

Dated:- 16.08.2019

No:- ECR/HRD/GAZ/254/AME (Gr.'B)/30%/2019

Secy. to GM/ECR: For kind information of GM
PS-I to AGM: For kind information of AGM
Secy. To PCPO: For kind information of PCPO
GM (P)/CORE/Allahabad
General Manager/RITES/NDLS
PCME/ECR/HJP, SDGM/ECR/HJP
CAO (Con)/N & S/MHX/ECR/PNBE, CAO/WP/PNBE
CAO (GELF)/ECR/DMH, CPD/RE/DNR
Chairman/RRB/Patna & MFP, CPO/Law & Con/MHX
DRM/ECR/DNR, MGS, DHN, SEE & SPJ
CWM/PD/ECR/MGS, WS/SPJ & CRW/HRT
Sr.DPOs/ECR/DNR, MGS, DHN, SEE & SPJ
Sr.DMEs/ECR/ DNR, MGS, DHN, SEE & SPJ
Dy.CPO/HQ/ECR/HJP
Principal/ZRTI/E.C.Rly/Bhuli & MFP
SPO/Rectt./ECR/HJP
SPO/MPP/ECR/HJP : For uploading on Net.
All Extra Divisional Units

OS/IT
7/1/19

Sub:- **Limited Departmental Competitive Examination (LDCE) for the post of AME (Gr. 'B') in pay band ₹ 9300-34800 (Level-8) Grade pay ₹ 4800 against 30% quota.**

It has been decided with the approval of the Competent Authority to hold a LDCE for forming a panel against 04 vacancies (UR-03, SC-01, ST- Nil) of AME (Gr. -'B') against 30% quota on E.C. Railway.

As decided by Railway Board vide L.No.E(GP)2002/2/88 dt. 31.01.2006, that there will be combined selection for the different streams of Mechanical Department i.e. for the post of AME/C&W, AME/Power and AWM.

The details are given below:-

(1) **TENTATIVE PROGRAMME OF PRE-QUALIFYING, MAIN EXAMINATION & VIVA-VOCE**

- | | |
|---|--|
| (A) Date of <u>Pre-qualifying examination</u> (100 Marks/Objective type MCQ) :- | } Will be
intimated in
due course. |
| (B) Date of <u>Main examination</u> (100 Marks/Descriptive type) :- | |
| (C) Venue :- | |
| (D) Duration :- | |
| (E) Viva-voce :- | |

(2) **Eligibility:- (As on 24.10.2018)**

- a) All permanent Group 'C' technical staff & running staff of Mechanical Department working/holding lien in Mechanical Department of East Central Railway in Pay Band Rs.9300-34800 (PB-2) with Grade Pay Rs.4200/- (Level- 6 in 7th CPC) and above including Shunter-II of Mechanical Department/E.C. Railway working in Pay Band Rs 5200-20200/- (PB-1) Grade Pay Rs.2400/- (equivalent to the stationary post in Pay Band Rs.9300-34800/- (PB-2) Grade Pay Rs.4200/- & above as per RBE No. 92/2015) including those who are working in other Railways/units and on deputation having lien and seniority on East Central Railway and completed minimum 5 years of non-fortuitous regular service in the grade(s) as on 24.10.2018 are eligible to volunteer for the LDCE.

However, those Gr.'C' employees who have been provided Grade Pay 4200/- or above in PB-2 (9300-34800) under ACP /MACP are not eligible to volunteer for the above written examination.

The cut-off date of eligibility for 30% LDCE is 24.10.2018 which is same as in selection against AME (70%).

