

GOVERNMENT OF INDIA (BHARAT SARKAR)
MINISTRY OF RAILWAYS (RAIL MANTRALAYA)
(RAILWAY BOARD)

No. E(GP)76/2/96

New Delhi, dated

3-8-1977

The General Managers,
All Indian Railways (including
CLW, DLW & ICF).

Sub:- Limited Departmental Competitive Examination
for promotion of 25% of vacancies in the case
of posts of Assistant Accounts Officers.

.....

In Board's letter No.E(GP)76/2/96 dated 3.6.77,
instructions were issued for introduction of a scheme of
Limited Departmental Competitive Examination for filling up
25% of vacancies in Class II service in Civil Engineering,
Electrical Engineering, Mechanical Engineering, Signal &
Telecommunication Engineering and Transport (Traffic &
Commercial) Departments. The Ministry of Railways have
now decided that a similar scheme should be introduced in
the case of posts of Assistant Accounts Officers also.

2.1 25% of the vacancies in the posts of Assistant
Accounts Officers for which panel is required to be framed
at any one time shall be filled on the basis of Limited
Departmental Competitive Examination. The remaining 75%
of the vacancies will continue to be filled by selection
as at present.

2.2 The broad details of the scheme of the Limited
Departmental Competitive Examination are contained in the
'Annexure' to this letter. Action is also being taken to amend
the relevant Recruitment Rules and the Railway Administrations
will be advised as soon as the amendments are notified.

3. The extant orders governing reservation of vacancies
for Scheduled Caste/Scheduled Tribe candidates shall
also be applicable in filling up 25% of the vacancies in
Class II through Limited Departmental Competitive Examination.

4. The panel of successful candidates drawn up against
25% vacancies to be filled up through the Competitive
Examination will be valid for the same length of time
as the panel drawn up for 75% vacancies to be filled
through normal selections.

5. In the matter of seniority in respect of the declared number of vacancies to be filled at any time through the media of selection (75%) and competitive examination (25%), those empanelled through the normal selection will rank senior to those selected through the competitive examination.

6. Please acknowledge receipt.

D.A./- As above.

Sd/- B.E. Bhagat
Dy. Director Establishment
Railway Board.

Annexure to Ministry of Railways letter
No. E (GP)/76/2/96 dated 3.8.1977.

Details of Limited Departmental Competitive
Examination to fill up 25% vacancies in Class II.

I. CONDITIONS OF ELIGIBILITY

(a) To be eligible to appear in the Competitive

examination, a candidate has to fulfil the following

1) he should be a permanent servant with a minimum of
five years service and have passed the App. III-A
examination; and

ii) he should be holding a post of Accountant/TIA/ISA
in revised scale Rs. 500-900 or Sub-head in revised
scale Rs. 425-700 on a regular basis.

(b) All candidates who fulfil the conditions of
eligibility in (a) will be allowed to compete in
the examination without any restriction as to the
number of candidates to be admitted to the examination.

II. SCHEME OF EXAMINATION.

(a) The examination aims at a comprehensive
assessment of knowledge of the candidates and has
essentially to be in the nature of a rigorous test
of their professional ability. The examination
will consist of (i) a written examination of a
substantially higher standard than that associated
with normal selection for promotion to Class II,
and (ii) viva voce.

(b) The subjects for the written examination, and
the marks to be allotted to each of the papers set
for the written examination, viva-voce and record of
service will be as under:-

1) Written Examination.

Paper I.	General Knowledge	50)	100
	English Language	50)	

Paper II (A)	Part I - General Principles of Government Accounting and Audit with Special reference to Railways	X X X X X X	100
	Part II - Books and Budget (including Traffic Book).	X X X X X	
Paper II (B)	Part I - Traffic Accounts and Statistics	X X X X X	100
	Part II - Establishment or Part I - General Expenditure Accounts.	X X X X X	
	Part II - Workshops & Stores Accounts	X	
Paper III	Part I - Financial justification for expenditure and Traffic Costing	X X X X	100
	Part II - Management Accounting	X X X	

In the case of Production Units, Paper II (B) will be replaced by the following:

- Part I - General Expenditure Accounts
- Part II - Establishment
- or
- Part I - Workshops Accounts
- Part II - Stores Accounts

ii) Record of Service. 50

Marks for record of service will be given on the basis of the last three confidential reports and relevant service records of the candidate.

iii) Viva-Voce

Personality, Address,
Leadership and Academic/
Technical Qualifications. 50

(c) In order to qualify, a candidate must secure a minimum of 60% marks in each of the subjects of written examination, in the record of service and in the viva-voce separately, and also in the aggregate.

(d) There will be no grading of successful candidates, as 'Outstanding', 'Very Good' etc. Their names will be arranged in the order of merit on the basis of the total marks obtained by each of the candidates.

III. CONSTITUTION OF THE EXAMINATION BOARD.

The Examination Board both for the written examination and the viva voce will be constituted under the orders of the General Manager; it will consist of:-

a) On Zonal Railways:-

- i) Chief Personnel Officer; and
- ii) Two Heads of Department, Level I, including the Head of Department for which the examination is being conducted.

b) Production Units.

- i) Deputy Chief Personnel Officer; and
- ii) Two Heads of Department Level I or Level II including the head of the Department for which examination is being conducted. If and when necessary, assistance of the respective contiguous Zonal Railways may be taken.

IV. FREQUENCY OF HOLDING THE EXAMINATION.

The Competitive Examination for filling up 25% vacancies in Class II in the respective Department will be held in the same year as that in which the normal selection is held for filling up 75% vacancies in Class II by promotion in that department.

V. There will be only one Competitive Examination for all branches of one Department, and only one panel of selected candidates will be drawn up for that Department as a whole.

VI. The final recommendations of the Examination Board in respect of successful candidates will be put up to the General Manager for his approval. If the General Manager does not approve of them, he will record his reasons in writing and order a fresh examination, if necessary. Once a panel of successful candidates is approved by the General Manager, no amendments shall be made without the prior approval of the Ministry of Railways.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

RBE No.: 133 /2014

No. E(GP)2013/2/24

New Delhi, dt: 09.12.2014

The General Managers,
All Indian Railways and Production Units.

Sub: Syllabi for professional papers for 70% Selection and 30% LDCE for promotion to Group 'B' posts of APO in Personnel Department of Railways/ Production Units.

Ref: Railway Board's letter No. E(GP)2013/2/24 dated 21.05.2014 (RBE No.52/2014).

In supercession of this office letter of even number dated 21/05/2014, the revised syllabi for professional papers for 70% Selection and 30% LDCE for promotion to Group 'B' post of APO in the Personnel Department is enclosed for guidance.

2. The revised syllabi will be effective from the date of issue of this letter. However, Selections/LDCEs for which written examinations have already been held or are at an advanced stage need not be disturbed.

3. Please acknowledge receipt.

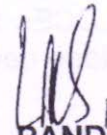

(LILY PANDEYA)
DIRECTOR, ESTT.(GC)
RAILWAY BOARD

No.E(GP) 2013/2/24

New Delhi, dt: 02.12.2014

Copy for information and necessary action to

- (1) The Director General & ex-officio General Manager, R.D.S.O., Lucknow.
- (2) The CAO, DMW, Patiala
- (3) The CAO, MTP (Rlys.), Mumbai and Chennai
- (4) The Chairman, Railway Recruitment Board:
Allahabad/Ahmedabad/Ajmer/Bangalore/Bhopal/Bhubaneshwar/Kolkata/
Chandigarh/Chennai/Gorakhpur/Guwahati/Jammu&Srinagar/Malda/
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/Pune, IRCAMTECH/Gawalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New Delhi.
- (8) The General Secretary, IRCA, New Delhi.
- (9) The C.A.O, COFMOW, Rly. Offices Complex, Tilak Bridge, New Delhi-
110002.
- (10) The Secretary, Railway Rates Tribunal (Chennai), 50 MC.Nichola Road,
Chetput, Chennai.
- (11) The Exec. Director, CRIS, Safdarjung Rly.Stn.Building, Chanakyapuri, New
Delhi.
- (12) The Director (Movement), Railways 17 N.S.Road, Calcutta.
- (13) The Joint Director (Iron & Steel) 3 Koilaghat Street, Calcutta.

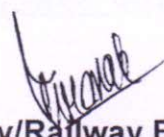

(LILY PANDEYA)
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RAILWAY BOARD

No.E(GP) 2013/2/24

New Delhi, dt: 02.12.2014

Copy forwarded to:

1. The General Secretary, All Indian Railwaymen Federation, Room No. 253, Rail Bhavan, New Delhi (35 copies)
2. The General Secretary, National, Federation of Indian Railwaymen, Room No. 256-E, Rail Bhavan, New Delhi (35 copies)
3. All Members, Departmental Council and National Council and Secretary, Staff Side, National Council, 13-C, Ferozshah Road, New Delhi (90 spares)
4. The Secretary General, Federation of Railway Officers Association, Room No. 256-A, Rail Bhavan, New Delhi (5 spares)
5. The Secretary General, Indian Railway Promotee Officers Association, Room No. 268, Rail Bhavan, New Delhi (35 spares)
6. The General Secretary, All India RPF Association, Room No. 549, Rail Bhavan, New Delhi-110001.
7. Railway Board Secretariat Staff Association.


For Secretary/Railway Board

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PPSs to all Addl. Members.

Dy. C&AG(Railways), Room No. 222, Rail Bhawan.

PSs to Adviser(Staff), Adv.(Vig.), , EDE, EDA, EDE(N), EDE(Res), JS, JS(E), JS(G), ED(E&R), EDE(GC), EDV(E), ED(Signal), EDV(S), EDF(E), ED(T&MPP), EDE(RRB), EDPC-I, DV(P), DE(L), DE(Res), DE(G), D(IH), JD(MPP), JDE(R)I&II, JDE(Rep)I&II, JDE(D&A), JDE(P&A), DPCI&II, JDE(L), JDE(N), JDE(N)II, JDE(N)III, DDF(E)I, DDF(E)VI, DDV(A&P), E(NG)I, E(O)III, DDRS(G), DDE(LR)I, Sec(E), PC-III, IV & V, E&R, E(Trg.), E(MPP), V(SS), E(SCT)I&II.

भारत सरकार
रेल मंत्रालय
(रेलवे बोर्ड)

आरबीई सं.: 133 /2014

सं. ई(जीपी)2013/2/24

नई दिल्ली, दिनांक: 02.12.2014

महाप्रबंधक,

सभी भारतीय रेलें और उत्पादन इकाइयां।

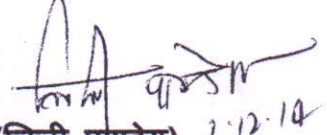
विषय: रेलों/उत्पादन इकाइयों के कार्मिक विभाग में एपीओ के ग्रुप 'बी' पदों पर 70% चयन से तथा 30% सीमित विभागीय प्रतिस्पर्धात्मक परीक्षा से पदोन्नति हेतु व्यावसायिक पेपरों के लिए पाठ्यक्रम।

संदर्भ: रेलवे बोर्ड का दिनांक 21.05.2014 का पत्र सं. ई(जीपी)2013/2/24 (आरबीई सं. 52/2014)

इस कार्यालय के दिनांक 21/05/2014 के समसंख्यक पत्र का अधिक्रमण करते हुए कार्मिक विभाग में एपीओ के ग्रुप 'बी' पदों पर 70% चयन से तथा 30% सीमित विभागीय प्रतिस्पर्धात्मक परीक्षा से पदोन्नति हेतु व्यावसायिक पेपरों के लिए संशोधित पाठ्यक्रम मार्गदर्शन हेतु संलग्न है।

2. संशोधित पाठ्यक्रम इस पत्र के जारी होने की तारीख से प्रभावी होगा। बहरहाल, ऐसे चयन और सीमित विभागीय प्रतिस्पर्धात्मक परीक्षाएं, जिनके लिए पहले से ही लिखित परीक्षाएं हो चुकी हों अथवा जिनके संबंध में प्रक्रिया अंतिम चरण में हो, को रोकने की आवश्यकता नहीं है।

3. कृपया पावती दें।


(लिली पाण्डेय) 1.12.14

निदेशक, स्थापना (जीसी)
रेलवे बोर्ड

SYLLABUS FOR 30% LIMITED DEPARTMENTAL COMPETITIVE EXAMINATION (LDCE) FOR PROMOTION TO GROUP 'B' POST OF APO IN PERSONNEL DEPARTMENT.

PAPER-1

Part I:

50 Marks

Official Language &
General Knowledge

Part II:

Professional Subject

100 Marks

Professional Subject:

1. Constitutional Provision of Right to Employment under Article 16 & 17 of the Constitution of India.

2. Manpower Planning & Recruitment:

(a) Manpower Planning, surrender and creation of posts, work charged posts, temporary posts, supernumerary posts, vacancy bank etc. Zero-based calculation of requirement/creation.

(b) Recruitment:

(i) Recruitment at various levels and methods of recruitment:

- Functioning of Railway Recruitment Boards.
- Recruitment at Zonal Railways including recruitment of artisan staff. Concept of Lead period, normal attrition while placing indent.
- Railway Recruitment Cell (RRC) - role and functions.
- Appointment of land losers, compassionate ground appointments, Sports quota appointments, Cultural quota and Scouts & Guide quota appointments etc.
- Liberalized Active Retirement Scheme for Guaranteed Employment for Safety Staff (LARSGESS).

(ii) Recruitment to various Group 'A' Railway Services.

(iii) Direct recruitment quota as well as quota for recruitment for intermediate grades.

(iv) Reservation in recruitment, horizontal and vertical reservation, reservation roasters etc.

(c) Apprentices Act, 1961 and its Implementation.

(d) Absorption of medically de-categorized staff in alternative posts.

(e) Concept of Deputation, Foreign Service etc. and its impact on Pension, Foreign Service Contribution.

