कार्यालय महाप्रबन्धक (कार्मिक), पूर्वोत्तर रेलवे/गोरखपुर–273012
Office of the General Manager (P), N. E. Railway Gorakhpur-273012

क्रमाँक:– 148

File No: NER-HQ0PERS(POLI)/118/2025-O/o SPO/HQ/HQ/NER (**Computer No:** 140212) दिनाँक :-11/09/2025

सचिव/महाप्रबन्धक
सचिव/अपर महाप्रबन्धक
सभी विभागाध्यक्ष
सभी मण्डल रेल प्रबन्धक
सभी कार्मिक अधिकारी
सभी मुख्य कारखाना प्रबन्धक
सभी अतिरिक्त मण्डलाधिकारी/स्थापना
पूर्वोत्तर रेलवे

विषय :– यॉंत्रिक विभाग के विभिन्न पदो पर चयन हेतु कामन पाठयक्रम उपलब्ध कराने के सम्बन्ध में।

संन्दर्भ :– महाप्रबन्धक/कार्मिक/गोरखपुर का पत्र संख्या ई/2025/सर्कुलर/चार दिनॉक 25.06.2025

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विषयगत मामले में यॉंत्रिक विभाग के विभिन्न पदों पर चयन हेतु निम्नलिखित कामन पाठयक्रम आवश्यक कार्रवाई हेतु जारी किया जा रहा है–

S.NO	CATEGORY	QUOTA
1	CHEMICAL AND METALLURGICAL SUPERINTENDENT (CMS)	33.33% LDCE
2	CHEMICAL AND METALLURGICAL ASSISTANT (CMA)	33.33% DPQ
3	JUNIOR ENGINEER/C&W	25% PQ DPQ
4	JUNIOR ENGINEER/C&W	25% I.Q. LDCE
5	JUNIOR ENGINEER/MECH (Workshop)	25% PQ DPQ
6	JUNIOR ENGINEER/MECH (Workshop)	25% I.Q. LDCE
7	Tech-III/C&W	25% I.Q. LDCE
8	JUNIOR ENGINEER/MECH	25% I.Q. LDCE

अतः उक्त मामले में तद्नुसार आवश्यक कार्रवाई सुनिश्चित करें।

उपरोक्त पाठयक्रम पर प्रमुयॉई का अनुमोदन प्राप्त है।

संलग्नक/यथोपरि

Digitally Signed by Vinod Kumar Dwivedi
Date: 11-09-2025 13:41:22
Reason: Approved

(वी.के.द्विवेदी)
उपमुकाधि/मुख्यालय
कृते महाप्रबन्धक/कार्मिक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित:-
1)महामंत्री /एन.ई.रेलवे मेन्स कांग्रेस/पूर्वोत्तर रेलवे/गोरखपुर
2) महामंत्री /प्रोमोटी अधिकारी संघ /पूर्वोत्तर रेलवे /गोरखपुर
3) पूर्वोत्तर रेलवे प्रथम श्रेणी अधिकारी संघ /गोरखपुर
4) महामंत्री /एस.सी/ एस.टी एशोसियेशन /गोरखपुर

कृते महाप्रबन्धक/कार्मिक

कार्यालय महाप्रबन्धक (कार्मिक), पूर्वोत्तर रेलवे/गोरखपुर–273012
Office of the General Manager (P), N. E. Railway Gorakhpur-273012

क्रमाँक:– 148

File No: NER-HQ0PERS(POLI)/118/2025-O/o SPO/HQ/HQ/NER (**Computer No:** 140212) दिनाँक :-11/09/2025

सचिव/महाप्रबन्धक
सचिव/अपर महाप्रबन्धक
सभी विभागाध्यक्ष
सभी मण्डल रेल प्रबन्धक
सभी कार्मिक अधिकारी
सभी मुख्य कारखाना प्रबन्धक
सभी अतिरिक्त मण्डलाधिकारी/स्थापना
पूर्वोत्तर रेलवे