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- b) As per Railway Board's letter No. E(GP)2005/2/74 dt 13.03.08 (RBE 40/08), in case of persons transferred at own request to a new unit in the same category of posts, and assigned bottom seniority therein, the service rendered by them in the previous unit may be reckoned for determining their eligibility wherever a minimum length of service is prescribed as a condition for promotion in the new unit, subject to the condition that the length of service which is so allowed to be counted does not exceed the length of service of their immediate senior in the new unit.
- c) Those Railway employees who have come on own request transfer/mutual transfer and joined E.C. Railway after the cut off date i.e. 24.10.2018 will not eligible to appear in this selection.
- (3) Eligible staff who desire to volunteer for the above LDCE may submit their application through proper channel to their respective Personnel Branch where they hold lien & seniority.
- (4) Eligible staff working in the Construction/Project organization on deputation or in training or in any ex-cadre post, who desire to volunteer for the above LDCE may also submit their application through their respective Personnel Branch where they hold lien & seniority. The Personnel/Controlling Officers of the concerned Divisions/Units are advise to transmit the notification to the staff, who are on deputation through their Divisions/Units.
- (5) When an employee is holding an ex-cadre post, details of his/her post in regular cadre with the grade and date of entry as a regular measure should be furnished. This may also be brought to the notice of all concerned. It may be ensured that wide publicity is given to this Notification amongst all the eligible staff. It is the personal responsibility of the Personnel Officers/Controlling Officers of the Units to ensure that the notification reaches to all the eligible employees well in time.
- (6) All the volunteers who fulfill the above mentioned conditions of eligibility will get the chance to compete in the said LDCE, without any restrictions to the number of candidates to be allowed for appearing in the examination.
- (7) The above LDCE will be based on the candidate's performance in Written Examination, viva-voce & record of service. Only the candidates, who qualify in the Written Examination, and found medically fit for Safety category post of AME(Gr.B) as prescribed in Indian Railway Medical Manual will be called for Viva-voce test. The placement of the candidates in the panel will be based on their performance in Written Examination, Viva-voce test and Record of service as per extant instructions of Railway Board and will be strictly as per merit.
- (8) In terms of RBE No. 53/2019, dt. 19.03.19, the Written Examination will be held in two stages viz. Pre-qualifying Examination and Main Examination as elaborated below:-

8.1- Pre-qualifying Examination:

- (a) There shall be a Pre-qualifying single paper examination of 100 marks which shall have 100% Objective type Multiple Choice Question only.
- (b) **The distribution of marks will be as under:**

Technical subject	40 marks
General Knowledge including optional Questions on Official language Policy	30 marks
Establishment & Financial Rules	30 marks

Note : There shall be negative marking for incorrect answers. One-third of the marks allotted for each question will be deducted for every wrong answer. No corrections of any type(viz. cutting, overwriting, scoring off a ticked answer & ticking another answer, erasing, modifying the answer in any way) will be permitted-Zero marks will be awarded in such cases of corrections.

8.2- Qualifying Marks:

The candidates scoring 75% marks and above in the Pre-qualifying Examination shall be eligible for appearing in the Main Examination and for this, number of candidates will be restricted to 5 times the number of respective vacancies in order of merit.

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8.3- Main Examination:

The Pre-qualifying Examination will be followed by one descriptive type paper on Professional Subject comprising of 100 marks and the qualifying marks in the written examination will be 60% and above.

- (9) Total marks and qualifying marks under the heading "Viva-Voce and Record of service" are as under:-

Head	Maximum Marks		Qualifying Marks
Record of Service -	25	} Total 50 marks	30, in which 15 marks for Record of service will be essential.
Viva-voce test -	25		

- (10) The question paper will be bi-lingual, i.e both in Hindi and English. It will be candidate's choice to write in any one of these languages. The candidate should clearly indicate his/her choice of language in the space of the application format. If candidate writes in other than language indicated by him/her, such portion(s) of answer(s) shall not be evaluated.
- (11) A copy of syllabus of AME/Gr. 'B' in Mechanical Deptt. circulated by Railway Board vide RBE No. 40/2007 is enclosed as Annexure -'B' for wide circulation amongst the eligible candidates.
- (12) a) The Controlling Officers should give the wide publicity of this notification amongst the eligible staff under their control and ensure submission of applications by the candidates in the prescribed proforma (Specimen Copy enclosed as Annexure-"A").
- b) The last date for submission of the application by candidates is 12.09.2019.
- c) The Controlling Officers are also advised that applications submitted by the candidates (in prescribed proforma) must be forwarded to concerned Personnel Branch/ Unit office by 16.09.2019
- d) The applications should be scrutinized properly in Personnel Branch with the Service Record to avoid further complications. The applications should also be signed by the Controlling Officer with official seal and should have the counter signature of the concerned 'Personnel' Branch Officer to avoid any factual errors.
- e) All the scrutinized applications should be sent in a bunch through special messenger to Dy.CPO/Gaz. /ECR/ HJP on or before 20.09.2019 positively. Applications forwarded after the target date will not be entertained under any circumstances.

