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

RBE No. 74 /2018

No. E(MPP)2018/3/12

New Delhi, Dated 28 05.2018

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

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

Sub: Revised Training course content and duration of Chemical & Metallurgical Assistants (CMAs) and Senior Chemical & Metallurgical Assistants (SCMAs), who are recruited directly in the Metallurgical & Chemical cadre of Indian Railways.

Ministry of Railways (Railway Board) has reviewed the training course and duration of Chemical & Metallurgical Assistants (CMAs) and Senior Chemical & Metallurgical Assistants (SCMAs), who are recruited directly in the Metallurgical & Chemical cadre of Indian Railways.

2. The duration of training of mandatory courses has been reduced and existing syllabus of SCMA has been shortened. The duration of training period has been reduced from 34 days to 28 days and the Classroom lectures have been compacted from 97 to 74.

3. The Theoretical Topics and Practical demonstration that are proposed to be deleted from existing SCMA Course is enclosed in Annexure-A. The Theoretical topics that are proposed to be merged is enclosed in Annexure-B.

3. The above training course and duration have been scanned and uploaded and can be viewed/downloaded from **railnet** http://www.indianrailways.gov.in /railwayboard/view under **E(MPP) Training Circulars**.

4. Kindly acknowledge receipt.

28/5/18

(Mahendra Kumar Gupta)
Director/MPP
Railway Board.

No. E(MPP)2018/3/12 **New Delhi, Dated 26.05.2018**

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 General Secretary, 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).

28.5.18

For Secretary/Railways

No. E(MPP)2018/3/12 **New Delhi, Dated 26 05.2018**

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.

ANNEXURE-A

Theoretical Topics that are proposed to be deleted from existing SCMA Course

S. No.	Topic Title	Justification for Deletion
1.	Ultrasonic Testing of Welds	Ultrasonic testing of welds is not in regular practice across IR, hence the topic may not be required for CMA trainees.
2.	Study of WPS (welding procedure specification)	Work related to this topic is handled by Senior Supervisors (CMS) of C&M Cadre in Zonal railways & PUs, hence may not be required for CMA trainees at this stage.
3.	Personality Development	It's difficult to develop personality in one lecture. Deletion proposed based on Trainee feedback.
4.	High Performance coating system at RDSO by RDSO faculty	The topic is now being covered at IRIMEE in Lecture on **"Different paints used in IR" (previously was not being covered at IRIMEE).**
5.	Different Types of Heat treatment practices taken at DLW	The topic was covered at DLW by Visiting Faculty however the topic may now be covered by IRIMEE faculty.
6.	Class on Ethics	Deletion proposed based on trainee feedback.
7.	Radiography testing of Bogies , sensitivity, IIW standards By Visiting faculty. Lecture taken at IRIMEE	Topic was covered by Visiting Faculty previously. However now theory of this class may be covered in topic named **"Non Destructive Testing Techniques"** taught by IRIMEE faculty while it is suitably demonstrated at DLW and JMP workshop.
8.	Quality Audit of Stainless Steel Welding at Railway Workshops	Elements of this topic are being covered in another topic named **"Quality issues in Welding"**. Hence separate lecture may not be required.
9.	Inspection of Wheels	The topic may be covered along with another lecture named **"Electric Arc Furnace Operation and Wheel casting"**.
10.	Fatigue Failure	The topic is being covered in Lecture on **"Failure Investigation Techniques & case study"** hence separate lecture may not be required.

Practical demonstration that are proposed to be deleted from existing SCMA Course

S. No.	Demonstration Title	Justification for Deletion
1.	Demonstration of Failure Investigation of Railway Components at JMPW /ER	One complete day of demonstration on failure investigation is planned at RDSO/LKO. As RDSO is better equipped to demonstrate various case studies of failure investigation, hence additional visit to JMPW may be curtailed.
2.	Demonstration of different welding processes adopted at JMPW	The welding process demonstration is already being covered during the one week technical visit to DLW. Hence additional demonstration at JMPW may be curtailed.