विषय :– यॉंत्रिक विभाग के विभिन्न पदो पर चयन हेतु कामन पाठयक्रम उपलब्ध कराने के सम्बन्ध में।

संन्दर्भ :– महाप्रबन्धक/कार्मिक/गोरखपुर का पत्र संख्या ई/2025/सर्कुलर/चार दिनॉक 25.06.2025

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विषयगत मामले में यॉंत्रिक विभाग के विभिन्न पदों पर चयन हेतु निम्नलिखित कामन पाठयक्रम आवश्यक कार्रवाई हेतु जारी किया जा रहा है–

S.NO	CATEGORY	QUOTA
1	CHEMICAL AND METALLURGICAL SUPERINTENDENT (CMS)	33.33% LDCE
2	CHEMICAL AND METALLURGICAL ASSISTANT (CMA)	33.33% DPQ
3	JUNIOR ENGINEER/C&W	25% PQ DPQ
4	JUNIOR ENGINEER/C&W	25% I.Q. LDCE
5	JUNIOR ENGINEER/MECH (Workshop)	25% PQ DPQ
6	JUNIOR ENGINEER/MECH (Workshop)	25% I.Q. LDCE
7	Tech-III/C&W	25% I.Q. LDCE
8	JUNIOR ENGINEER/MECH	25% I.Q. LDCE

अतः उक्त मामले में तद्नुसार आवश्यक कार्रवाई सुनिश्चित करें।

उपरोक्त पाठयक्रम पर प्रमुयॉई का अनुमोदन प्राप्त है।

संलग्नक/यथोपरि

(वी.के.द्विवेद्वी)
उपमुकाधि/मुख्यालय
कृते महाप्रबन्धक/कार्मिक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित:-
1)महामंत्री /एन.ई.रेलवे मेन्स कांग्रेस/पूर्वोत्तर रेलवे/गोरखपुर
2) महामंत्री /प्रोमोटी अधिकारी संघ /पूर्वोत्तर रेलवे /गोरखपुर
3) पूर्वोत्तर रेलवे प्रथम श्रेणी अधिकारी संघ /गोरखपुर
4) महामंत्री /एस.सी/ एस.टी एशोसियेशन /गोरखपुर

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Date: 11-09-2025 13:42:01
Reason: Approved

कृते महाप्रबन्धक/कार्मिक

SYLLABUS FOR THE POST OF CHEMICAL AND METALLURGICAL SUPERINTENDENT (CMS) - 33.33% LDCE

1. Brief knowledge of different Ferrous & Non-Ferrous materials used in Indian Railways
    a. Carbon Steels and their types
    b. High Speed Steels/Tool steels Spring Steels
    c. Different types of Cast iron
    d. Bearing alloys
    e. Brass & Bronze
    f. ETP Copper
    g. Aluminium and its alloys
    h. Spring Steel
2. Brief knowledge of role of different element in materials
    a. Carbon, Manganese, Silicon, Nickel, Chromium, Vanadium, Molybdenum, Sulphur, Phosphorous, Tungsten in ferrous materials.
    b. Copper, Zinc, Tin, Lead, Antimony, Nickel, Phosphorous etc in brass, bronze and other bearing alloys.
    c. Copper, Manganese, Magnesium, Iron etc in Aluminium alloys
3. Brief knowledge of Physical Properties of Materials
    a. Hardness, method of test, relevant specifications and different scales.
    b. Tensile Strength, Yield Strength and Elongation.
    c. Bend Test and Impact Tests
4. Brief knowledge of Macro & Micro examination
    a. Different Etching solutions and their compositions
    b. Case Depth and Heat affected zone
    c. Different Micro Structures of steels and cast iron
5. Brief knowledge of Heat treatment
    a. Different heat treatment processes
    b. Iron-Carbon diagram and T-T-T curve
    c. Case and Surface hardening processes
6. Chemical analysis of materials
    a. Estimation of Mn, P, S and Cr in ferrous alloys
    b. Estimation of C and S through Strohlein Apparatus
    c. Estimation of Si, Ni, Mo and W
    d. Electro gravimetric estimation of Cu and Pb
    e. Chemical analysis of White metal
    f. Brief knowledge of Optical Emission Spectroscopy (OES)
7. Visual Examination and non-destructive testing (NDT)
    a. Visual examination/inspection of components
    b. Liquid Penetrant test (RDP and Zyglo)
    c. Magnetic Particle inspection (MPI/Magnaflux)
    d. Eddy current testing
    e. Ultrasonic testing of axles and wheels
    f. Brief knowledge of Radiography
8. Transformer oil of electric Locomotives
    a. Brief knowledge of types of transformer oil
    b. Dissolved gas analysis (DGA) and acceptable limits of different dissolved gases.
    c. Dielectric strength and Breakdown Voltage (BDV) test
9. Grease, Gear case oil and Lube oil