It may also be noted that application other than in prescribed proforma, having incomplete information or without signature of the Controlling Officer and countersigned by Personnel Branch Officer will not be entertained and will be rejected summarily.

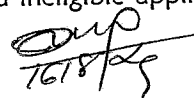
- (13) In case the service particulars furnished by the volunteers and certified to be in order by the concerned authority are found incorrect/false subsequently, the candidature of the volunteer will be liable to be cancelled at any stage and suitable departmental action will be initiated against him/her.

(14) **ACTION TO BE TAKEN ON RECEIPT OF APPLICATION BY CONCERNED PERSONNEL OFFICERS/CADRE CONTROLLING OFFICERS:-**

- a) The Personnel Officer/Cadre Controlling Officer will check the correctness of all the particulars of the applications with the Service Records and other relevant records and certify the correctness of each item of the application. Without such certification, application received will summarily be rejected and the responsibility will be fixed for incorrect or incomplete certification against the Officer who will certify/verify. The Personnel Officer/Cadre Controlling Officer should invariably write "Checked and verified" in each and every application after checking and verifying the details duly attesting their signature and date of certification (the date of certification should invariably put in the application).

In case, the Personnel/Cadre Controlling officers do not put the date after certification or merely forward the application without checking and verifying the details, the matter would be brought to the notice of PCPO and concerned PHOD for taking action against him.

- b) It may please be noted that Controlling Officers/Heads of the Units have no discretion to entertain any application beyond the last date. The applications of the employees who are eligible, should only be forwarded after verifying the other relevant particulars and ineligible application should not be forwarded.


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- c) The Personnel Officer/Cadre Controlling Officer should forward the scrutinized and checked applications in one bunch together under one covering letter furnishing the details in the following proforma addressed to Dy.CPO/Gaz./HQ by 20.09.2019 indicating therein the total number of applications forwarded. (The details should be sent in soft copy in (MS Excel format also). The applications rejected may be intimated to the individuals giving reasons thereof by the concerned Unit/Divn where lien and seniority of concerned staff held.

1	2	3	4	5	6	7	8	9	10		
Sl. No	Name of the employee	Desig.	DOB	DOA	Working Under	Community (UR/SC/ST)	Date of Regular promotion to Grade Pay		Total service in (GP) Rs.4200/- (Rs.2400/- in case of L.P.S. II) & above in Mech. Deptt as on 24.10.18		
							GP 4200	GP 4600	Year	Month	Days

(15) **TRAINING OF SC/ST CANDIDATES:-**

It may be noted that before conducting the written examination, mandatory Pre-Selection coaching of 3-4 weeks (21 working days) for eligible SC/ST candidates will be arranged by the department concerned in terms of Railway Board's letter No. E(MPP)96/3/23 dated 21.07.2000. PCME/ECR/HJP is requested to nominate a JAG or above officer of Mechanical Department as an In-charge of Pre-Selection coaching for the SC/ST candidates. The In-charge of Pre-Selection coaching will intimate the date and venue of the Pre-Selection coaching to the eligible SC/ST candidates in due course.

If any SC/ST candidate refuse to undergo Pre-Selection coaching, a written undertaking should be obtained from him/her and the same may be sent to Dy.CPO(Gaz.)/ECR/HJP as well as PCME/ECR/HJP. The Controlling Officers will ensure that the SC/ST candidates under their control should be spared well in time without fail to participate in such coaching.

The SC/ST candidates may also be advised to insist their Controlling Officers, in their own interest to spare them for the said coaching.