3. Training and Development:

- a. Basic concept of training and human resource development.
- b. Training and Development of Railway employees.
 - i. Training of Group C employees.
 - ii. Functioning of Zonal Training Schools and other training institutions.
 - iii. Training of Gazetted Officers in Railways as well as non-Railways institutions.
 - iv. Various Railway Training Institutes like NAIR, IREEN etc.
- c. Future developments in Railways, the changing roles of Railway personnel and the need for on the job training, multi skilling etc.

4. Pay and Allowances:

- a. Preparation of Pay Bill, Computerization of Pay Bill, AFRES, PRIME, I-Pass Concept etc.
- b. Pay in the Government i.e. Pay bands, Grade pay etc.
- c. Principles of pay fixation in case of appointment and promotion. Pay fixation in case of functional and non functional promotions etc.
- d. Fundamental Rule (FR) & Fixation, Instances of pay protection etc.
- e. Various allowances admissible to the Railway employees including allowances to the running staff.

5. Seniority and Promotion:

- a. Rules regulating determination of seniority and procedure for promotion against selection and non-selection posts.
- b. Provision of reservation for Schedule Caste and Scheduled Tribe employees. Maintenance of various reservation rosters.
- c. Relaxations available to SC/ST candidates for promotion in safety and non-safety category posts and procedure for de-reservation of posts.
- d. Performance appraisal – APAR, procedure, maintaining of records, communication of adverse comments etc. Impact of Vigilance investigation during and after Selection.
- e. NBR, sealed cover procedure etc.

6. Organization and Role of Personnel Department, its functions and objectives, Schedule of Powers in Establishment Matters. Maintenance of records-Service Registers, Personal Files and preparation of claims of Pay Bill, etc. Computerization of

records and personnel management functions (Human Resource Management System) - benefits, challenges and implementation. Computerization of official record and its retrieval.

7. Loans and various advances admissible to the Railway employees and conditions thereof, PLB, TA rules etc.
8. Disciplinary & Appeal Rules (1968), Railway Services Conduct Rules (1966) & Schedule of Disciplinary Powers. Various judgements of Supreme Court on D&AR (1968) and Railway Services Conduct Rules (1966)
9. Pass Rules.
10. Retirement benefits:
 - a. Pension Rules (new and old), Provident fund rules, Leave encashment rules, Gratuity rules etc.
 - b. Retirement benefits under different circumstances (superannuation, voluntary retirement, resignation, dismissal, technical resignation etc).
 - c. Impact of Disciplinary & Appeal Rules, penalties etc on retirement benefits.
 - d. Pension adalats, timely settlement and redressal of grievances related to settlement.
 - e. Retirement benefits under Provident Fund & Pension rules and Schemes of Financial Settlement.
11. Leave Rules and joining time.
12. Reimbursement of tuition fees and legal expenses.
13. Medical assistance to Railway employees and retired Railway employees. RELHS & its membership.
14. Right to Information Act, 2005.

PAPER-II

Part I:

50 Marks

Establishment Rules &
Financial Rules

Part II:

100 Marks

Professional Subject

Professional Subject:

1. Industrial Relations, Recognition of Trade Unions and dealing with unrecognized Trade Unions/Associations Industrial disputes, their causes, strikes, lockouts, layoffs, provisions of Industrial Disputes Act and functions of Labour Enforcement Officers and Labour courts.
2. Labour legislations viz, Factories Act, its applicability to Workshops and other Railway establishments, Special Rules for Workshop staff in Railways, payment of wages, Workmen's Compensation Act, ex-gratia payment, incentive bonus scheme, Minimum Wages Act, etc.
3. Contact Labour (Regulation & Abolition) Act, 1972, Sexual Harassment of women at workplace (Prevention, Prohibition & Redressal), Act, 2013.
4. Service Law, CAT, High Courts, Supreme Court and effective handling of court cases, filing of Review Petitions, SLP, engagement of Advocates and payment of fees to them and their related issues.
5. Engagement of casual labour and substitutes, policy and procedure thereof.
6. Grievance redressal mechanism, Staff Welfare- Staff Benefit Fund, Consumer Co-op. Societies, medical assistance, Workers' Education Scheme, Societies and educational assistance.
7. Hours of Employment Regulations, conducting of job analysis, payment of overtime, etc.

SYLLABUS FOR SELECTION TO THE GROUP 'B' POST OF APO AGAINST 70% SELECTION.

**Establishment Rules &
Financial Rules**

50 Marks

Professional Subject:

100 Marks

Professional Subject:

1. Personnel department on Indian Railways, Legal framework, industrial laws, industrial relations and grievance redressal system:
 - a. Organization and Role of Personnel Department, its functions and objectives, Schedule Of Powers in Establishment Matters
 - b. Service law, CAT, High Courts, Supreme Court and effective handling of court cases, filing of Review Petitions, SLP, engagement of Advocates and payment of fees to them and their related issues.
 - c. Labour legislations viz, Factories Act, its applicability to Workshops and other Railway establishments, Special Rules for Workshop staff in Railways, payment of wages, Workmen's Compensation Act, ex-gratia payment, incentive bonus scheme, Minimum Wages Act, etc.
 - d. Hours of Employment Regulations, conducting of job analysis, payment of overtime, etc.
 - e. Engagement of casual labour and substitutes, policy and procedure thereof. Contact Labour (Regulation & Abolition) Act, 1972, The Sexual Harassment of Women at workplace (Prevention, Prohibition & Redressal Act, 2013).
 - f. Recognition of Trade Unions and dealing with unrecognized Trade Unions/Associations Industrial disputes, their causes, strikes, lockouts, layoffs, provisions of Industrial Disputes Act and functions of Labour Enforcement Officers and Labour courts.
 - g. Grievance Redressal mechanism, Staff Welfare- Staff Benefit Fund, Consumer Co-op. Societies, medical assistance, Workers' Education Scheme Societies, educational assistance.
2. Manpower planning, methods of recruitment in Railways:
 - a. Manpower planning, surrender and creation of posts, work charged posts, temporary posts, supernumerary posts, vacancy bank etc.

b. Recruitment:

(i) Recruitment at various levels and methods of recruitment:

- Functioning of Railway Recruitment Boards.
- Recruitment at Zonal Railways including recruitment of artisan staff. RRC, its roles and functions.
- Appointment of land losers, compassionate ground appointments Sports quota appointments, Cultural quota and Scouts & Guide quota, appointments etc.
- Liberalized Active Retirement Scheme for Guaranteed Employment for Safety Staff (LARSGESS)

(ii) Various Gr. 'A' organized services and recruitment to organized Gr. 'A' Railway Services.

(iii) Direct recruitment quota as well as quota for recruitment for intermediate grades.

(iv) Reservation in recruitment, horizontal and vertical reservation, reservation rosters etc.

c. Apprentice act and Implementation of Apprentices Act.

d. Absorption of medically de-categorized staff in alternative posts.

3. Training and Development: Basic concept of training and human resource development. Training and Development of Railway employees with emphasis on the following aspects:

- a. Training of Group C employees.
- b. Functioning of Zonal Training Schools and other training institutions.
- c. Training of Gazetted Officers in Railways as well as non-Railways institutions.
- d. Various Railway Training Institutes like NAIR, IREEN, IRITM, IRISSET etc.
- e. Future developments in Railways, the changing roles of Railway personnel and the need for on the job retaining, multi skilling etc.

4. Pay and Allowances: Preparation of Pay bills, Pay and allowances in the Railways i.e. Pay bands, Grade pay etc. Principles of pay fixation in case of appointment and promotion (functional and non functional promotions etc). Instances of pay protection etc. The various allowances admissible to the Railway employees including allowances to the running staff. Reimbursement of tuition fees and legal expenses. TA rules, Loans and advances admissible to the Railway employees and conditions thereof, PLB, etc.

5. Seniority and promotion:

- a. Rules regulating determination of seniority and procedure for promotion against selection and non-selection posts.

- b. Provision of reservation for schedule Caste and Scheduled Tribe employees. Maintaining of reservation rosters.
 - c. Other relaxations available to SC/ST candidates in safety and non-safety category posts and procedure for de-reservation of posts.
 - d. Performance appraisal – APAR, procedure, maintaining of records, communication of adverse comments etc.
 - e. NBR, sealed cover procedure etc.
6. Retirement benefits:
- a. Pension rules (new and old) , provident fund rules, leave encashment rules, Gratuity rules,
 - b. Retirement benefits under different circumstances (superannuation, voluntary retirement, resignation, dismissal, technical absorption etc),
 - c. Impact of Disciplinary & Appeal Rules, penalties etc on retirement benefits,
 - d. Pension adalats, timely settlement and Redressal of grievances related to settlement,
 - e. Retirement benefits under Provident Fund & Pension rules and Schemes of Financial Settlement.
7. The Disciplinary & Appeal Rules, (1968), Railway Services Conduct Rules, (1966) & Schedule of Disciplinary Powers.
8. Pass Rules, Leave Rules and joining time. Medical assistance to Railway employees and retired Railway employees.
9. Computerization of records and personnel management functions (Human Resource Management System) - benefits, challenges and implementation.
10. Right to Information Act, 2005.
11. Official Language Policy and Official Language Rules.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

RBE No.: 16/2007

No. E(GP)2004/2/90

New Delhi, dt: 28.02.2007

The General Managers,
All Indian Railways and Production Units.

Sub: Syllabus for selection from Group 'C' to Group 'B' posts in the
Traffic (Transportation & Commercial) Department of Railways.

Ref: Railway Board's letter No. E(GP)79/2/30/2 dated 16/1/1981.

A revised syllabus for Limited Departmental Competitive Examination (LDCE) for promotion from Group 'C' to Group 'B' posts in Traffic (Transportation & Commercial) Department of Railways is enclosed herewith for guidance. The revised syllabus may be given wide publicity and circulated amongst the eligible candidates.

2. The revised syllabus will be effective from the date of issue of this letter. However, selections which are under process at an advanced stage, need not be disturbed.

3. Please acknowledge receipt.

Encl: As above

Santosh Mittal
(SANTOSH MITTAL)
Dy. DIRECTOR, ESTT.(GP)-II
RAILWAY BOARD

No. E(GP)2004/2/90

New Delhi, dt: 28 .02.2007

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- (3) The CAO, MTP(Rlys.), Mumbai and Chennai
- (4) The Chairman, Railway Recruitment Board:
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Chandigarh/Chennai/Gorakhpur/Guwahati/Jammu&Srinagar/Malda/
Mumbai/Muzaffarpur/Patna/Ranchi/Secunderabad/Trivendrum.
- (5) The Director General, Railway Staff College, Vadodara.
- (6) The Director IRISSET, Secunderabad/IRIMEE.
Jamalpur/IRIEE, Nasik, IRICEN, Pune/IRCAMTECH, Gwalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New Delhi.
- (8) The General Secretary, IRCA, New Delhi.
- (9) The C.A.O, COFMOW, Rly. Offices Complex, Tilak Bridge, New Delhi-110002.
- (10) The Secretary, Railway Rates Tribunal (Chennai), 50 MC.Nichola Road, Chetput, Chennai.
- (11) The Exec.Director, CRIS, Safdarjung Rly.Stn.Building, Chanakyapuri, New Delhi.
- (12) The Director (Movement), Railways 17 N.S.Road, Calcutta.
- (13) The Joint Director (Iron & Steel) 3 Koilaghat Street, Calcutta.

Santosh Mittal

(SANTOSH MITTAL)
Dy. DIRECTOR, ESTT.(GP)-II
RAILWAY BOARD

No. E(GP)2004/2/90

New Delhi, dt: 28 .02.2007

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5. The Secretary General, Indian Railway Promotee Officers Association, Room No. 268, Rail Bhavan, New Delhi (35 spares)
6. The General Secretary, All India RPF Association, Room No. 549, Rail Bhavan, New Delhi-110001.
7. Railway Board Secretariat Staff Association.

H. S. G. S. S.
For Secretary/Railway Board

Copy to:

PSs to MR, MSR(N), MSR(V)

Sr.PPSs to CRB, FC, MS, MM, MT, ML, ME

PPSs to Secretary, DG/RHS, DG/RPF

PPSs to all Addl. Members.

Dy. C&AG(Railways), Room No. 222, Rail Bhawan.

PSs to Adv.(Staff), Adv.(Vig.), , EDE, EDA, EDE(N), EDE(Res), JS, JS(E), JS(G), ED(E&R), EDE(GC), EDV(E), ED(Signal), EDV(S), EDF(E), ED(T&MPP), EDE(RRB), EDPC-I, DV(P), DE(L), DE(Res), DE(G), D(IH), JD(MPP), JDE(R)I&II, JDE(Rep)I&II, JDE(D&A), JDE(P&A), DPCI&II, JDE(L), JDE(N), JDE(N)II, JDE(N)III, DDF(E)I, DDF(E)VI, DDV(A&P), E(NG)I, E(O)III, DDRS(G), DDE(LR)I, Sec(E), PC-III, IV & V, E&R, E(Trg.), E(MPP), V(SS), E(SCT)I&II.

SYLLABUS FOR LDCE - FOR PROMOTION TO GROUP 'B' POSTS IN THE TRAFFIC (TRANSPORTATION & COMMERCIAL) DEPARTMENT

A. TRAFFIC (TRANSPORTATION):

PAPER-I:

I. GENERAL

- Hierarchical set up and line of control of Operating Dept. at the Divisional, Zonal and Railway Board level.