a. Brief knowledge of different types of Grease and Lube oil used in Coaches/Electric & Diesel Locomotives.
b. Ferrous debris test of Grease and Gear case oil
c. Drop point test of Grease
d. Viscosity, Sulphur, Pour point and Flash point test of HSD oil
e. Viscosity and Flash point test of Gear case oil and Lube oil
f. Optical Emission Spectroscopy of Lube oils and acceptable limits of different metal concentrations.

10. Brief knowledge of Thermit Welding and Flash Butt Welding of Rails
    a. Different types of Rails in India Railways.
    b. Different ingredients of Thermit portions
    c. Defects and their Precautions
11. Brief knowledge of Welding
    a. Different types of Welding processes
    b. Different types of Electrodes used in IR ,their specifications & testing
    c. Welding defects and their remedies.
12. Corrosion Prevention and Paint Testing
    a. Types of paints (Enamel PU and Epoxy) and Their applications
    b. Painting Process
    c. General Testing of paint:
        (i) Consistency and Viscosity
        (ii) Drying time
        (iii) Fineness
        (iv) Gloss and DFT measurement
        (v) Scratch hardness
    d. Painting Defects and their precautions
13. Rubber and Plastics
    a. Different types of Rubbers used in Indian Railways
    b. Polymer identification of different rubber and elastomers
    c. Hardness and different scale of hardness
    d. Swelling test, Tensile test and Compression set.
14. Quality management system and Certification
    a. Brief knowledge of quality systems like Integrated Management System (IMS, 55, Energy Management System to ISO 50001).
    b. NABL Accreditation of Testing Laboratories.
    c. Calibration of testing equipments