(15.1) **Duty of the in-charge of Pre-Selection Coaching (Nominated by PCME):-**

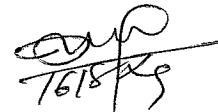
- (i) To inform in writing through special messenger to the concerned SC/ST employee with details of date, time & venue of coaching.
- (ii) To obtain in writing unwillingness for coaching, if any, from the concerned SC/ST employees.
- (iii) To arrange sparing of the candidates and liaison with respective Controlling Officers/Supervisors.
- (iv) To chalk out coaching schedule and adhere to it.
- (v) To ensure maintenance of daily attendance of SC/ST candidates on the attendance sheet, who attend the coaching.
- (vi) After completion of such coaching, the in-charge of the Pre-Selection coaching will give a written report along with all supporting documents/papers including attendance sheet of SC/ST participants to Dy.CPO(Gaz) /ECR/HJP immediately after completion of Pre-Selection coaching for records and further action. On receipt of compliance report of Pre-Selection coaching, written examination will be conducted.

(15.2) **Duty of Controlling Officer:-**

To spare the candidates under their control well in time without fail with direction to participate in the coaching.

(15.3) **Duty of concerned SC/ST applicant:-**

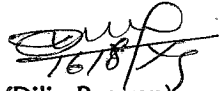
- (i) To manage their sparing from duty by insisting their Controlling Officers in their own interest.
- (ii) If any problem occurs in sparing, the candidate should report in writing to concerned in-charge of Pre-Selection coaching on the same date. No representation will be entertained in case of failure to report to the concerned in-charge of Pre-Selection coaching and it will be deemed for refusal for such coaching.


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- (iii) Failure of concerned SC/ST employees to avail Pre-Selection coaching on any account including leave etc. will be considered on their part and will not entitle them to additional coaching classes.
- (iv) No appeal will be entertained by GM(P)/ECR/HJP after completion of Pre-Selection coaching.
- (16) The eligible staff should also be advised that no supplementary written examination would be held for the absentees under any circumstances. As per rule, there is no provision of absentee exam in LDCE.
- (17) The controlling/authorized officer should ensure the issue of individual sparing letter/identity slip duly attesting specimen signature of the candidate on the sparing letter/identity slip. The candidates without proper sparing letter/identity slip will not be allowed to appear in the examination.
- (18) Concerned Personnel Branch officer & controlling officers should ensure submission of service records and ACRs/APARs of last 05 years and DAR/Vig. Clearance in respect of staff declared qualified for the viva-voce in due course/immediately after publication of the result of written examination through special messenger to SPO/Gaz/ECR/HJP.
- (19) Instructions and Master Circular No. 68 governing rules for promotion from Gr. 'C' to Gr. 'B' have been issued by Railway Board. The said master circular is available on website www.indianrailways.gov.in....>ministry of railway...>railway board> Directorate...>Establishment...>E(GP) Master Circular. The department/division/unit should ensure the compliance of instructions of item 15 of Master Circular 68.
- (22) Application received after the target date should not be entertained and the same should be disposed off at the Division /Extra Divisional level by rejecting them on account of late receipt under advice to this office.

Please acknowledge receipt.
Hindi Version will follow.

- DA :- i) Proforma of application (Annexure 'A')
ii) Syllabus (Annexure 'B')


(Dilip Paswan)
Sr. Personnel Officer /Gaz
For General Manager (P)

PROFORMA OF APPLICATION TO BE FILLED UP BY THE VOLUNTEER FOR SELECTION OF
AME/Gr. ('B') AGAINST 30% QUOTA ATTACHED WITH THIS OFFICE NOTIFICATION NO.
ECR/HRD/GAZ/254/AME(Gr.B)/30%/2019 Dated.- 16.08.2019

1. Full Name (in Block Letters) :-
2. Designation and station :-
3. Working under :-
4. Date of Birth :-
5. Date of appointment (Post with Grade pay and Department) :-
6. Divn/Unit where lien/seniority held :-
7. Dt. of Joining in Present lien/seniority unit :-
(Please mention :- Direct Rectt./Own request transfer/Mutual transfer/Administrative ground)-
8. PF/NPS No. :-
9. Educational Qualification :-
10. Whether the candidate belongs to SC/ST :-
Community (if yes, a copy of caste Certificate duly attested by a Gazetted Officer should be enclosed.)
11. Date of appointment/promotion to the following grade on regular basis (7th CPC) in Mech. Deptt. :-