II: TRAFFIC, TRAIN AND POWER CONTROL ORGANISATION

- Objective and set up of Control Offices.
- Functions of Control Organization pertaining to Train Ordering, Punctuality, Maintenance of Operating Statistics, Wagon & Loco Stock Management, Blocks (Engg., TRD etc) management, Management during Accident & Unusual Situations/ Circumstances & Disaster Management.
- Duties and responsibilities of Chief Controllers, Dy. Chief Controllers, Section Controllers, TNCs, Recorders and their Co-ordination with Lobbies, Station & Yards.
- Freight Train Operations (FTO) & Freight Train Ordering Principles with or without co-ordination with Crew Lobbies.
- Special instructions during abnormal conditions of working & during emergencies like Cyclone, Civil Disturbances, Accidents etc.
- Daily Performance Reporting from Stations/Yards/Sheds to Area Sub-control, Area Sub-control to Divisional Control Office and from Divisional Control Office to Zonal Control Office and from Zonal Control office to Railway Board.
- Basic and important Documents/Registers maintained in Control Office and their basis.
- Periodical Performance Reporting and analysis of Operating Performance along with compilation of statistical data.

Contd...2/-

- Power Control Organization- Engine and Crew scheduling.
- Factors affecting Wagon & Engine utilization and methods of improvements.
- Working pertaining to issue of Caution Orders from Nominated and Notice Stations.
- Liaison/Co-ordination with Control Establishments of other departments like Engg., TRD, Traction Control, Signaling Control etc.

III. FREIGHT TRAIN OPERATIONS

- Functioning of Crew & Guard Lobbies.
- Integrated Lobbies.
- Shunting operations in Yards or Road side stations.
- Working of Marshalling Yards & Transshipment Points.
- Causes of Yard and Section congestion and remedial strategies.
- All India Marshalling Order and Railway-wise Marshalling Orders – Principles and Procedures.
- Rules regarding carriage of Explosives and other General goods.
- Priority Schedule.
- Indent Allotment and Supply of Freight stock at stations.
- Wagon Stock Management for loading and unloading operations.
- Imposition of Operating Restrictions on Wagon Loading and acceptance of Wagon Indents.
- Observance of Civil ban and Carriage of Contraband goods etc.
- Important Documents/Registers maintained in Yards & at Stations.
- Familiarity with G&SR, Accident Manual, Operating Manual, Block Working Manual, Red Tariff, IR Act, 1989 etc.
- Crew management.

Contd...3/-

- **Engine Utilization aspects requiring special attention:-**
 - ❖ Engine Crew and Train Crew Schedule.
 - ❖ Rules regarding Outstation and Home Station rest, etc. to ensure observations of 10 Hour Rule or Rules applicable from time to time.
 - ❖ Movement of Dead Locomotives
 - ❖ Management of maintenance Schedule of Locomotives
 - ❖ Shed and Traffic Outage of Locomotives
- **Wagon Turn Round Time (WTR) & factors affecting optimum utilization of the wagon fleet and methods of improvement:-**
 - Running of unit trains and formation of Captive Rakes.
 - Block Train Operations.
 - Nominated day loading
 - Rationalization Scheme of movement of Freight traffic for avoiding congestion by specific routes.
 - Merry –Go- Round (MGR) System
 - Engine on –load (EOL) system
 - Mini rake system
- **Supervision and control over movement of Special type of Stock, ODC consignments.**
- **Maximum Moving dimensions.**
- **Wagon Census.**
- **Uses of Computer:**
 - ⚡ Freight Operations Information System (FOIS)
 - ⚡ Coaching Operations Information System (COIS)
 - ⚡ Rake Management System (RMS)
 - ⚡ Terminal Management System (TMS)
 - ⚡ Computerized Train Charting.
- **Relevant Rules and Important Policy guidelines.**
- **C & W examination for Intensive, Round Trips, Premium and Close Circuit rakes.**
- **Sicklines and TXR Repair Depots including POH & ROH Depots and their functions.**

Contd...4/-

- Supply of Coaches/Wagons to C&W shops for POH and special repairs.
- Working of Travelling traffic cranes for handling heavy consignments at Intermediate stations.
- Detaching of Sick Wagons at enroute Stations and their repair and clearance.
- Inter change transactions – Junction returns of Inter Railway Inter change traffic.
- Weighment of rakes.
- MIL RAIL
- Permissible Axle Loads & Heavy Haul Operations
- 'Payload' to 'Tare' Ratio of Wagons.

Operating Statistics

- Definition, meaning and methods of compilation of the Fundamental and Derived units.
- Analysis of the Operating Statistics.
- Important Operating Efficiency Indices, their meaning and uses.
- Operating Ratio.

Contd...5/-

PAPER-II

I. WORKING OF TRAINS GENERALLY AND GENERAL AND SUBSIDIARY RULES

- Responsibility and Function of Engine crew before starting and while on run and during abnormal/unusual situations.
- Responsibility and function of Guard/Asst. Guard before starting and while on run and during abnormal/unusual situations.
- Role & Responsibility of Station staff in working of trains.
- Various systems of working of trains and Conditions for Granting LC.
- Classification of Stations, Standards of Interlocking, Signaling systems, Equipment & their working.
- Station Working Rules and Block Working.
- Level crossings.
- Line capacity and measures for augmenting it MAUQ, Tokenless working, Centralised Traffic Control, Doubling, Automatic Block, IBS/IBH.
- Combined Train Report, Guard's Rough Journal Book, Vehicle Guidance, Driver's Ticket, Brake Power Certificate etc.
- Rules regarding Marshalling of vehicles on Passenger, Mixed and Freight trains.
- Vacuum Brake & Air brake systems alongwith Continuity Test.
- Precautions to be taken on Ghat sections.

II. PASSENGER TRAINS OPERATION

- General principles and methodology of Time Tabling of Passenger trains.
- Consultative Machinery for revision of Time Table at Divisional, Zonal and Railway Board level.
- Publication of Working Time Tables, Public Time Tables & Sheet Time Tables.
- Punctuality of Passenger carrying trains.

Contd...6/-

- Factors affecting Punctuality of Passenger carrying trains and methods of improving the Punctuality.
- Augmentation of train loads for meeting traffic requirements.
- Running of Tourists coaches, Special carriages and Special trains.
- Planning & Running of Holiday specials, Mela Specials, Tourist Specials, etc.
- Introduction of new trains, extension of train runs, introduction of Through and Sectional Coaches.
- Preparation of Engine Links, Driver/Guards Links & Rake Links.
- Commuter Service Operations.

III. ACCIDENTS AND SAFETY ORGANISATION

- Accidents, types and their classification, causes and their prevention.
- Functioning of Railway Safety Organization.
- Chief Commissioner of Railway Safety and his Functions.
- Rules for reporting Accidents.
- Accident Relief Medical Equipment (ARMES) & Accident Relief Trains (ARTs).
- Role & Responsibilities of various Officials and Departments during Accidents.
- Responsibility of the Control Organization Station Masters and Traffic staff on the affected Section.
- Accidents enquiries and DAR action against staff held responsible for the Accidents.
- Review and analysis of Accidents for taking corrective measures.
- Disaster Management & Implementations of High Level Committee's report on Disaster Management on Indian Railways.

Contd...7/-

ACCIDENTS PREVENTION

- Psycho analysis in case of accidents attributed to human failures.
- Improved mechanized aids to prevent human error like:
 - Improved signalling and inter-locking arrangement,
 - SM's central and Inter cabin control over route
 - Track circuit and Axle counters.
 - Route Relay inter-locking
 - Automatic cab warning system and automatic braking system.
- Refresher Courses, Safety camps and safety campaigns.

IV. PLANNING ON THE RAILWAYS

- Set up & Functions of Planning Wing on IR.
- Corporate Plan and Annual Plan.

Contd...8/-

B. TRAFFIC (COMMERCIAL)

PAPER-I

- Booking of Goods Traffic- Forwarding notes, Registration of indents, allotment rating and routing of traffic, misdeclaration, RR, weighment including punitive charges for overloading, empty tare weightment, classification of goods, loading and unloading including transshipment, free time for loading and unloading, booking of animals, dangerous and offensive goods, military traffic, RMC etc., different charges like demurrage, wharfage, stacking, stabling etc.
- Freight Incentive Schemes, Terminal Management System, Goods shed working, Trainload benefit, quick transit service, container service, loadability of wagons, higher capacity routes, Investment schemes like WIS, TIELS, Dynamic Pricing Policy.
- Out Agencies, City Booking Offices and other Ancillary services.
- Commercial Inspection
- Siding-assisted and private siding-rules-charges-Liberalised Siding Policy.
- Dedicated Freight Corridor.
- Other recent policy changes regarding freight.
- Sealing and labeling of wagons-delay in transit-diversion of wagon load traffic-disposal of seal defective wagons-transport of small traffic-repacking sheds and transshipment points.
- Delivery of consignments-undercharges-overcharges-refund of over charges-delivery of consignment short of destination-disposal of consignments-over-carried-disposal of unclaimed and unconnected consignments.
- Station outstanding: Realisation and its clearance.

PAPER-II

- Marketing and Sales activities at the level of Divisions and Headquarters-Claims prevention and claims statistics-public relations on railways-public complaints and their disposal-liability of railways in case of accident to a passenger train.
- Coordination of functions of various consultative committees at national, zonal and divisional levels.
- Liability of Railways as Carriers of goods and animals.
- Catering and vending services, Book stalls etc.
- Indian Railways Conference Association-its functions.
- Commercial Statistics-their usefulness.
- Indian Railways' Act-chapters relating to traffic facilities-working of railways, responsibility of railways as carriers and penalties and offences.
- Various ticketing schemes-Tatkal rules, concept of e-tickets, I-tickets, Scheme of Frequent Travel (SOFT), tickets through ATMs, Reservation and refund rules.
- Railway Claims Tribunal Act and functioning of RCT and RRT.

Contd...9/-

- Unreserved Ticketing System (UTS), Automatic Ticket Vending Machines (ATVM), Jansadharan Ticket Booking Scheme (JTBS), Railway Travel Service Agents (RTSA), etc.
- Various measures including Intensive Check Posts (ICPs) to combat ticketing frauds and ticket less travel.
- Categorization of railway stations depending upon passenger earnings.
- Halt Policy
- Passenger Amenities-model stations-minimum essential amenities-recommended and desirable passenger amenities depending upon classification of station-works programme etc.
- Integrated on-board services-bedroll distribution in AC coaches-cleanliness of coaches-on board supply of newspapers, magazines and toiletries etc.
- Public-private-partnership (PPP) schemes-pay & use toilets (deluxe as well as normal)-retiring rooms-waiting halls-beautification of stations etc.
- Train enquiry system-National Train Enquiry System (NTES)-Integrated Train Enquiry System (ITES) Call Centres etc.
- Customer Care Training- a more customer friendly attitude among the frontline staff- on the job training etc.
- Commercial Publicity-policies and implementation on zonal railways.
- Classification of earnings.
- Strategies to enhance sundry earning-parking contracts, STD/PCOs, Cyber Cafes, ATMs various kiosks etc.
- Leasing Policy for Parcels.
- Rules regarding parcel booking, overloading and computerization of parcels etc.

भारत सरकार
रेल मंत्रालय (रेलवे बोर्ड)

आर बी ई सं. 16/2007

सं. ई (जी पी) 2004/2/90

नई दिल्ली, दिनांक: 28/2/2007

महाप्रबंधक
सभी भारतीय रेलें एवं उत्पादन इकाइयां

विषय:- रेलों के यातायात (परिवहन और वाणिज्यिक) विभाग में ग्रुप 'ग' से ग्रुप 'ख' में चयन हेतु पाठ्यक्रम।

संदर्भ:- रेलवे बोर्ड का 16.01.1981 का पत्र सं. ई (जी पी) 79/2/30/2.

रेलों के यातायात (परिवहन और वाणिज्यिक) विभाग में ग्रुप 'ग' से ग्रुप 'ख' में पदोन्नति हेतु सीमित विभागीय प्रतियोगी परीक्षा (एल डी सी ई) हेतु एक संशोधित पाठ्यक्रम मार्ग-निर्देश हेतु संलग्न है। संशोधित पाठ्यक्रम का पात्र उम्मीदवारों के बीच व्यापक प्रचार-प्रसार एवं परिपत्रित किया जाए।

2. संशोधित पाठ्यक्रम इस पत्र के जारी होने की तिथि से प्रभावी होगा। बहरहाल, चयन जिन पर अग्रिम स्तर पर कार्रवाई की जा रही है, में कोई परिवर्तन करने की आवश्यकता नहीं है।

3. कृपया पावती दें।

संलग्नक:- यथोक्त।

संतोष मिश्र
(संतोष मिश्र)
उप निदेशक/स्थापना (जी पी)
रेलवे बोर्ड

**यातायात (परिवहन और वाणिज्यिक) विभाग में ग्रुप 'ख' पदों में पदोन्नति हेतु - सीमित
विभागीय प्रतियोगी परीक्षा के लिए पाठ्यक्रम**

क यातायात (परिवहन) :

पेपर - I

I. सामान्य

- मंडल, क्षेत्रीय और रेलवे बोर्ड स्तर पर परिचालनिक विभाग की पदनामवार व्यवस्था और नियंत्रण का स्वरूप