15. Establishment
    a. Leave Rules, Pass Rules
    b. DAR, HOER
16. राजभाषा नीति एंव राजभाषा से संबंधित जानकारी|

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DY CME/PLANNING/NER

SYLLABUS FOR THE POST OF CHEMICAL AND METALLURGICAL ASSISTANT (CMA) - 33.33% DPQ

1. Testing of Ferrous & Non-ferrous material used in Indian Railways.
    a. Different types of Carbon Steel
    b. Low alloy steel - Spring Steel
    c. High alloy steel - Stainless Steel, Tool Steel
    d. Different type of cast iron
    e. Copper and its alloys
    f. Aluminium and its alloys
2. Brief knowledge of role of alloying elements - C, Mn, Si, Ni, Cr, V, Mo, P, W, Cu etc.
3. Brief Knowledge of mechanical properties of metals -
    a. Tensile properties - UTS, YS, %EI, %RA
    b. Hardness-Brinell, Rockwell, Vickers & Micro Vickers
    c. Bend & Re-bend Test
    d. Impact test- Izod & Charpy
4. Brief knowledge of Metallography
    a. Micro Analysis - Micro structure, Grain Size, Inclusion rating, Depth of Carburization & Decarburization.
    b. Macro Analysis - Flow lines, Weld Defect etc.
5. Brief knowledge of Heat treatment - Different methods of heat treatment such as case carburizing, Nitriding, cyaniding etc.
6. Non-Destructive testing -
    a. Visual Examination
    b. Penetrant testing - DPT & Fluorescent
    c. MPI/MPT/Magnaflux
    d. UST of axles & wheels
    e. Eddy current testing
7. Testing of transformer oil
    a. Dissolved gas analysis
    b. Acidity test
    c. Moisture content test
8. Testing of Lube oil & Grease
    a. Different type of lube oil & grease used in carriage, wagon, diesel & electric locomotive.
    b. Viscosity, Pour point, Dew point, Drop point.
    c. Spectrography test of lube oil
9. Brief knowledge of general welding
    a. Different types of Welding processes
    b. Different types of Electrodes used in IR ,their specifications & testing
    c. Welding defects and their remedies.
10. Testing of Rubber & Plastic products
    a. Different type of Rubber & plastic used in Indian Railway.
    b. Polymer Identification test
    c. Shore Hardness test
    d. Swelling test
    e. Compression test
    f. Tensile test

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11. Corrosion prevention and Paint Testing
    a. Painting process of coaches in Indian Railway
    b. Testing of consistency & viscosity
    c. Drying time
    d. Scratch Hardness
    e. Gloss value & DFT measurement etc.
    f. Painting defects and its prevention
    g. Phosphating process used in Indian Railway

12. Pollution control activities - Water, Air & Land pollution, Hazardous waste, Noise Pollution etc.
13. Establishment
    a. Leave Rules, Pass Rules
    b. DAR & HOER
14. राजभाषा नीति एंव राजभाषा से संबंधित जानकारी |

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DY CME/PLANNING/NER

1517726/2025/O/o DY CME/PLG/HQ/NER

SYLLABUS FOR THE WRITTEN TEST FOR THE POST OF JUNIOR ENGINEER/C&W (25% PQ DPQ)

1. Information about the rules in **IRCA Part–III** and **IRCA Part–IV**, including various regulations, rejectable defects, etc.Maintenance pattern of RPC-IV in coaching stock.NMG maintenance.
2. Details of traffic codes for different types of passenger coach cars, and information on various maintenance periods, etc.
3. Tasks to be carried out during different inspection schedule periods prescribed for passenger coaches (ICF LHB, DEMU, MEMU, Trainset, Vande Bharat, Amrit Bharat etc).SCTR & RTR procedures for coaching stock.
4. Different types of freight stocks and information related to their examinations and maintenance. SWTR & RTR procedures for wagon stock.
5. Information about brake power continuity tests and maintenance rules for passenger and freight stock, along with details about GDR.
6. Knowledge of the working system of the air brake method.
7. Information on the working system of various fittings installed in passenger and freight coaches.
8. Details of wheels, CBC (Centre Buffer Coupler), axle defects, and their new–old sizes.
9. Suggested modifications in various freight and coaching rolling stocks.
10. Rules for calling and dispatching an accident relief train for accident relief operations, and the duties of the senior supervisor at the accident site.
11. Information about the fittings in all types coaching stocks.
12. Information about bio-toilets.
13. Information on the working of railway laundry, machines being used and the codal life of various laundry items.
14. Information about OMRS, HWD, ABD, MVIS etc.
15. Knowledge of various gauges used in maintenance and their working.
16. Knowledge of condemning limits and tolerances of various dimensions in freight and coaching stocks.
17. Concepts like FDS/FDSS, FIBA, WSP, bio-toilet systems, PFS/EPPFS etc.
18. EnHM activities, green co rating of stations, pest and rodent control.
19. Basic knowledge of CMM, FMM, ICMS, FOIS, Railmadad.
20. Basic Knowledge of following:
    a. Mathematics (knowledge up to Class 12 level).
    b. General knowledge and current affair.
    c. Procurement of Non-Stock Items and A, B, C classification in inventory management.
    d. Leave Rules, Pass Rules, DAR rules.
    e. Knowledge of English at high school level.
    f. Knowledge of Indian Railways.
21. राजभाषा नीति एंव राजभाषा से संबंधित जानकारी।