Pay-Band & Grade-Pay	Date	Month	Year
(a) Level 4 in 7 th CPC (PB-II, GP- 2400 in 6 th CPC) (For Loco Pilot Shunting II only)			
(b) Level 6 in 7 th CPC (PB-II, GP- 4200 in 6 th CPC)			
(c) Level 7 in 7 th CPC (PB-II, GP- 4600 in 6 th CPC)			

12. Length of non-fortuitous service (Regular Promotion) in the following grade in present lien/seniority unit (Mech. Deptt.) as on 24.10.18 .

Pay-Band & Grade-Pay	As on	Year	Month	Days
(a) Level 4 in 7 th CPC (PB-II, GP- 2400 in 6 th CPC) (For Loco Pilot Shunting II only)	24.10.18			
(b) Level 6 in 7 th CPC (PB-II, GP- 4200 in 6 th CPC)	24.10.18			
(c) Level 7 in 7 th CPC (PB-II, GP- 4600 in 6 th CPC)	24.10.18			

13. Present pay scale & date of promotion to present scale/Grade Pay:-
14. Choice of language to answer the questions (English/Hindi). :-

DECLARATION OF THE CANDIDATE:-

- (i) I..... do hereby declare that, I have completed 05 years non-fortuitous Service in Pay Band Rs. 9300-34800 (PB-2) with Grade Pay Rs.2400/Rs.4200 and above in Mech. Department as on 24.10.2018 and also fulfilled other eligibility criteria of the said selection.
- (ii) I..... do hereby also declare that the above particulars furnished by me are true to the best of my knowledge and belief. I further undertake that any above entry is found incorrect or not in order, my candidature shall liable to be cancelled at any stage during pendency of the above selection.

SIGNATURE OF THE EMPLOYEE

Designation with Date
Mobile no. of employee

- (A) Forwarding the application (filled-up) submitted by the candidates to the Cadre Controlling officer (Personnel Branch) by his /her controlling officer:-

The service particulars/Bio-data on the prescribed proforma filled-up by the Shri/Smt. _____
Designation _____ received within the target date is hereby forwarded to his/her respective Cadre Controlling officer (Personnel Branch) for verification with the service record and also for onward transmission to the GM(P)/ECR/HJP.

SIGNATURE OF CONTROLLING OFFICER

(With office seal & date)

- (B) Certificate to be furnished by the Cadre Controlling officer (Personnel Branch):-

If the volunteer come under the circumstances mentioned in para 2(b) of the notification, the service rendered by immediate senior employee as on 24.10.18 should be indicated invariably in the under mentioned format.

No	Name (S/Shri) of immediate senior	Desig.	Pay Band (II) & GP	Year	Month	Day
			Level 4 in 7 th CPC (PB-II, GP- 2400 in 6 th CPC) (For Loco Pilot Shunting II only)			
			Level 6 in 7 th CPC (PB-II, GP- 4200 in 6 th CPC)			
			Level 7 in 7 th CPC (PB-II, GP- 4600 in 6 th CPC)			

It is certified that the service particulars/Bio-Data furnished by Shri/Smt. _____
Designation..... on the above proforma have been verified with his/her service record and found correct. The above mentioned candidate is eligible to appear in the said selection; accordingly the same is hereby forwarded to GM (P)/ECR /Hajipur for further necessary action.

SIGNATURE OF THE PERSONNEL OFFICER

(With office seal & Certification date)

Note : The application with any column unfilled will be summarily rejected.



**PROPOSED SYLLABUS FOR 30 % LDCE FOR PROMOTION TO GROUP
"B" FOR AME/AWM IN MECHANICAL DEPARTMENT**

Part A - GENERAL PORTION-50 MARKS

GENERAL KNOWLEDGE

This section would contain questions of general interest and importance which is acquired by general observation and reading without specific text book study. Subjects of national importance as well as achievements of railways will also be covered. The standard of General Knowledge shall not be more rigorous than Matriculation.