II. यातायात, गाड़ी और पॉवर नियंत्रण संगठन

- नियंत्रण कार्यालयों के उद्देश्य और व्यवस्था
- गाड़ी संबंधी आदेश देने, समय-पालन, परिचालनिक आंकड़ों का अनुरक्षण, माल डिब्बा और इंजन भंडार प्रबन्धन, ब्लॉक (इंजीनियर, टी आर डी आदि) प्रबंधन, दुर्घटना और असामान्य परिस्थितियों/हालातों और आपदा प्रबन्धन से संबंधित नियंत्रण संगठन के कार्य.
- मुख्य नियंत्रकों, उप मुख्य नियंत्रकों, खंड नियंत्रकों, टी एन सी, रिकार्डरों के कर्तव्य और उत्तरदायित्व और लॉबी, स्टेशन और यादों से उनका समन्वय
- चालक दल लॉबी के साथ समन्वय या समन्वय के बिना फ्रेट गाड़ी चालन (एफ टी ओ) और फ्रेट गाड़ी को आदेश देने संबंधी सिद्धांत
- कार्य की असामान्य परिस्थितियों और तूफान, नागरिक उपद्रव, दुर्घटनाओं आदि जैसी आपात स्थितियों के दौरान विशेष अनुदेश.
- स्टेशनों/यादों/शेडों से क्षेत्रीय उप-नियंत्रण को क्षेत्रीय उप नियंत्रण से मंडल नियंत्रण कार्यालय को और मंडल नियंत्रण कार्यालय से क्षेत्रीय नियंत्रण कार्यालय को और क्षेत्रीय नियंत्रण कार्यालय से रेलवे बोर्ड को दैनिक निष्पादन रिपोर्ट करना.
- नियंत्रण कार्यालय में रखे जाने वाले आधारभूत और प्रमुख प्रलेख/रजिस्टर और उनका आधार
- सांख्यिकीय आंकड़ों के संकलन सहित परिचालन निष्पादन की आवधिक निष्पादन रिपोर्ट और विश्लेषण

- पॉवर नियंत्रण संगठन- इंजन और चालक दल की अनुसूची तैयार करना
- माल डिब्बा और इंजन उपयोग को प्रभावित करने वाले कारक और सुधार के तरीके
- नामित और नोटिस स्टेशनों से 'सावधानी आदेशों' को जारी करने से संबंधित कार्य
- अन्य विभागों जैसे इंजीनियरी, टी आर डी, कर्षण नियंत्रण, सिगनल नियंत्रण आदि के नियंत्रण संस्थापनों के साथ संपर्क/समन्वय

III माल गाड़ी चालन

- चालक दल और गार्ड लॉबीज़ के कार्य
- एकीकृत लॉबीज़
- यार्डों और मार्गवर्ती स्टेशनों में शंटिंग परिचालन
- मार्शलिंग यार्डों और यानांतरण स्थलों के कार्य
- यार्ड और खंड के संतुष्ट होने के कारण और निवारक कार्यनीति
- अखिल भारतीय मार्शलिंग आर्डर और रेलवे-वार मार्शलिंग आर्डर - सिद्धांत और कार्यविधियां
- विस्फोटकों और अन्य सामान्य माल की ढुलाई से संबंधित नियम
- प्राथमिकता अनुसूची
- स्टेशनों पर फ्रेट भंडार के माँग पत्र आबंटन और आपूर्ति
- लदान और उतराई परिचालनों के लिए माल डिब्बा भंडार प्रबन्धन
- माल डिब्बा लदान पर परिचालन प्रतिबंधों को लगाना और माल डिब्बा मांग-पत्रों की स्वीकृति
- सिविल प्रतिबंध और निषिद्ध माल आदि की ढुलाई आदि का अनुपालन
- यार्डों और स्टेशनों पर रखे जाने वाले महत्वपूर्ण प्रलेख और रजिस्टर
- जी एवं एस आर, दुर्घटना नियमावली, परिचालन नियमावली, ब्लॉक कार्य प्रणाली नियमावली, रैड ट्रैफ़ि, भारतीय रेलवे अधिनियम, 1989 आदि के साथ समरूपता
- चालक-दल प्रबन्धन
- इंजन उपयोगिता के पहलू जिन पर विशेष ध्यान देने की आवश्यकता है :

❖ इंजन चालक दल और गाड़ी चालक दल अनुसूची

❖ 10 घंटे नियम या समय-समय पर लागू होने वाले नियमों का अनुपालन सुनिश्चित

करने के लिए आउट स्टेशन और होम-स्टेशन विश्राम आदि से संबंधित नियम

- ❖ निष्क्रिय रेल इंजनों का संचलन
- ❖ रेल इंजनों की अनुरक्षण अनुसूची का प्रबंधन
- ❖ रेल इंजनों के शेड और टैफिक आउटएज

- वैगन टर्न राउंड समय (डब्ल्यू टी आर) और वेगन बेडे के इष्टतम उपयोग को प्रभावित करने वाले कारक और सुधार के तरीके :-

- यूनिट गाड़ियों का चालन और कैपटिव रेकों की फॉर्मेशन
- ब्लॉक गाड़ी चालन
- नामित दिन लदान
- विशिष्ट मार्गों पर भीड़-भाड़ को कम करने के लिए फ्रेट यातायात के संचलन की योक्तिकरण प्रणाली
- मैरी-गो-राउंड (एम जी आर) प्रणाली
- इंजन ऑन - लोड (ई ओ एल) प्रणाली
- मिनी रेक प्रणाली

- विशेष प्रकार के भंडार, ओ डी सी परेषणों के संचलन का पर्यवेक्षण और नियंत्रण
- अधिकतम संचलन आयाम
- मालडिब्बा गणना
- कम्प्यूटर के उपयोग

- 👉 फ्रेट परिचालन सूचना प्रणाली (एफ ओ आई एस)
- 👉 कोचिंग परिचालन सूचना प्रणाली (सी ओ आई एस)
- 👉 रेक प्रबंधन प्रणाली (आर एम एस)
- 👉 टर्मिनल प्रबन्धन प्रणाली (टी एम एस)
- 👉 कंप्यूटरीकृत गाड़ी चार्टिंग

- संबंधित नियम और महत्वपूर्ण नीति निर्देश
- गहन, राउंड ट्रीप, प्रीमियम और क्लोज सर्किट रेकों हेतु सी एवं डब्ल्यू परीक्षण

- पी ओ एच और आर ओ एच डिपो और उनके कार्यों सहित मरम्मत लाइन और टी एक्स आर मरम्मत डिपो
- आवधिक ओरहॉलिंग और विशेष मरम्मत हेतु सी एण्ड डब्ल्यू कारखानों को सवारी डिब्बों/माल डिब्बों की आपूर्ति
- मध्यवर्ती स्टेशनों पर भारी परेषणों की समझलाई हेतु चल यातायात क्रेनों का संचलन
- मार्गवर्ती स्टेशनों पर खराब माल डिब्बों को हटाना और उनकी मरम्मत और क्लीयरेंस
- अन्तर बदल संव्यवहार - अन्तर रेलवे अन्तर बदल यातायात की जंक्शन रिटर्न
- रैकों का वजन करना
- मिल-रेल
- अनुमेय धुरा भार और भारी दुलाई परिचालन
- मालडिब्बों के पेलोड का टेयर से अनुपात

परिचालनिक आंकड़े

- आधारभूत और व्युत्पन्न इकाइयों की परिभाषा, अर्थ और संकलन का तरीका
- परिचालनिक आंकड़ों का विश्लेषण
- महत्वपूर्ण परिचालन कुशलता सूचकांक, उनका अर्थ और उनके उपयोग
- परिचालनिक अनुपात

पेपर-II

1. सामान्यतः गाड़ियों का संचालन और सामान्य और सहायक नियम

- शुरू करने से पहले और चालन के दौरान और असामान्य/असाधारण परिस्थितियों के दौरान इंजन कर्मीदल के कार्य और उत्तरदायित्व
- शुरू करने से पहले और चालन के दौरान और असामान्य/असाधारण परिस्थितियों के दौरान गार्ड/सहायक गार्ड के कार्य और उत्तरदायित्व
- गाड़ियों के संचालन में स्टेशन कर्मचारियों की भूमिका और उत्तरदायित्व
- गाड़ियों के संचालन की विभिन्न प्रणालियों और एल सी देने हेतु शर्त
- स्टेशनों का वर्गीकरण, अंतर-पार्शनों के मानक, सिगनल प्रणालियां, उपस्कर और उनके कार्य
- स्टेशन संचालन नियम और ब्लॉक संचालन
- समपार
- लाइन क्षमता और इसके एम ए यू क्यू के संवर्द्धन हेतु उपाय टोकन रहित संचालन, केन्द्रीकृत यातायात नियंत्रण, दोहरीकरण, स्वचालित ब्लॉक, आई बी एस/आई बी एच
- संयुक्त गाड़ी रिपोर्ट, गार्ड की रफ जनरल बुक, वाहन मार्गदर्शन, ड्राइवर का टिकट, ब्रेक पावर प्रमाण पत्र आदि
- यात्री मिश्रित और फ्रेट गाड़ियों में वाहनों के विन्यास से संबंधित नियम
- सतत परीक्षण सहित वैक्यूम ब्रेक और एयर ब्रेक प्रणालियां
- घाट खंडों पर ली जाने वाली पूर्वाधानियां

II यात्री गाड़ी चालन

- यात्री गाड़ियों की समय सारणी के सामान्य सिद्धान्त और पद्धति
- मंडल, क्षेत्रीय और रेलवे बोर्ड स्तर पर समय सारणी के संशोधन के लिए परामर्शदायी तंत्र
- वर्किंग समय-सारणियों, पब्लिक समय सारणियों और शीट समय सारणियों का प्रकाशन

- यात्री गाड़ियों का समय पालन
- यात्री गाड़ियों के समय पालन को प्रभावित करने वाले कारक और समय पालन में सुधार के तरीके
- यातायात आवश्यकतों को पूरा करने के लिए गाड़ी भार का संवर्द्धन
- पर्यटक सवारी डिब्बे, विशेष कैरिज और विशेष गाड़ियों को चलाना
- होलीडे स्पेशल, मेला स्पेशल, पर्यटक स्पेशल आदि की योजना बनाना और उन्हें चलाना
- नई गाड़ियों को शुरू करना, गाड़ी की चालन दूरी का विस्तार, क्रू और सेक्शनल सवारी डिब्बों को शुरू करना,
- इंजन लिंक, ड्राइवर/गार्ड लिंक और रेल लिंक को तैयार करना
- दैनिक यात्री सेवा परिचालन

III दुर्घटना और संरक्षा संगठन

- दुर्घटनाएं, प्रकार और उनका वर्गीकरण, कारण और उनकी रोकथाम
- रेल संरक्षा संगठन के क्रिया-कलाप
- रेल संरक्षा के मुख्य आयुक्त और उनके कार्य
- दुर्घटनाओं की सूचना देने संबंधी नियम
- दुर्घटना राहत मेडिकल (ए आर एम ई) और दुर्घटना राहत गाड़ियां (ए आर टी)
- दुर्घटनाओं के दौरान विभिन्न अधिकारियों और विभागों की भूमिका और दायित्व
- प्रभावित खंड पर नियंत्रण संगठन स्टेशन मास्टर और यातायात कर्मियों के दायित्व
- दुर्घटनाओं से संबंधित पूछताछ और दुर्घटना के लिए जिम्मेदार ठहराये गये कर्मचारियों के विरुद्ध अनुशासन एवं अपील कार्रवाई सुधारात्मक उपाय करने हेतु दुर्घटनाओं की समीक्षा और विश्लेषण
- भारतीय रेलों पर आपदा प्रबंधन के संबंध में आपदा प्रबंधन एवं कार्यान्वयन संबंधी उच्च स्तरीय समिति की रिपोर्ट

दुर्घटनाओं की रोकथाम

- मानवीय विकलताओं के कारण दुर्घटनाओं के मामले में मनोवैज्ञानिक विश्लेषण

- मानवीय गलतियों की रोकथाम हेतु बेहतर यंत्रीकृत सहायता जैसे :-

- बेहतर सिग्नलिंग और अंतर-पार्श्व व्यवस्था
- मार्ग पर स्टेशन मास्टर का केन्द्रीकृत और अंतर्ह केबिन नियंत्रण
- ट्रैक सर्किट और धुरा काउन्टर्स
- मार्ग रिले अंतर-पार्श्व
- स्वचालित कैब चेतावनी प्रणाली और स्वचालित ब्रेक प्रणाली

- पुनश्चर्या पाठ्यक्रम, संरक्षा कैम्प और संरक्षा अभियान

IV रेलवे पर योजना

- भारतीय रेलवे पर योजना शाखा की स्थापना और कार्य
- समवेत योजना और वार्षिक योजना

ख. यातायात (वाणिज्य)

पेपर-I

- माल यातायात की बुकिंग - अग्रेषित नोट, मांग पत्रों का पंजीकरण, आबंटन रेटिंग और यातायात का मार्ग निर्धारण, गलत-घोषणा, आर आर, अधिक लदान हेतु दंडात्मक प्रभारों सहित वजन, खाली टेयर भार, सामान का वर्गीकरण, पारवहन सहित लदान और उतराई, लदान और उतराई हेतु निशुल्क समय, पशुओं की बुकिंग, खतरनाक और आपराधिक वस्तुएं, सैनिक यातायात, आर एम सी आदि, विभिन्न प्रभार जैसे विलंब-शुल्क, घाट भाड़ा, चट्ट लगाना, स्टेबलिंग आदि.
- भाड़ा प्रोत्साहन योजनाएं, टर्मिनल प्रबंधन प्रणाली, गुड्स शेड कार्य, गाड़ी भार लाभ, तीव्र पारवहन सेवा, कंटेनर सेवा, माल डिब्बों की लदान क्षमता, उच्चतर क्षमता मार्ग, डब्ल्यू आई एस, टी आई ई एल एस, गतिशील मूल्य नीति जैसी निवेश योजनाएं
- आउट एजेसियां, सीटी बुकिंग कार्यालय और अन्य आनुषंगिक सेवाएं
- वाणिज्यिक निरीक्षण
- सहायक साइडिंग और निजी साइडिंग-नियम-प्रभार-उदारीकृत साइडिंग नीति
- समर्पित माल गलियारा
- भाड़े के संबंध में हाल ही में किये गये नीतिगत परिवर्तन
- माल डिब्बों को सील करना और लेबल लगाना- पारवहन में देरी - मालडिब्बा भार यातायात का मार्ग परिवर्तन - दोषपूर्ण सील वाले मालडिब्बों का निपटान - फुटकर यातायात का परिवहन- पुर्नपैकिंग शेड और यानांतरण स्थल
- परेषणों की सुपुर्दगी- अब प्रभार-अधिप्रभार- अधिप्रभारों की वापसी- ऐसे परेषणों की सुपुर्दगी - जिन्हें गंतव्य से पहले सुपुर्द कर दिया जाए. गंतव्य से आगे ले जाए गए परेषणों का निपटान, गैर-दावा और असंबद्ध परेषणों का निपटान
- स्टेशन बकाया- उगाही और उसका समाशोधन