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DY CME/PLANNING/NER

1517726/2025/O/o DY CME/PLG/HQ/NER

SYLLABUS FOR THE WRITTEN TEST FOR THE POST OF JUNIOR ENGINEER/C&W (25% I.Q. LDCE)

1. Information about the rules in **IRCA Part–III** and **IRCA Part–IV**, including various regulations, rejectable defects, etc. Maintenance pattern of RPC-IV in coaching stock. NMG maintenance.
2. Details of traffic codes for different types of passenger coach cars, and information on various maintenance periods, etc.
3. Tasks to be carried out during different inspection schedule periods prescribed for passenger coaches (ICF LHB, DEMU, MEMU, Trainset, Vande Bharat, Amrit Bharat etc). SCTR & RTR procedures for coaching stock.
4. Different types of freight stocks and information related to their examinations and maintenance. SWTR & RTR procedures for wagon stock.
5. Information about brake power continuity tests and maintenance rules for passenger and freight stock, along with details about GDR.
6. Knowledge of the working system of the air brake method.
7. Information on the working system of various fittings installed in passenger and freight coaches.
8. Details of wheels, CBC (Centre Buffer Coupler), axle defects, and their new–old sizes.
9. Suggested modifications in various freight and coaching rolling stocks.
10. Rules for calling and dispatching an accident relief train for accident relief operations, and the duties of the senior supervisor at the accident site.
11. Information about the fittings in all types coaching stocks.
12. Information about bio-toilets.
13. Information on the working of railway laundry, machines being used and the codal life of various laundry items.
14. Information about OMRS, HWD, ABD, MVIS etc.
15. Knowledge of various gauges used in maintenance and their working.
16. Knowledge of condemning limits and tolerances of various dimensions in freight and coaching stocks.
17. Concepts like FDS/FDSS, FIBA, WSP, bio-toilet systems, PFS/EPPFS etc.
18. EnHM activities, green co rating of stations, pest and rodent control.
19. Basic knowledge of CMM, FMM, ICMS, FOIS, Railmadad.
20. Basic Knowledge of following:
    a. Mathematics (knowledge up to Class 12 level).
    b. General knowledge and current affair.
    c. Procurement of Non-Stock Items and A, B, C classification in inventory management.
    d. Leave Rules, Pass Rules, DAR rules.
    e. Knowledge of English at high school level.
    f. Knowledge of Indian Railways.
21. राजभाषा नीति एंव राजभाषा से संबंधित जानकारी।

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DY CME/PLANNING/NER

1517726/2025/O/o DY CME/PLG/HQ/NER

SYLLABUS FOR THE WRITTEN TEST FOR THE POST OF JUNIOR ENGINEER/MECH (WORKSHOP) 25% PQ DPQ.

1. **Knowledge about LHB coaches:** Important parameters & overall dimensions of LHB coach. Detailed knowledge about its Shell, Air Brake System, Bogie, Coupler & Buffing Gears, IR-DRDO bio-digester tank, painting, Interior fitting and different Maintenance Schedules.
2. **Knowledge about ICF COACHES:** Detailed knowledge about its Shell, Bogie, Coupler Air Brake System, Draw and Buffing Gear, wheel & Axle, painting, Interior fitting and different Maintenance Schedules.
3. **English**: Knowledge of English at high school level
4. **Mathematics:** Knowledge of Algebra, Geometry, and Trigonometry upto Class XII, Simple Equations, Square Root, Cube Root & Units of Measurements
5. **Science:** Physics and Chemistry up to Class XII. Basic knowledge about Laws of Motion, Momentum, Work, Energy, Power and Heat.
6. **Technical Knowledge:** of commonly used Engineering Material - Ferrous and Non-Ferrous. Properties of Material -Physical and Chemical, Heat Treatment of Metals. Basic knowledge of Engineering Drawing including various Symbols & Tolerance.
7. **Establishment:** Disciplinary and Appeal Rules (D&AR), Pass Rules, Leave Rules, Hours of Employment Regulations (HOER)
8. **General Knowledge:**
   a) Current affairs
   b) Art and culture of India
   c) Indian Railways
   d) Sports
9. Basic Knowledge about computer & it's working.
10. **राजभाषा नीति एंव राजभाषा से संबंधित जानकारी|**

