. Zonal Training Mangers & STC Heads are requested to arrange necessary assistance (viz. boarding and lodging) in this regard.

b. The Induction Course at IRIMEE & Course on Ultrasonic Testing of Wheels & Axles at RDSO is mandatory for every CMAs (including PUs) & CMS. These courses must be completed before the trainee is considered for promotion to next level.

c. If any mandatory course is not done during the 52 weeks period then in that case marks/ weightage for the same shall not be included in the maximum marks while assessing the candidate.

d. The trainee must not be utilized in testing and certifying results during the 52 weeks training period.

e. The Field Training mentioned in the training module is mandatory and should be completed by all trainees before absorption.

f. The assessment for final suitability of the trainee after the completion of training period will have weightage of practical field training.

g. The visit to RCF/ICF can be postponed beyond the 52 weeks period owing to accommodation constraints.

h. One-week course on Failure Investigation will be introduced by RDSO for CMA and CMS starting next calendar year (2020-21).

Examination for CMTA

Session	Subject Code	Type	Weightage in % out of 100	Venue for Assessment	Remarks
I	CMT 1-14	Theory	10	**IRIMEE**	The final assessed marks will be sent to controlling officer of the trainee.
	CMT-15		10	**STC**	Concerned STC will send the assessment result to controlling officer of the trainee
II	CMT-16	Theory	15	**Parent Unit, Place of Posting**	----------
	CMT-17				
	CMT-18				
III	CMT-19	Theory & Practical	15		5 marks is for theory and 10 is for successfully demonstrating any one NDT testing method.
IV	CMT-20	Theory & Practical	10		5 marks is for theory and remaining 5 is for successfully demonstrating any one Physical testing method.
	CMT-21	Theory	5		----------
	CMT-22	Theory	5		----------
	CMT-23	Theory	5		----------
V	CMT-24	Theory	0		----------
	CMT-25	Theory	10		----------
	CMT-26	Theory	10		----------
	CMT-27	Theory	5		----------
VI	CMT-28	------	------	**RDSO**	RDSO will conduct their own assessment like being done previously.
	CMT-29	------	------		
TOTAL			**100**		

NOTE:

1. There will be one suitability test containing theory as per the above weightage and practical assessment wherein the trainee shall be asked to perform the practical demonstration as per the above.

2. The evaluation carried out by IRIMEE and the respective STCs shall be sent to the controlling officers who shall in turn convert them in terms of weightage assigned.

Examination for CMTS

Session	Subject Code	Type	Weightage in % out of 100	Venue for Assessment	Remarks
I	CMT 35-48	Theory	10	**IRIMEE**	The final assessed marks will be sent to controlling officer of the trainee.
	CMT-15		10	**STC**	Concerned STC will send the assessment result to controlling officer of the trainee
II	CMT-16	Theory	15	**Parent Unit, Place of Posting**	----------
	CMT-17				
	CMT-18				
III	CMT-19	Theory & Practical	15		5 marks is for theory and 10 is for successfully demonstrating any one NDT/Physical testing method.
IV	CMT-20	Theory & Practical	10		5 marks is for theory and remaining 5 is for successfully demonstrating any one Physical testing method.
	CMT-21	Theory	5		----------
	CMT-22	Theory	5		----------
	CMT-23	Theory	5		----------
V	CMT-24	Theory	0		----------
	CMT-25	Theory	10		----------
	CMT-26	Theory	10		----------
	CMT-27	Theory	5		----------
VI	CMT-28	------	------	**RDSO**	RDSO will conduct their own assessment like being done previously
	CMT-29	------	------		
TOTAL			**100**		----------

NOTE:

1. There will be one suitability test containing theory as per the above weightage and practical assessment wherein the trainee shall be asked to perform the practical demonstration as per the above.
2. The evaluation carried out by IRIMEE and the respective STCs shall be sent to the controlling officers who shall in turn convert them in terms of weightage assigned