GENERAL MATHEMATICS

- Arithmetic & Statistical operations Graphs, Fractions, Percentage, Sampling & Averages,
- Geometry-Area & volume upto Higher Secondary/ Class 12 Standard
- Algebra, simultaneous equations etc upto Higher Secondary/ Class 12 Standard
- Mechanics Velocity & Acceleration, work done & horse power etc upto Higher Secondary/ Class 12 Standard

STRENGTH OF MATERIAL

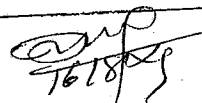
Various Engineering materials and their properties, Bearings, Stress & Strain, Fatigue, hardness, Corrosion & Surface finish.

PHYSICS & BASIC ELECTRICITY

- Temperature & its measurement
- Mechanics : Newton's Laws of Motion, Velocity & Acceleration, work, energy, power, Archimedes Principle etc.
- Heat & Work, Expansion of Solids Liquids & Gases
- IC Engines, Gas Turbines, Heat Recovery & Thermal Efficiency, Supercharging & Intercooling
- Ohm's Law, Coulombs Law, Faraday's Laws, Voltage, Current & Resistance, wet & dry batteries, power factor,
- Simple Motors & Dynamos-Principle & working, transformer, relay, fuse, circuit breakers
- Power Supply, AC & DC, Rectification

GENERAL

- Out of commission (under repair) percentage for different types of rolling stock & motive power and how to minimize the same
- Different Types of Locomotive, Coaches & wagon Stock in use on the Railways.
- Prevention of hot boxes on motive power/rolling stock & maintenance of roller bearings
- Disaster Management- Accident Classification, duties of first official to reach at accident site, causes of accidents and their prevention, existing disaster management system & its shortcomings, recommendations of high level committee, accident Enquiry
- Corporate Safety Plan, RSRC Recommendations
- Benchmarking


16/18/20

- Quality Improvement in Work area
- Failure analysis
- Performance Indices
- Items to be inspected at workplace
- Health & Safety Standards in Shops sheds & depots.

STORES

- Classification of Stores
- Procedure for drawal of Stores
- Indenting Procedures
- Procurement methods-Local purchase, Spot purchase, Bulletin tender, Advertised tender, Limited tender, Tender Committee, Direct Purchasing
- Schedule of Powers
- Incoming inspection requirements
- Scrap

INFORMATION TECHNOLOGY

- Familiarity with Personal Computer Specs- Processor, RAM, Hard Disk, Floppy, CD, Multimedia etc.
- Operating System- Windows
 - Starting & closing programs
 - Creating/Saving/Copying/Moving files in PC and moving files from one PC to another PC
 - Utilities/Accessories: Disk Cleanup, Defrag, Antivirus, CD Burning
- Basic MS Word, Excel and PowerPoint
- Basic Local Area Networks: Servers, Hubs, Switches, Structured Cabling, Nodes, Network applications
- Using Internet: Email, Browsing, Searching

OTHER ISSUES

Environment, Quality Management Systems ISO 9000 & ISO 14000

AMF
12/18/05

Sufficient number of questions shall be included in each of the disciplines to enable a candidate to answer the questions upto full 150 marks.

Part -A consists of Establishment & Financial rules worth 50 marks.

Part -B Contains Professional portion of 100marks in Four sections representing various streams of Mechanical Branch - Division & Workshop Management ,Diesel Locomotives, Carriage & Wagon and Workshops. Candidates can attempt questions from their own discipline or from more than one discipline if he so desires to complete upto 100 marks .