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DY CME/PLANNING/NER

SYLLABUS FOR THE WRITTEN TEST FOR THE POST OF JUNIOR ENGINEER/MECH (WORKSHOP) - 25% I.Q. LDCE.

1. **Knowledge about LHB coaches:** Important parameters & overall dimensions of LHB coach. Detailed knowledge about its Shell, Air Brake System, Bogie, Coupler & Buffing Gears, IR-DRDO bio-digester tank, painting, Interior fitting and different Maintenance Schedules.
2. **Knowledge about ICF COACHES:** Detailed knowledge about its Shell, Bogie, Coupler Air Brake System, Draw and Buffing Gear, wheel & Axle, painting, Interior fitting and different Maintenance Schedules.
3. **English**: Knowledge of English at high school level
4. **Mathematics:** Knowledge of Algebra, Geometry, and Trigonometry up to Class XII, Simple Equations, Square Root, Cube Root & Units of Measurements
5. **Science:** Physics and Chemistry up to Class XII. Basic knowledge about Laws of Motion, Momentum, Work, Energy, Power and Heat.
6. **Technical Knowledge:** of commonly used Engineering Material - Ferrous and Non-Ferrous. Properties of Material -Physical and Chemical, Heat Treatment of Metals. Basic knowledge of Engineering Drawing including various Symbols & Tolerance.
7. **Establishment:** Disciplinary and Appeal Rules (D&AR), Pass Rules, Leave Rules, Hours of Employment Regulations (HOER)
8. **General Knowledge:**
   a) Current affairs
   b) Art and culture of India
   c) Indian Railways
   d) Sports
9. Basic Knowledge about computer & it's working.
10. राजभाषा नीति एंव राजभाषा से संबंधित जानकारी|

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DY CME/PLANNING/NER

SYLLABUS FOR THE WRITTEN TEST FOR THE POST OF TECH-III/C&W (25% I.Q. LDCE)

1. Maintenance schedules for all types of coaching stock and all types of wagon stocks, along with their periodicities. Coaching stocks will briefly include (ICF LHB, DEMU, MEMU, Trainset, Vande Bharat, Amrit Bharat and all other stocks running in Indian railways).
2. Procedures for train examination of both passenger and goods trains, including knowledge of passenger amenities fitted in the coaches and records maintained during examinations.
3. Working of the air brake system, continuity in trains, GDR.
4. Familiarity with various measuring instruments used in the C&W department.
5. Basics of LHB, ICF coaches, their designs features.
6. Procedures for breakdown attention, ART ARME working and protocol during disaster management.
7. Stores inventory knowledge, especially stock items, non-stock items, and imprest items.
8. राजभाषा नीति एंव राजभाषा से संबंधित जानकारी |
9. General Knowledge, General English, General Science up to Matriculation standard.
10. General knowledge of Indian Railways.
11. Basic about Discipline and Appeal Corporation (DAR), leave rules & pass rules.

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DY CME/PLANNING/NER

SYLLABUS FOR THE WRITTEN TEST FOR THE POST OF JUNIOR ENGINEER/MECH THROUGH 25% I.Q. LDCE.