ANNEX

Theoretical topics that are proposed to be merged

S. No.	Topics	Justification for merging
1.	Tensile Testing basics.	Both topics may be Merged & taught as one lecture named **"Basics of Tensile & Impact Testing".**
	Impact testing (Charpy & Izod).	
2.	Crystal Structure of metals.	Both topics may be Merged & taught as one lecture named **"Crystal Structure of Metals and Phase Rule"**.
	Phase Rule.	
3.	Different paints used in IR	Both topics may be Merged & taught as one lecture named **"Different Paints used in IR."**
	Emerging Trends in Painting.	
4.	Welding and hot cutting in IR.	Both topics may be Merged & taught as one lecture named **"Welding and hot cutting processes in IR".**
	Different Cutting and gauging processes.	
5.	Welding Defects its causes and control	As distortion is also one of the welding defects, hence both topics may be Merged & taught as one lecture named **"Welding defects, their causes and control".**
	Distortion and its control	
6.	NFTC, MMC , Nano Composites	As NFTC, MMC, Nano composites are types of upgraded materials , hence both topics may be Merged & taught as one lecture named **"Introduction to Composites & Upgraded Materials"**
	Performance of Upgraded materials	
7.	Pollution control in Diesel Sheds	May be taught as one lecture **"Pollution and waste control measures in IR".**
	Case study of Solid Waste management in IR	
	Pollution control measures in Workshops	
	Plastic Waste Management	
8.	Metallography	Metallography and macro-examination are interrelated topics hence may be merged & taught as one lecture named **"Metallography".**
	Macro examination process	
9.	Communication Skills	May be taught as lecture named **"Professional Skills Augmentation"** and may include professional drafting.
10.	Quality Fundamentals	As Clause by Clause explanation of ISO 9001, 14001 may not be required for CMA Trainees both the lectures may be merged as one lecture named **"Basics of Different Quality related issues".**
	Basics of ISO 9001, ISO14001	
11.	Welding of Dissimilar metals	As too much depth in welding of dissimilar metals & welding of stainless steel may not be useful for trainees initially. Hence for CMA trainees, both the topics may be merged & taught as one lecture named **"Welding of Stainless Steel & Dissimilar Metals".**
	Welding of Stainless steel	

Technical Demonstrations which are proposed to be merged

S. No.	Topic Name	Reason for merging
1.	Demonstration of different testing of Lube Oil, Fuel & Coolant Water at Diesel Shed/JMP	Facility of oil spectrograph is not available at Diesel Shed Jamalpur. The trainees are taken to DLS /MLDT for practical demonstration & viewing the same. Hence demonstration of testing of Lube Oil, Fuel Oil & Coolant water may also be included with demonstration on Oil spectrograph.
	Demonstration on spectroscopic estimation of elements of lube oil & their significance At DLS/MLDT	
2.	Practical class and demonstration on painting schedule of coaches & wagons C & W Workshop, LLH.	A one day Technical Visit to Liluah Workshop is already in the course for demonstration of painting of coaches, hence Demonstration of Painting of Wagons can also be covered at Liluah Workshop. Hence may be merged.
	Demonstration of different steps in painting of new & old wagons at JMPW.	
3.	Study of code of procedure of different axles at RDSO	One full day demonstration of UST is given at RDSO/LKO which is found very effective; more over trainees raised the same point in their feedback. Hence demonstration at JMPW may not be required.
	Demonstration of UT of Axle with code of procedure at JMPW	
4.	Practical class & demonstration on Brass & Bronze analysis at JMPW	Practice of white metal testing is quite obsolete nowadays due to very limited use of White metal and closure of foundries. Hence the demonstration may be merged with Brass and Bronze analysis and can be covered in single demonstration.
	Practical Class & demonstration on White metal analysis at JMPW	