पेपर-II

- मंडल और मुख्यालयों के स्तर पर विपणन और विक्रय गतिविधियों का दावा रोकथाम और दावा संबंधी आंकड़े- रेलों पर जन सम्पर्क- जन शिकायतों और उनका निपटान - यात्री गाड़ियों के दुर्घटना ग्रस्त होने के मामले में रेलों की जिम्मेदारी

- राष्ट्रीय क्षेत्रीय और मंडल स्तरों पर विभिन्न परामर्श-समितियों के कार्यों में समन्वय
- सामान और पशुओं के संवाहक के रूप में रेलों का उत्तरदायित्व
- खानपान और वेंडिंग सेवाएं और बुक स्टॉल आदि
- भारतीय रेल सम्मेलन- इसके कार्य
- वाणिज्यिक आंकड़े- उनका उपयोग
- भारतीय रेलवे अधिनियम- यातायात सुविधाओं से संबंधित अध्याय - रेलवे के कार्य संवाहक के रूप में रेलवे का उत्तरदायित्व और शास्ति और अपराध
- विभिन्न टिकटिंग प्रणालियां- तत्काल नियम, ई टिकट की संकल्पना, आई टिकट, बारंबार यात्रा की प्रणाली (सॉफ्ट), ए टी एम के माध्यम से टिकट, आरक्षण और धन वापसी नियम
- रेल दावा अधिकरण अधिनियम और रेल दावा अधिकरण और रेल दर अधिकरण के कार्य
- अनारक्षित टिकट प्रणाली (यू टी एस), स्वचालित टिकट वेंडिंग मशीन (ए टी वी एम), जनसाधारण टिकट बुकिंग प्रणाली (जे टी बी एस), रेलवे ट्रेवल सेवा एजेंट (आर टी एस ए) आदि.
- टिकट धोखाधड़ी और बिना टिकट यात्रा को रोकने के लिए गहन जांच चौकियों (आई सी पी) सहित विभिन्न उपाय
- यात्री अर्जनों के आधार पर रेलवे स्टेशनों का कोटीकरण
- हॉल्ट नीति
- यात्री सुविधाएं - आदर्श स्टेशन- न्यूनतम आवश्यक सुविधाएं - स्टेशनों के वर्गीकरण के आधार पर अनुशंसित और वांछित यात्री सुविधाएं - निर्माण कार्यक्रम आदि
- एकीकृत ऑन बोर्ड सेवाएं - वातानुकूलित सवारी डिब्बों में बिस्तरों का वितरण - सवारी डिब्बों की सफाई, समाचार पत्रों, पत्रिकाओं और टोयलेट्रीज आदि की ऑन बोर्ड आपूर्ति
- सार्वजनिक निजी साझेदारी (पी पी पी) योजना - भुगतान ओर उपयोग करें शौचालय (सामान्य के साथ-साथ डीलक्स)- विश्राम कक्ष- प्रतीक्षा हॉल- स्टेशनों का सौंदर्यीकरण आदि
- यात्री पूछताछ प्रणाली - राष्ट्रीय गाड़ी पूछताछ प्रणाली (एन टी ई एस) - एकीकृत गाड़ी पूछ-ताछ प्रणाली (आई टी ई एस) कॉल सेंटर आदि

- ग्राहक सेवा प्रशिक्षण - अग्रणी लाइन के कर्मचारियों को अधिक ग्राहकोन्मुखी बनाना- ऑन जॉब प्रशिक्षण आदि
- वाणिज्यिक प्रचार- क्षेत्रीय रेलों पर नीतियां और कार्यान्वयन
- अर्जनों का वर्गीकरण
- विविध अर्जन वृद्धि हेतु कार्य नीतियां - पार्किंग ठेके एस टी डी-पी सी ओ, साइबर कैफे, ए टी एम, विभिन्न कियोस्क आदि
- पार्सल हेतु पट्टा नीति
- पार्सल बुकिंग, अधिलदान और पार्सलों के कम्प्यूटीकरण आदि से संबंधित नियम

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

RBE No.: 71/2018

No. E(GP)2018/2/1

New Delhi, dt: 22.05.2018

**The General Managers,
All Indian Railways and Production Units.**

**Sub.: Syllabus for 30% LDCE held for promotion to Group 'B' post of AMM
in Stores Department.**

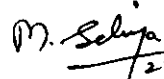
Ref.: Railway Board's letter No. E(GP)2005/2/53 dated 21.3.2007.

A revised syllabus for Limited Departmental Competitive Examination (LDCE) for promotion from Group 'C' to Group 'B' posts in Stores Department of Railways is enclosed for guidance. This may be given wide publicity and circulated amongst the eligible candidates.

2. The revised syllabus will be effective from the date of issue of this letter. However, LDCEs, which have been notified or for which written examinations have already been held and which are at an advanced stage, need not be disturbed.

3. Please acknowledge receipt.

Encl: As above


22/05/18
(Meenakshi Saluja)
Dy. Director, Estt.(GP)-III
Railway Board.

भारत सरकार
रेल मंत्रालय (रेलवे बोर्ड)

सं.ई(जी.पी.)2018/2/1

नई दिल्ली, दिनांक 22-05-2018

महाप्रबंधक,
सभी भारतीय रेल एवं उत्पादन इकाइयां.

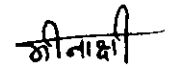
विषय- भंडार विभाग में सहा. सामग्री प्रबंधक के समूह 'ख' के 30% पदों को सीमित
विभागीय प्रतियोगी परीक्षा से भरने के लिए पाठ्यक्रम.

संदर्भ: रेलवे बोर्ड का 21.03.2007 का पत्र सं. ई(जी.पी.) 2005/2/53

रेलों के भंडार विभाग में समूह 'ग' से समूह 'ख' पदों पर पदोन्नति हेतु सीमित विभागीय प्रतियोगी परीक्षा के लिए संशोधित पाठ्यक्रम मार्गनिर्देश हेतु संलग्न है. संशोधित पाठ्यक्रम का व्यापक प्रचार किया जाए और पात्र उम्मीदवारों के बीच परिपत्रित किया जाए.

2. संशोधित पाठ्यक्रम इस पत्र के जारी होने की तारीख से प्रभावी होगा. बहरहाल जिन चयनों के लिये अधिसूचना जारी कर दी गई है अथवा जिनके लिए लिखित परीक्षा पहले ही कराई जा चुकी है या जो चयन अग्रिम स्तर पर पहुँच चुके हैं, उनमें हस्तक्षेप करने की आवश्यकता नहीं है.

3. कृपया पावती दें.



(मीनाक्षी सलूजा)

उप.निदेशक/स्थापना(जी.पी.)-III

रेलवे बोर्ड

संलग्नक : यथोक्त

No.E(GP)2018/2/1

New Delhi, dt: 22.05.2018

Copy for information and necessary action to

- (1) The Director General & ex-officio General Manager, R.D.S.O., Lucknow.
- (2) The CAO, DMW, Patiala
- (3) The CAO, MTP (Rlys.), Mumbai and Chennai
- (4) The Chairman, Railway Recruitment Board:
Allahabad/Ahmedabad/Ajmer/Bangalore/Bhopal/Bhubaneswar/Kolkata/Chandigarh/
Chennai/Gorakhpur/Guwahati/Jammu&Srinagar/Malda/Mumbai/Muzaffarpur/Patna/
Ranchi/Secunderabad/Trivendrum.
- (5) The Director, NAIR, Vadodara.
- (6) The Director, IRISSET/Secunderabad, IRIMEE/Jamalpur, IRIEEN/Nasik,
IRICEN/Pune, CAMTECH/Gwalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New Delhi.
- (8) The General Secretary, IRCA, New Delhi.
- (9) The C.A.O, COFMOW, Rly. Offices Complex, Tilak Bridge, New Delhi-110002.
- (10) The Secretary, Railway Rates Tribunal (Chennai), 50 M. C. Nicholas Road,
Chetput, Chennai.
- (11) The Exec.Director, CRIS, Safdarjung Rly.Str. Building, Chanakyapuri, New
Delhi.
- (12) The Director (Movement), Railways, 17 N. S. Road, Kolkata.
- (13) The Joint Director (Iron & Steel), 3 Koilaghat Street, Kolkata.


22.05.18
(Meenakshi Saluja)
DY.Director E(GP)III
Railway Board.

No.E(GP)2018/2/1

New Delhi, dt: 22.05.2018

Copy forwarded to:

1. The General Secretary, All Indian Railwaymen Federation, Room No. 253, Rail Bhavan, New Delhi (10 copies)
2. The General Secretary, National, Federation of Indian Railwaymen, Room No. 256-E, Rail Bhavan, New Delhi (10 copies)
3. All Members, Departmental Council and National Council and Secretary, Staff Side, National Council, 13-C, Ferozshah Road, New Delhi (90 spares)
4. The Secretary General, Federation of Railway Officers Association, Room No. 256-A, Rail Bhavan, New Delhi (5 spares)
5. The Secretary General, Indian Railway Promotee Officers Federation, Room No. 268, Rail Bhavan, New Delhi (10 spares)
6. The Secretary General, All India RPF Association, Room No. 256 D, Rail Bhavan, New Delhi-110001.
7. Railway Board Secretariat Staff Association.


For Secretary/Railway Board

Copy to:

PSs to MR, MOS(S), MOS(G).

Sr.PPSs to CRB, FC, MS, MRS, MT, MTR, ME

PPSs to Secretary, DG/RHS, DG/RPF, DG(Personnel), DG(S&T), DG/RS

PPSs to all Addl. Members.

Dy. C&AG(Railways), Room No. 222, Rail Bhawan.

PSs to PED(Vig.), PED(RS), EDE, EDA, EDE(N), EDE(Res), JS, JS(E), JS(G), ED(E&R), EDE(GC), EDV(E), ED(Signal), EDV(S), EDF(E), EDE(T&MPP), EDE(RRB), EDPC-I, DV(P), DE(L), JDE(Res), JDE(Rep)I&II, JDE(D&A), JDE(P&A), DPCI&II, DE(IR), JDE(N), DDF(E)I, DDV(A&P), E(NG)I, E(O)III, JDRS(G), DDE(LR)I, E(Trg.), E(MPP), V(SS)

Syllabus for 30% LDCE for promotion to Group 'B' post of AMM in Stores Department

PAPER- I

Maximum Marks:150	Qualifying Marks:90
<u>Part-I</u>	
I. General Knowledge : 50 Marks (including official language and policy*)	
*NOTE: Optional questions to the extent of 15 marks on official language and policy will be included in the topic of General Knowledge.	
<u>Part-II</u>	
Professional Subject –	100 Marks

Part-II

Purchase Management:

1. Organisation of Stores Dept. on Zonal Railway & Production Units.
2. Objectives of Stores Dept. in brief.
3. Functions of the Principal Chief Material Manager (PCMM) & other officers assisting him.
4. Canons of Financial Propriety & its application to Stores Matters.
5. 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
6. Purchase of stores
 - (i) Important Stages in purchase cycle

- (ii) Purchase Policy & Rules of IR and GFR Provisions
 - (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 including CMC
 - (vii) Emergency Purchases
 - (viii) Basics of iMMS & e-Procurement
 - (ix) Procedures/Manuals related to iMMS and IREPS
 - (x) Procurement through GeM
 - (xi) Reverse auction
 - (xii) Price variation clause and its operation
 - (xiii) Buy back system of purchase
 - (xiv) Green Procurement/paperless working
 - (xv) Composite contracts and strategic procurement
7. Purchase through Centralized agencies like:
- (i) Railway Board, PCMM's of DLW, CLW, CORE etc.
8. Procedure of purchase from Govt. Dept. in brief
9. Govt. Policy of Preference
- a) Purchase/Price Preference
 - i) Small scale industries
 - ii) Items reserved for procurement from SSIs (Gr. IV items)
 - b) Purchase Preference as per Make in India Policy
 - c) Special benefits available to NSIC firms, KVIC & Handloom Sector
10. Supply Contracts
- i) Important provisions of Indian Contract Act, Sale of Goods Act and GST Act
 - ii) IRS Conditions of Contract, General Conditions of Contract
 - iii) Force Majeure Clause
 - iv) Preparation of bid documents, special conditions, price variation and eligibility criterion etc for
 - (a) Rate/Running & Fixed quantity/Long term contracts
 - (b) Service Contract
 - (c) Annual maintenance Contract
 - (d) EPC Contract
 - v) Online submission of EMD & SD
 - vi) PO Draft/Numbering Scheme & vetting considerations
 - vii) Contract Management
 - (1) Extension of DD/Modification of PO
 - (2) Penalties for breach of contracts (LD, GD, RP)

- viii) Settlement of Disputes
 - (a) Arbitration Clause in IRS Conditions
 - (b) Arbitration & Conciliation Act 1996 including Amendment Act, 2015
 - (c) Dispute resolution between two Govt. Deptt. Or (CPSU)

11. Import of Material

- i) Direct import by Zonal Railways/Production Units
- ii) Import through Railway Board
- iii) Types of Import Contracts
 - (a) FOB, CFR, CIF & DDP
- iv) Modes of Payment, Letter of Credit & its types
- v) Sea & Air freighting of Railway Materials & Insurance Covers
- vi) Port clearance of imported consignments
- vii) Claims settlement
- viii) INCOTERMS (latest edition)

12. Concept of Strategic Sourcing (Rational Source Selection)

- a) Registration of firms on Railways and IREPS
- 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 Railways especially PUs

13. Important Statistics on Stores matters

- a) Submitted to Railway Board, periodically
- b) Included in Railway Board's annual report & GM's Narrative Report
- c) Yard sticks to measure efficiency of Stores Dept.