1. **Basic knowledge of following:**
    a. Mathematics knowledge (up to Class 12 level).
    b. राजभाषा नीति एंव राजभाषा से संबंधित जानकारी|
    c. General knowledgeand current affair.
    d. Procurement of Non-Stock Items and A, B, C classification in inventory management.
    e. Leave Rules, Pass Rules, DAR rules, HOER, Payment of Wages Act, Factories Act, Workman's Compensation Act.
    f. English grammar and vocabulary.
    g. Knowledge of Indian railways and different departments.
2. **Workshop Practice & Procedures:**

Incentive Scheme in Workshops, Working of Production Control Organization (PCO), Knowledge of Stores Procedures (Indenting, drawal / Disposal of Items, etc.).

3. **General mechanical engineering:**
    a. Knowledge of commonly used Engineering Material - Ferrous and Non-Ferrous. Properties of Material- Physical and Chemical, Heat Treatment of Metals.
    b. Basic knowledge of engineering drawings including various drawing Symbols. General principles of Dimensioning and Tolerancing.
4. **BG coaches (all types):**

Through knowledge of all types of coach and their maintenance activities in open line and workshop which broadly includes the following :

A. ***COACH:*** Knowledge of important parameters & overall dimensions,codal life, Periodic Overhauling, Maintenance pattern for coaching trains, Examination of Trains.

B. ***SHELL:*** Knowledge of Repair to Roof, body handles, pivots, Partition wall, Seat Pillar/mounting plate, Draw & Buffing gear support structure, Body Bolster, Centre Pivot, Water Tank Support Structure and floor channel.

C. ***BOGIE:*** Knowledge of Bogie frame and all bogie assembly with its components, Centre Pivot arrangement, Side Bearers, Shock absorbers, Coil/air Springs, FIBA system, anti-roll bar, traction centre, etc. Torque Values for Key LHB Components.

D. ***AIR BRAKE SYSTEM:*** complete knowledge of air brake system of all types of coaching stock which includes Knowledge of Testing, overhauling etc. of Air Brake System, Air Brake Subassemblies, Common pipe bracket, Air brake hose, cut off angle cock, Brake Cylinder, Dirt Collector, Auxiliary Reservoir, Guard's Emergency Brake Valve, Distributor Valve, Passenger Emergency alarm system device, Check valve, Isolating cock, Round Trip examination and Maintenance Schedules(ex: A, B, D1,D2, D3, SS1, SS2, SS3). Must change items. RTR and SCTR. Knowledge of Composite brake block, brake disk, Hand Brake Mechanism, Maintenance Instructions of Bogie mounted Brake Cylinders and working principle of BMBS etc.

E. ***DRAW AND BUFFING GEAR:*** Knowledge of Enhanced Draw gear & Screw Couplings, knowledge of ICF type buffers, balance draft, buffer height etc.

F. ***ROLLING GEAR:*** Knowledge of Wheel & Axle, Category of Wheels, Repair Procedure for different categories of wheels, Axle box assembly, roller bearing, Roller bearing defects and remedial measures.

G. ***PAINTING:*** Knowledge of Paint schedules, Interior painting, marking of coaches together with exterior, T&P for painting, painting of parts.

H. ***INTERIOR FITTING:*** Amenities fitting for coaching schedule, windows, floor, seats and berths, doors vestibule and furnishing material

5. **BG freight (all types):**
   - **A. Types of freight wagons**: BOXN, BOXNHL, BOBRN, BTPN, BCN, BCNA, etc.
   - **B. Design codes** and nomenclature.
   - **C. Major assemblies**: body, underframe, bogies, brake system, couplers, draft gear etc.
   - **D. Maintenance Schedules:** trip schedule, ROH, POH, NPOH.
   - **E. IRCA III:** knowledge of various maintenance practice mentioned in IRCA III.
   - **F. G&SR** (General & Subsidiary Rules) relevant to mechanical staff.
   - **G.** Common sick wagon defects and their rectification.
   - **H.** Hot axle, brake binding working of OMRS, HBD, ABD MVIS etc.
6. **Welding:** welding theory, types, Heat-affected zone (HAZ), Preheating & post-weld heat treatment, list of tools and plant required for welding, welding defects and repair.

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DY CME/PLANNING/NER