PART-A (Establishment & Financial Rules)

ESTABLISHMENT RULES

- General Conditions of service of Railway servants including rules regarding leave ,joining time passes
- Railway Service D&A Rules - 1968
- Railway Service Conduct Rules- 1966
- Retirement Benefits
- Payment of Wages ,Allowances and Overtime
- Labour laws including Payment of Wages Act, Workmen's Compensation Act, Hours of Employment Regulations, Factories Act, Industrial Disputes Act, Contract Labour Act,
- Manpower Planning & training
- Welfare measures in Railways
- PNM,JCM & PREM

FINANCIAL RULES

- Parliamentary Control over Railway Finance- Public accountability, Cannons of Financial Propriety
- Railway Budget- Budgetary terms, types of Budgets, Budget Cycle, Demand for grants, Expenditure Classification
- Works Programme- Financial Justification of Works- Preparation of Estimates, Capital budget, Control Over Capital Expenditure
- Financial and Cost Control in railway workshops , Sheds & Depot
- Delegation of powers
- M&P programme, RSP

PART- B-Professional Portion -

DIVISIONAL WORKING & OPERATIONS MANAGEMENT

- Working Time Table
- Working in Control Office
- Power Plan & Engine Utilization
- HOER & Crew Planning
- Running rooms & crew booking point management
- Fuelling Installations Management
- Running staff training
- Load Trials
- Drivers Grading System
- Accident Classification ,definitions ,ART Ordering ,Role of Supervisors & officers at accident site Management.
- 140 ton Crane Construction & safety in operations

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DIESEL LOCOMOTIVES

- Preventive maintenance schedules
- Latest design improvements in diesel locomotives to reduce failures on line.
- Design improvements in bogies to make them fit for high speed operation
- Brake system of diesel locos including working of expressors and vigilance control devices and their maintenance
- Cooling water system of diesel engines
- Fuel oil system of diesel engines
- Control of lubricating oil consumption
- Safety devices used on diesel engines and locomotives
- Testing Equipment required in sheds for governors and fuel injection pumps. Non destructive testing such as Zyglo & magnaflux
- Trouble shooting on locomotives running on the railways
- Fuel Economy on diesel locomotives
- Maintenance requirements of different assemblies like- Traction motor/ Traction Generator ,express or, Turbo supercharger, power assembly, cylinder head
- Thermal loading of engine components
- Under gear maintenance
- Suspension bearings, wheels
- Excitation system, transition, dynamic braking, carbon brushes ,relays & contactors
- Load Box Testing
- Improvements made in ALCO locomotives
- DEMUs-types ,systems & trouble shooting
- Biodiesel, CNG
- Introduction to GM Locomotives and its systems

CARRIAGE & WAGON

- Coaching stock- preventive maintenance schedules in Coaching Depots including IOH.POH Schedules in shops
- Wagon Stock-preventive maintenance including ROH in depots and POH Schedule in shops .
- IRCA Rules for reject able defects
- ICF Bogies and their maintenance in sick line /shops
- Casnub Bogie & its modifications for high speed
- Corrosion repairs to coaching and goods stock
- Couplers & Draw gear, Train Parting & measures to avoid the same
- Water availability in coaches
- Fire prevention on Trains
- Air Brake System-Twin Pipe & single pipe. Under frame & bogie mounted brake system, Test rig , Checking timings, trouble shooting, DV defects, slack adjustment methods. Brake Binding
- Passenger amenity items
- Coach Housekeeping
- Maintenance Pattern of freight trains including CC Rakes & Coaching stock maintenance including Revised policy Circular -4
- Neutral train Examination
- Ride Index

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16/8/89

- Anti Telescopic features
- Maintenance of various components like DV, SAB, PEASD,
- Latest design improvements of Carriage & wagons to improve their performance and speed potential
- LHB Coaches & BLC Wagons
- Construction , Design & Maintenance of Tank Wagons

WORKSHOPS

- System of labour accountal GA Cards for time keeping documents, tally sheets, Job/Route Cards, inspection & rate fixing
- Rules & Calculations under incentive scheme
- Paints & painting systems
- Different types of machine tools such as lathes , milling machines ,shapers ,planers ,cutting tools & cutting speeds
- CNC machines
- CLW Pattern of Incentive Scheme, Group Incentive Scheme
- Different types of welding processes, welding defects
- Wheels, tyres & axles and their ultrasonic testing
- Heat treatment of ferrous items such as surface hardening ,annealing, normalizing etc
- Roller Bearing & Cartridge Bearings
- Injury free features in coaches
- Material handling

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12/18/25