14. Stores Budget

- a) Compilation & various review/amendments to the budget during the financial year
- b) Controls to adhere to the budget provisions, Exchequer control
- c) Control over stores expenditure to minimize working expenses
- d) Purchase Grant
- e) Zero Base Budgeting (ZBB)

15. ISO Certification/5S Certification/6 Sigma Certification:

- i) Procedure for obtaining the certification & subsequent compliance for continuation of the same:
 - (a) For Purchase Officer,
 - (b) For stores depot

16. Paperless Working

17. Online acceptance of tenders

18. Procedure for keeping/retention/destruction of official records.

PAPER – II

Maximum Marks:150	Qualifying Marks:90
<u>Part-I</u>	
Establishment and Financial Rules:	50 Marks
<u>Part-II</u>	
Professional Subject:	100 Marks

Part-I

I- Establishment Rules: 25 Marks

A: PERSONNEL MANAGEMENT

- a) Organisation of the Personnel Department in the Railways. The objectives of the Personnel Department, functions and policies of the Personnel Department in the Headquarters and on the Divisions.
- b) Classification of services – recruitment to the different services Group 'A' to 'D' – Recruitment of artisan staff, special reservation in Railway services – Role of the Railway Service Commission in recruitment, Recruitment other than through usual channels, promotion policy and methods.
- c) Personnel Supervision, leadership styles, formal and informal leadership, leadership qualities, different leadership styles, democratic or participative leadership style, advantages of participation, Count Councils of management, Negotiating Machinery scheme at zonal and Divisional corporate Enterprises groups.
- d) Inspections of Loco sheds, C&W Depots, Stations, Engineering offices.

B: LABOUR RELATIONS AND WELFARE:

UNIONS AND THEIR ROLE.

- a) Important recognized Trade Union in Railways, Role of unrecognized unions and methods of dealing with them.
- b) Industrial disputes and the Legislative Framework, causes of Industrial Disputes, basic remedies, the Industrial Dispute Act 1947. Strikes, Lock out and Lay Offs, handling of Grievances at Divisions and in the Headquarters, handling of grievances by Labour Enforcement Officers.
- c) The hours of Employment regulations, overtime, job-analysis and its mechanics.
- d) The factories Act, Special Rules for workshop staff in the Railways.
- e) The workmen's compensation Act, Ex Gratia payment, Incentive, Bonus Schemes.

C: WELFARE

- a) Pass Rules, leave rules
- b) Retirement benefits under the Provident Fund, Pension scheme and NPS, Final settlement.
- c) Welfare for the whole family of railway-men concept and practice obtaining on the Railways.

II- FINANCIAL RULES: 25 Marks

- a) Parliamentary control over Railway Finance, Public accountability of finance propriety.
- b) Financial Planning and Budgeting Budgetary and financial reviews / appropriation accounts.
- c) Rules of allocation, classification of Expenditure, Control over expenditure, Responsibility / accounting performance Budgeting, Exchequer control, financial results of working.

- d) Works Programme, Financial justification of work surveys, preparation of estimate, capital budget control over capital expenditure.
- e) Financial control over stores expenditure, purchase and stores keeping procedure, Inventory control and A.B.C. analysis.
- f) Financial and cost control in railway workshops.
- g) Rules and procedure relating to Tenders and contracts for execution of works, procurement of stores.
- h) Procedure for processing and finalizing the Audit objections and draft paras.
- i) Delegation of powers.
- j) Losses, Frauds and embezzlements.

Part II

Depot Management

- 1. 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 & Latest fire fighting Techniques
 - e) Security Arrangements to prevent & action called for by the Depot Officer in case of incidence of the following:
 - i) Theft
 - ii) Pilferage
 - iii) Misappropriation

- iv) Provision of CCTV in Stores Depots/Divisional Depots
 - f) Procedure for locking & sealing of wards/go-downs in a depot and depositing/collecting the keys
 - g) Gate Pass
3. Depot Organization
- a) Functions/Responsibilities of Depot Officer & Subordinate Staff
 - b) Various sections of stores depot, its functions & working procedures
4. Receipt & Accountal of materials:
- a) Procedure for receipt & accountal, in a depot
 - b) Consequent clearance of purchase suspense
 - c) Accounts checks on suppliers' bills
 - d) Purchase Suspense/Sales Suspense
5. Inspection of Stores
- a) Inspection Techniques
 - b) Various Agencies for Inspection of Railway Materials
 - c) Acceptance of material against WTC
 - d) Inspection at firm's premises & Inspection at Depot
 - e) Rejection of pre-inspected materials and procedure for joint inspection
 - f) Disposal of rejected materials
 - g) Warranty Claim Procedure
6. Sampling for Inspection:
- a) Sampling Methods
 - b) Indian Standards relating to Sampling
7. Testing Methods of common materials used by Railways like Steel, Rubber, PVC Items, Rexin, Oils, Paints, Non-ferrous items.
8. Receipt & Issue of Stores on iMMS:
- a) FIFO Method of Receipt and Issue
 - b) Procedure of issue of materials from stores depot to consumers other than attached workshops & debiting the indentors for stores issued
9. Properties & Preservation of stores such as:
- a) Rubber Items, chemicals, explosive/inflammable items
10. Imprest Stores :
- a) Procedure for issue and supply of Imprest Stores

- b) Road contract and its Management
- 11. Returned Stores through iMMS
 - a) Its receipt & accountal in the depot
 - b) Valuation of returned stores
 - c) Monthly Credit Summaries
- 12. Sale of Railway Materials:
 - a) SAG Committee Recommendations
 - b) Survey Committee & its functions for various categories of stores
 - c) Procedure for condemnation of an asset (M&P items including Motor Vehicle)
 - d) Procedure for sale by tender
 - e) Procedure for disposal of scrap by e-auction
 - f) General & Special conditions of sale
 - g) On-line payment of BSV.
 - h) On-line payment of EMD
 - i) Payment Gateway
- 13. Purchase by Depot/Divisional Officers through iMMS
 - a) Purchase Powers- Local & Cash Purchases
 - b) Digital recoupment of cash imprest
- 14. Important Components & its usages:
 - a) In carriages, wagons, diesel loco, electric loco, Metro coaches, TRD & DMU/EMUs
- 15. Dispatch of Railway Materials:
 - a) By Rail, Road
 - b) By Sea & Air
 - c) Safeguards against loss/damage in transit
 - d) Settlement of claims with carriers
- 16. Inter-depot transfers & Clearance of SINT suspense
- 17. Stock Verification
 - a) By Accounts,
 - b) Departmental
 - c) Disposal of Stock Sheets
- 18. Classification of Heads of Accounting & Various Suspense Heads relating to Stores
- 19. Codification:
 - i) Stores nomenclature & price lists (Unified & Non-unified)
 - ii) Unified Vendor Code

- iii) Consignee Code
- iv) Advantages of codification

20. Standardization & Variety reduction

21. Provisioning & Recoupment of Stores

- a) Maxima Minima Method (Q System)
- b) Annual Review Method (P System)
- c) Main Depot-Sub depot arrangement
- d) Economic Order Quantity (EOQ)
- e) Lead time & Safety/Buffer Stock
- f) Computerized forecast of demand/consumption for stock-recoupment (Generation of Estimate Sheet)
- g) Various forecasting statistical techniques

22. Inventory Management

- a) Types of inventories
- b) Various Inventory models:
 - i) The Basic (EOQ) Model: Constant Demand & Lead Time
 - ii) Variable Demand but constant Lead Time
 - iii) JIT Inventory Model
- c) Computer as an aid to inventory control & inventory management
- d) Periodical prints from computer & its use for inventory control
- e) Selective Control Techniques:
 - i) ABC, VED, FSN & XYZ analysis for inventory control control & improvement in service levels
 - ii) Related multi-criteria matrix
- f) Inventory performance indices on IR
- g) Over stock, Inactive & Surplus Stores
 - i) Definitions,
 - ii) Reasons for accrual & its disposal,
 - iii) Steps for prevention

23. 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 & preparation of Debit Summaries

24. Audit:

- a) Narrative Reports, Special Letters, Factual Statements, Draft Paras & its disposal

25. Accounts:

- a) Accounts Objections, Special Reports, Stock Sheets, Inspection Reports Pt I & II

26. M&P, RSP and Works Program

27. Features of MS-Word, Excel, PPT

28. Exception Reports and Action Documents generated on iMMS

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

RBE No.: 113/2010

No. E(GP)2006/2/34

New Delhi, dt: 09.08.2010

**The General Managers,
All Indian Railways and Production Units.**

**Sub: Syllabus for 30% LDCE for promotion to Group'B' post of
ASTE in Signal & Telecommunication Department of
Railways/Production Units.**

Ref: Railway Board's letter No. E(GP)79/2/30/5 dated 9.9.1980.

A revised syllabus for Limited Departmental Competitive Examination (LDCE) for promotion from Group'C' to Group'B' posts in Signal & Telecommunication Department of Railways/Production Units is enclosed for guidance. This may be given wide publicity and circulated amongst the eligible candidates.

2. The revised syllabus will be effective from the date of issue of this letter. However, LDCEs for which written examinations have already been held or which are at an advanced stage, need not be disturbed.

3. Please acknowledge receipt.

Encl: As above.


**(B. MAJUMDAR)
DIRECTOR/ESTT.(GP)
RAILWAY BOARD**

No. E(GP)2006/2/34

New Delhi, dt: 09.08.2010

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Mumbai/Muzaffarpur/Patna/Ranchi/Secunderabad/Trivendrum.
- (5) The Director General, Railway Staff College, Vadodara.
- (6) The Director IRISSET, Secunderabad/IRIMEE.
Jamalpur/IRIEE, Nasik, IRICEN, Pune/IRCAMTECH, Gawalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New Delhi.
- (8) The General Secretary, IRCA, New Delhi.
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- (12) The Director (Movement), Railways 17 N.S.Road, Calcutta.
- (13) The Joint Director (Iron & Steel) 3 Koilaghat Street, Calcutta.


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DIRECTOR/ESTT.(GP)
RAILWAY BOARD

No. E(GP)2006/2/34

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7. Railway Board Secretariat Staff Association.


For Secretary, Railway Board

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**Syllabus (Revised) for 30% LDCE for Promotion
Group 'B' ASTE in Signal & Telecommunication Department**

Paper-I		
Maximum Marks 150		Pass Marks 90
Part - I		
General		50 Marks
I. General Knowledge - This section would contain questions of general interest and importance, which is acquired by general observation or reading with out specific text book study. Subjects of national importance as well as achievements of Railways are also to be covered. The standard of General Knowledge shall not be more rigorous than Matriculate level. - Official Language.		
II. General Mathematics - Arithmetic and statistical operations, graphs, fractions, percentage, sampling & averages - Geometry - area & volume up to Higher Secondary/12th Standard level - Algebra, simultaneous equations etc up to Higher Secondary/12th Standard level - Mechanics - Velocity & acceleration, work done, horse power etc up to Higher Secondary/12th Standard level		
III. Strength of Material Various Engineering materials and their properties, bearings, stress & strain, fatigue, hardness, corrosion & surface finish		
IV. Physics & Basic Electricity - Temperature & measurement - Mechanics - Newton's law of motion, Velocity & Acceleration, Work, Energy, Power, Archimedes's principle etc - Heat & work, expansion of solids, liquids & gases - IC Engines, gas turbine heat recovery & thermal efficiency. Super charging & inter cooling - Ohm's law, Coulomb's law, Faraday's Law, Voltage, Current & Resistance, Wet & Dry Batteries, Power Factor - Simple motors & Dynamos- Principle of Working of Transformer, Relay, Fuse, Circuit Breaker - Power Supply, AC&DC, Rectifiers		
Part - II		
Professional Subject		100 Marks
Note: - Four questions to be given from each part. Six questions to be answered, three from each part.		
Part A Rules & Manuals. Rules for Opening of a Railways, Signal Engineering Manual, Telecommunication Engineering Manual, Store Procedures and Practices, AC Traction Manual, Block Working Manual, Schedule of Dimensions, Operation Manual, <i>Disaster Management</i> , <i>Accident</i>		

Manual - Accident Classification, Causes of Accidents and their prevention, Duties of First Official reaching the Accident Site, Enquiries, Failure Analysis & Investigations.

Part B

Fundamental Engineering & Applied Technology, Simple Structures, Dynamics, Simple Machinery, Magnetism, Electricity, Sound, Electrical Machinery and Circuits, Fundamental Electronics & Electronic Circuits, Power Supply Equipment and Systems. *Protection Systems against Lightning & Surges, Principles of Optics & Optical Fibre Cable, Principles of Digital Electronics - Boolean Algebra, Digital Devices and their Applications, Data Communication Principles & Information Technology - Familiarity with PC Specifications, Operating Systems -Windows, Operating and Application software, Basic LAN/WAN & Networking , Intranet/ Internet.*

Paper-II	
Maximum Marks 150	Pass Marks 90
Part - I	
Establishment and Financial Rules	50 Marks
I. Establishment Rules • General conditions of services of Railway servants including rules regarding leave, joining time, passes etc • Railway service D&A Rules -1968 & amendments • Railway service Conduct Rules -1966 & amendment • Retirement benefits • Payment of wages, allowance & overtime • Labour laws including Payment of Wages Act, Workmen's Compensation Act, Hours of Employment Regulations, Factory Act, Contract Labour Act • Manpower Planning & Training • Welfare measures in Railways • PNM,JCM & PREM	
II. FINANCIAL RULES • Parliamentary control over Railway Finance - public accountability, canons of financial propriety • Railway Budget - Budgetary terms, Types of Budgets, Budget cycle, Demand of Grants, Expenditure Classification • Rule for allocation – Classification of Expenditure, Control over expenditure – Responsibility of accounting performance budgeting, Exchequer, General Financial results of working • Work Programme - Financial justification of works, Survey, preparation of estimate, capital budget – Control over expenditure, capital expenditure, re-appropriation • Financial Control over store expenditure - Purchase and stores keeping procedure - inventory control • Financial and cost control in Railway Workshop • Rules and Procedure relating to tenders and contracts for execution of works and procurement of stores, M&P Programme • Procedure for processing and finalizing the audit objections and draft paras • Delegation of Powers	
Part – II	
Professional Subject	100 Marks
Note: - Four questions to be given from each part. Six questions to be answered, minimum one from each part and maximum three a part.	
Part A Signaling Mechanical & Electrical Interlocking, Interlocking plans and locking tables, Block Signaling, Electro-mechanical and Electrical Signaling, Automatic Signaling, Panel Interlocking, Route Relay Interlocking, Axle Counters, Track Circuits, Automatic Warning System, Train Protection & Warning System (TPWS) and/or Anti Collision Device (ACD), Centralized Traffic Control (CTC), <u>Electronic Interlocking (EI)</u> , <u>Data Loggers & Networking</u> , <u>LED Signals</u> , <u>Block Proving by Axle Counters (BPAC)</u> , <u>Audio Frequency Track Circuits (AFTC)</u> , <u>Integrated Power Supply (IPS)</u> , etc.	

Part B**Telecommunication**

Overhead and underground cable system, control office and way station and emergency control communication equipment, Telephone exchange —automatic, specialized communication and allied equipment like STM, DWDM etc in Railways, comprising HF, VHF and Microwave, GSM-R and/or Tetra for Mobile Train Radio, OFC and Quad cable, Communication in RE area, Data communication & IP Networks, Digital Electronic Exchanges, ISDN, Network Management Systems, networks for PRS, FOIS, TMS, UTS etc, Concept of GPS.

Part C

Workshop Practice - Raw material, processing, Workshop machines and their utilization, Overhauling Procedure and Practices, Inspection and Testing of components, Testing Procedure, commissioning and measurement, Integration, Testing & Certification of IPS/SMPS, DC-DC Converters, Invertors & Battery Chargers/Float Rectifiers, Block Instruments & Relays, Relay Technology - Different Types of Relays & their working, Block Instruments and Point Machines, Quality Control and Safety Practices.

भारत सरकार
रेल मंत्रालय (रेलवे बोर्ड)

आईबीई सं. : 113/2010

सं. ई (जीपी)2006/2/34

नई दिल्ली, दिनांक: 09.08.2010

महाप्रबंधक,
सभी भारतीय रेलों और उत्पादन इकाइयां।

विषय: रेलों/उत्पादन इकाइयों के सिगनल एवं दूरसंचार विभाग में सहायक सिगनल एवं दूरसंचार इंजीनियर के ग्रुप 'बी' पद पर पदोन्नति के लिए 30% सीमित विभागीय प्रतियोगी परीक्षा के लिए पाठ्यक्रम।

संदर्भ: रेलवे बोर्ड का दिनांक 09.09.1980 का पत्र सं. ई(जीपी)79/2/30/5.

रेलों/उत्पादन इकाइयों के सिगनल एवं दूरसंचार विभाग में ग्रुप 'सी' से ग्रुप 'बी' पदों पर पदोन्नति के लिए सीमित विभागीय प्रतियोगी परीक्षा के लिए संशोधित पाठ्यक्रम मार्गदर्शन के लिए संलग्न है। इसका व्यापक प्रचार किया जाए तथा इसे पात्र उम्मीदवारों में परिपत्रित किया जाए।

2. संशोधित पाठ्यक्रम इस पत्र के जारी होने की तारीख से प्रभावी होगा। बहरहाल, सीमित विभागीय प्रतियोगी परीक्षाओं, जिनके लिए पहले ही लिखित परीक्षाएं आयोजित की जा चुकी हैं अथवा जो अग्रिम चरण पर हैं, में फेरबदल की आवश्यकता नहीं है।

3. कृपया पावती दें।

संलग्न: यथोक्त।

बी. मजूमदार

(बी. मजूमदार)

निदेशक, स्थापना (राज. पदो.)

रेलवे बोर्ड

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

RBE No.: 40/2007

No.E(GP)2005/2/8

New Delhi, dt: 22.03.2007

**The General Managers,
All Indian Railways and Production Units.**

**Sub: Syllabus for 30% LDCE for promotion to Group'B' post of
AME/AWM in Mechanical Department of Railways/Production
Units.**

Ref: Railway Board's letter No. E(GP)79/2/30/3 dated 12.11.1979

A revised syllabus for Limited Departmental Competitive Examination (LDCE) for promotion from Group'C' to Group'B' posts in Mechanical Department of Railways/Production Units is enclosed for guidance. This may be given wide publicity and circulated amongst the eligible candidates.

2. The revised syllabus will be effective from the date of issue of this letter. However, LDCEs for which written examinations have already been held or which are at an advanced stage, need not be disturbed.

3. Please acknowledge receipt.

Encl: As above

Santosh Mittal
**(SANTOSH MITTAL)
Dy. DIRECTOR, ESTT.(GP)-II
RAILWAY BOARD**

No.E(GP)2005/2/8

New Delhi, dt: 22.03.2007

Copy for information and necessary action to

- (1) The Director General & ex-officio General Manager, R.D.S.O., Lucknow.
- (2) The CAO, DCW, Patiala
- (3) The CAO, MTP (Rlys.), Mumbai and Chennai
- (4) The Chairman, Railway Recruitment Board:
Allahabad/Ahmedabad/Ajmer/Bangalore/Bhopal/Bhubaneshwar/Kolkata/
Chandigarh/Chennai/Gorakhpur/Guwahati/Jammu&Srinagar/Malda/
Mumbai/Muzaffarpur/Patna/Ranchi/Secunderabad/Trivendrum.
- (5) The Director General, Railway Staff College, Vadodara.
- (6) The Director IRISSET, Secunderabad/IRIMEE.
Jamalpur/IRIEE, Nasik,/IRICEN, Pune/IRCAMTECH, Gawalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New Delhi.
- (8) The General Secretary, IRCA, New Delhi.
- (9) The C.A.O, COFMOW, Rly. Offices Complex, Tilak Bridge, New Delhi-110002.
- (10) The Secretary, Railway Rates Tribunal (Chennai), 50 MC.Nichola Road, Chetput, Chennai.
- (11) The Exec.Director, CRIS, Safdarjung Rly.Stn.Building, Chanakyapuri, New Delhi.
- (12) The Director (Movement), Railways 17 N.S.Road, Calcutta.
- (13) The Joint Director (Iron & Steel) 3 Koilaghat Street, Calcutta.

Santosh Mittal

(SANTOSH MITTAL)
Dy. DIRECTOR, ESTT.(GP)-II
RAILWAY BOARD

No.E(GP)2005/2/8

New Delhi, dt: 22.03.2007

Copy forwarded to:

1. The General Secretary, All Indian Railwaymen Federation, Room No. 253, Rail Bhavan, New Delhi (35 copies)
2. The General Secretary, National Federation of Indian Railwaymen, Room No. 256-E, Rail Bhavan, New Delhi (35 copies)
3. All Members, Departmental Council and National Council and Secretary, Staff Side, National Council, 13-C, Ferozshah Road, New Delhi (90 spares)
4. The Secretary General, Federation of Railway Officers Association, Room No. 256-A, Rail Bhavan, New Delhi (5 spares)
5. The Secretary General, Indian Railway Promotee Officers Association, Room No. 268, Rail Bhavan, New Delhi (35 spares)
6. The General Secretary, All India RPF Association, Room No. 549, Rail Bhavan, New Delhi-110001.
7. Railway Board Secretariat Staff Association.

Handwritten signature
For Secretary/Railway Board

Copy to:

PSs to MR, MSR (N), MSR (V)

Sr.PPSs to CRB, FC, MS, MM, MT, ML, ME

PPSs to Secretary, DG/RHS, DG/RPF

PPSs to all Addl. Members.

Dy. C&AG(Railways), Room No. 222, Rail Bhawan.

PSs to Adv.(Staff), Adv.(Vig.), , EDE, EDA, EDE(N), EDE(Res), JS, JS(E), JS(G), ED(E&R), EDE(GC), EDV(E), ED(Signal), EDV(S), EDF(E), ED(T&MPP), EDE(RRB), EDPC-I, DV(P), DE(L), DE(Res), DE(G), D(IH), JD(MPP), JDE(R)I&II, JDE(Rep)I&II, JDE(D&A), JDE(P&A), DPCI&II, JDE(L), JDE(N), JDE(N)II, JDE(N)III, DDF(E)I, DDF(E)VI, DDV(A&P), E(NG)I, E(O)III, DDRS(G), DDE(LR)I, Sec(E), PC-III, IV & V, E&R, E(Trg.), E(MPP), V(SS), E(SCT)I&II.

PROPOSED SYLLABUS FOR 30 % LDCE FOR PROMOTION TO GROUP "B"FORAME/AWM IN MECHANICAL DEPARTMENT	
PAPER-I	
MAXIMUM MARKS 150	PASS MARKS 90
Part A – GENRAL 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	
PART-B PROFESSIONAL PORTION-100 MARKS	
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 short comings, recommendations of high level committee, accident Enquiry • Corporate Safety Plan, RSRC Recommendations • Benchmarking	

• 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

PROPOSED SYLLABUS FOR PAPER – II	
MAXIMUM MARKS 150	PASS MARKS 90
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)-50 MARKS	
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 -100 Marks	
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	

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

- 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

RBE No.40/2007

भारत सरकार
रेल मंत्रालय (रेलवे बोर्ड)

सं.ई(जी.पी.)2005/2/8

नई दिल्ली, दिनांक 22/3/2007

महाप्रबंधक,
सभी भारतीय रेल एवं उत्पादन इकाइयां.

विषय: रेलों/उत्पादन इकाइयों के यांत्रिक विभाग में ए एम ई/ए डब्ल्यू एम के समूह 'ख' के 30% पदों पर पदोन्नति हेतु सीमित विभागीय प्रतियोगी परीक्षा के लिए पाठ्यक्रम.

संदर्भ: रेलवे बोर्ड का 12.11.1979 का पत्र सं.ई(जी पी)79/2/30/3.

रेलों/उत्पादन इकाइयों के यांत्रिक विभाग में समूह 'ग' से समूह 'ख' पदों पर पदोन्नति हेतु सीमित विभागीय प्रतियोगी परीक्षा के लिए संशोधित पाठ्यक्रम मार्गनिर्देश हेतु संलग्न है. संशोधित पाठ्यक्रम का व्यापक प्रचार किया जाए और पात्र उम्मीदवारों के बीच परिपत्रित किया जाए.

2. संशोधित पाठ्यक्रम इस पत्र के जारी होने की तारीख से प्रभावी होगा. बहरहाल, सीमित विभागीय प्रतियोगी परीक्षा, जिनके लिए लिखित परीक्षा पहले ही कराई जा चुकी है या जो अग्रिम स्तर पर पहुँच चुकी है, में हस्तक्षेप करने की आवश्यकता नहीं है.

3. कृपया पावती दें.

संलग्नक: यथोक्त

संतोष मित्तल

(संतोष मित्तल)

उप. निदेशक/स्थापना(जी.पी.)-II

रेलवे बोर्ड.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

RBE NO.: 14 /2014

No.E(GP)2008/2/7

New Delhi, dt: 27 .01.2014

The General Managers,
All Indian Railways and Production Units.

Sub: Syllabus for professional papers for 30% LDCE for promotion to Group 'B' posts of AEE in Electrical Engineering Department of Railways/ Production Units.

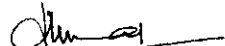
Ref: Railway Board's letter No. E(GP) 79/2/30/6 dated 09.11.1979

Revised syllabus for professional papers for Limited Departmental Competitive Examination (LDCE) for promotion from Group 'C' to Group 'B' posts in Electrical Engineering Department of Railways/Production Units is enclosed for guidance. This may be given wide publicity and circulated amongst the eligible candidates.

2. The revised syllabus shall be effective from the date of issue of this letter. However, LDCEs for which written examinations have already been held or which are under process, need not be disturbed.

3. Please acknowledge receipt.

Encl: As above


(ASHOK KUMAR)
DIRECTOR, ESTT.(GC)
RAILWAY BOARD

No.E(GP)2008/27

New Delhi, dt: 27.01.2014

Copy for information and necessary action to

- (1) The Director General & ex-officio General Manager, R.D.S.O., Lucknow.
- (2) The CAO, DMW, Patiala
- (3) The CAO, MTP (Rlys.), Mumbai and Chennai
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- (6) The Director, IRISSET, Secunderabad, IRIMEE, Jamalpur, IRIEEN, Nasik
IRICEN, Pune, CAMTECH, Gwalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New
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- (9) The C.A.O, COFMOW, Rly. Offices Complex, Tilak Bridge, New Delhi-
110002.
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Chetput, Chennai.
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Delhi.
- (12) The Director (Movement), Railways 17 N.S. Road, Calcutta.
- (13) The Joint Director (Iron & Steel) 3 Koilaghat Street, Calcutta.

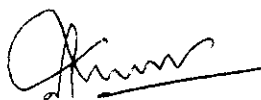

(ASHOK KUMAR)
DIRECTOR, ESTT.(GC)
RAILWAY BOARD

No.E(GP)2008/2/7

New Delhi, dt: 27.01.2014

Copy forwarded to:

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7. Railway Board Secretariat Staff Association.



For Secretary/Railway Board

Copy to:

PSs to MR, MSR (K), MSR (A)

Sr.PPSs to CRB, FC, MS, MM, MT, ML, ME

PPSs to Secretary, DG/RHS, DG/RPF

PPSs to all Addl. Members.

Dy. C&AG(Railways), Room No. 222, Rail Bhawan.

PSs to AM(Staff), Adv.(Vig.), , EDE, EDA, EDE(N), EDE(Res), JS, JS(E), JS(G), ED(E&R), EDE(GC), EDV(E), ED(Signal), EDV(S), EDF(E), ED(T&MPP), EDE(RRB), EDPC-I, DV(P), DE(L), DE(Res), DE(G), D(IH), JD(MPP), JDE(R)I&II, JDE(Rep)I&II, JDE(D&A), JDE(P&A), DPCI&II, JDE(L), JDE(N), JDE(N)II, JDE(N)III, DDF(E)I, DDF(E)VI, DDV(A&P), E(NG)I, E(O)III, DDRS(G), DDE(LR)I, Sec(E), PC-III, IV & V, E&R, E(Trg.), E(MPP), V(SS), E(SCT)I&II.

भारत सरकार
रेल मंत्रालय
(रेलवे बोर्ड)

आरबीई सं.: 14 /2014

सं. ई(जीपी)2008/2/7

नई दिल्ली, दिनांक: 27.01.2014

महाप्रबंधक,
सभी भारतीय रेलें और उत्पादन इकाइयां।

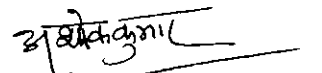
विषय: रेलों/उत्पादन इकाइयों के बिजली इंजीनियरिंग विभाग में एईई के ग्रुप 'बी' पदों पर पदोन्नति हेतु 30% सीमित विभागीय प्रतिस्पर्धात्मक परीक्षा के लिए व्यावसायिक पेपरों के लिए पाठ्यक्रम।

संदर्भ: रेलवे बोर्ड का दिनांक 09.11.1979 का पत्र सं. ई(जीपी)79/2/30/6

रेलों/उत्पादन इकाइयों के बिजली इंजीनियरिंग विभाग में ग्रुप 'सी' से ग्रुप 'बी' पदों पर पदोन्नति हेतु सीमित विभागीय प्रतिस्पर्धात्मक परीक्षा के लिए व्यावसायिक पेपरों के लिए संशोधित पाठ्यक्रम मार्गदर्शन हेतु संलग्न है। इसका व्यापक प्रचार किया जाए और पात्र उम्मीदवारों में इसे परिपत्रित किया जाए।

2. संशोधित पाठ्यक्रम इस पत्र के जारी होने की तारीख से प्रभावी होगा। बहरहाल, सीमित विभागीय प्रतिस्पर्धात्मक परीक्षा, जिसके लिए पहले से ही लिखित परीक्षा हो चुकी हो अथवा जो प्रक्रियाधीन हो, को रोकने की आवश्यकता नहीं है।

3. कृपया पावती दें।


(अशोक कुमार)

संलग्नक: यथोक्त

निदेशक, स्थापना (जीसी)- 1
रेलवे बोर्ड

Syllabus for professional papers (Revised) for 30% LDCE for promotion to Group B post of AEE in Electrical Engineering Department

Paper-I

Maximum Marks: 150		Qualifying Marks: 90	
General		50 Marks	
I. General Knowledge			
II. Official language			
Part-I			
Professional Subject		100 marks	

1.0	General-
1.1	Net work analysis, Star/Delta, transformation Symmetrical component, transients, Basics of Control Systems.
1.2	Analog and Digital Electronics and Circuits: Semiconductor device physics, PN junctions and transistors, circuit models and parameters, FET, Zener, tunnel, Schottky, photo diodes and their applications, rectifier circuits, voltage regulators and multipliers, switching behaviour of diodes and transistors. Small signal amplifiers, biasing circuits, frequency response and improvement, multi-stage amplifiers and feed-back amplifiers, D.C. amplifiers, Oscillators. Large signal amplifiers, coupling methods, push pull amplifiers, operational amplifiers and wave shaping circuits. Multi-vibrators and flip-flops and their applications. Digital logic gate families, universal gate combinational circuits for arithmetic and logic operation, sequential logic circuits. Counters, registers, RAM and RGMs.
1.3	Micro-processors: Micro-processor architecture Instruction set and simple assembly language programming. Interfacing for memory and I/O. Applications of Micro-processors in power system.

1.4	Power Electronics: Power semi-conductor devices. Thyristor. Power transistor (IGBT), GTOs, and MOSFETs. Characteristics and operation. AC to DC Converters; 1-phase and 3-phase DC to DC Converters; AC regulators. Thyristor controlled reactors, switched capacitor networks. Inverters; Single-phase and 3-phase. Pulse width modulation. Sinusoidal modulation with uniform sampling. Switched mode power supplies.
1.5	Communication Systems: Types of modulation; AM, FM and PM. Demodulators. Noise and bandwidth considerations. Digital communication systems. Pulse code modulation and demodulation. Elements of sound and vision broadcasting. Carrier communication. Frequency division and time division multiplexing, Telemetry system in power engineering. Fibre optic cable communication system.
1.6	Indian Elect. Acts & Rules: Application of these to Railway working, checks to be carried out before commissioning Elect. Assets, functions and duties of Electrical Inspectors (EIG), Electricity Act 2003. Energy Conservation Act 2007, ECB Code, role of Lift Inspector, Lift & Escalators Rules.
2.0	Electrical Engineering Materials-
	Band Theory, Conductors, Semiconductors and Insulators, Superconductivity. Insulators for electrical and electronic applications. Magnetic materials. Ferro and ferri magnetism. Ceramics: Properties and applications. Hall effect and its applications. Special semi-conductors. Insulating material classification /Thermal affect, Solar PV modules
3.0	Theory and performance of Electrical Machines & equipment-
3.1	Basic concepts in rotating machines. EMF, torque, basic machine types. Construction and operation, leakage, losses and efficiency.
3.2	Direct current machines : Generation of EMF, work, power, Torque equation, armature winding, armature, reaction, theory of commutation, Inter-poles & compensating windings, characteristics

	of shunts, series and compound generators, parallel running and load sharing of generators. Construction, Excitation methods. Circuit models characteristics and performance analysis. Generators and motors. Starting and speed control. Testing. Losses and efficiency.
3.3	Synchronous Machines. Construction. Circuit model. Operating characteristics and performance analysis. Synchronous reactance. Efficiency. Voltage regulation. Salient-pole machine. Parallel operation. Hunting. Short circuit transients.
3.4	Induction Machines. Construction. Principle of operation. Rotating fields, Characteristics and performance analysis. Determination of circuit model. Circle diagram, Starting and speed control, Fractional KW motors. Single-phase synchronous and induction motors, 3 phase Asynchronous motors and induction motors for traction application.
3.5	Transformers: Construction and testing. Equivalent circuits. Losses and efficiency. Regulation. Auto-transformer. 3-phase transformer. Parallel operation. Methods of cooling, Tap changing, parallel operation, polarity and phase sequence testing, protection Instruments, PTs & CTs, etc. Scott connection transformer.
4.0	Generation, Transmission & Utilisation-
4.1	Sources of energy, heat value of fuel, steam power station, Hydro Elect. Station, Nuclear power station. Pumped storage plants. Economics and operating factors.
4.2	Power transmission lines. Modeling and performance characteristics. Voltage control. Load flow studies. Optimal power system operation. Load frequency control. Symmetrical short circuit analysis. Z-Bus formulation. Symmetrical Components. Per Unit representation. Fault analysis. Transient and steady-state stability of power systems. Equal area criterion. Power system Transients. Power System Protection Circuit breakers. Relays. HVDC transmission.
4.3	Illumination standards of light, polar curve, Reflection and absorption, lighting calculations including design & economical layout of service building, workshop & yards. Various sources of light – fluorescent tubes etc.

4.4	Electric traction : Advantages & disadvantages, speed time curve-traction motor, starting & speed control of DC series motors, power, consumptions, Regenerative braking, advantages and disadvantages of AC traction over DC traction, Tractive effort, Braking Effort.
4.5	Group & individual drive. Choice of drive & motors for various usages.
5.0	Measurements & instrumentation-
5.1	Units and Standards. Error analysis Measurement of resistance (high & low), potentiometer, wheat stone & Kelvin bridge, meggers for insulation resistance & earth resistance.
5.2	Voltmeters, ammeter, power factor meter, single phase watt meter, measurements of three phase power recording instruments, maximum demand meter. Watt hour meter, shunt, CT, PT.
5.3	Check meter
5.4	Transducers and their applications to the measurement of non-electrical quantities like temperature, pressure, flow-rate displacement, acceleration, noise level, etc. Data acquisition systems. A/D and D/A converters.
6.0	Mechanical Engineering Refrigeration etc.-
6.1	Various types of drives, belt, tooth gearing, rope and chain drive and Helical gears. Different types of bearings, ball, roller etc.
6.2	Heat pump cycle, vapour compression, estimation of cooling and heating levels and plant capacities, calculation of psychometric charts, condensers cooling and dehumidification, refrigerant and their properties.
7.0	Logical Reasoning-
	The test is given to the candidates to judge their power of reasoning spread in verbal and non verbal areas. The candidates should be able to think logically so that they perceive the data accurately, understand the relationships correctly, figure out the missing number of words, and to apply rules to new and different contexts. These

	indicators are measured through performance on such tasks as detecting missing links, following directions, classifying words, establishing sequences, and completing analogies.
7.1	Chart logic A chart or a table is given that is partially filled in and asked to complete it in accordance with the information given either in the chart/table or in the question.
7.2	Pattern perception: Here a certain pattern is given and generally a quarter is left blank. The candidate is required to identify the correct quarter from the given four alternatives.
7.3	Figure matrix: In this more than one set of figures is given in the form of a matrix all of them following the same rule. The candidate is required to follow the rule and identify the missing figure.
7.4	Rule detection: Here a particular rule is given and it is required to select from the given sets of figures a set of figures which obeys the rule and forms the correct series.

Paper -II

Maximum marks: 150	Qualifying Marks: 90
<u>Part-I</u>	
Establishment & Financial Rules	50 marks
<u>Part-II</u>	
Professional Subject	100 Marks

1.0	General Services-
1.1	General power supply arrangements, air conditioning etc.
1.2	Power Supply : HT & LT sources, power supply network, substation layout, overhead & under ground distribution, maintenance & operation of transformers, switch gears, protective devices & distribution lines.
1.3	Construction, erection & commissioning of new sub station distribution lines, line calculations etc.
1.4	House wiring metering & safety precautions.
1.5	Tariff & agreements, Relative merits of obtaining HT & LT supply, steps to reduce maximum demand, measurement of power, power factor, measuring demand etc.
1.6	Water supply & requirement of water planning of water supply system, sources of water pipe line frictional & other losses, discharge calculations.
1.7	Reciprocating centrifugal & turbine pumps, relative merit, choice of VS & HS pumps, characteristic curve of pumps, efficiency Drives, Elect. Connections & protections. Cavitations & priming of pumps, measurement of output with V-Notch & nozzle, necessity of multi stage pumping, storage capacity and purification of water.
1.8	Preventive maintenance, special failure of pumps & motors,

	periodical overhaul.
1.9	Air-conditions and Refrigeration :
	Central air-conditioning plant & package type system, refrigeration cycle, air changes, planning for capacity and drives for refrigeration plants, refrigerants and ducting.
1.10	Specification, design & testing of water coolers, central as well as package plants. Requirements of water coolers, window coolers & refrigerators.
1.11	Standby arrangement: DG sets, both petrol & diesel as also diesel pumps for water supply arrangements. Operation maintenance and overhauling.
1.12	Illumination, yard lighting, street lighting & town supply net work. Drives for workshop machinery.
1.13	Earthing & Bonding.
1.14	Commissioning & maintenance aspect of conventional & maintenance free earthing arrangement for general service application.
1.15	Maintenance of various equipment of sub-station, Energy Management, Important Instructions issued by Railway Board and RDSO.
1.16	Energy Consumption, Renewable Energy, Solar, Wind and biomass
2.0	Traction Distribution-
2.1	Systems of electrification in use and advantage and disadvantages of the different systems with emphasis on 2x25 KV system.
2.2	Feasibility studies and justifications for track electrifications, preliminary planning and design, procedure followed in taking up electrification scheme, working drawing for execution of OHE wiring plans and OHE layout plans.
2.3	Planning of layout of overhead equipments, Techno economic survey

	for electrification of new lines, foot by foot survey, prepegging plans, precautions to be taken while wiring new lines, foundation & their types & use of wiring trains, final checking safety checks & certification, energizing of new lines, principles of preparation of lay out plans, provision of return conductors.
2.4	Overhead equipments – Types of overhead equipments, regulated and unregulated systems, stitches OHE, speed potential of various types of OHE, Centenary, contact wire, Dropper & Jumpers. Overlaps, clearances, Mast & portals, schedules of Dimension etc.
2.5	Maintenance problems with OHE, Foot Patrolling, current collection, use of Tower wagons, ladders & ladder trolleys, seasonal & cycle checks, maintenance Schedule, Insulator cleaning, straightening of out of plumb masts, earthing and bonds, return conductors, Preventive maintenance Tools, Types of Blocks & Procedure
2.6	Breakdowns, TRD works during breakdown and accidents, restoration procedure both temporary and permanent.
2.7	Overhaul schedule & anti-theft measures.
2.8	Organization & working of maintenance depots, repair workshops, training of staff safety measurements and precautions.
2.9	Power supply installation: Power supply arrangements, traction sub stations, feeding stations, SSP & SPs, 132 KV transmission lines, Railway owned sub stations, transformer maintenance, circuit breakers, current and potential transformers, protective relays, auxiliary transformers, interrupters and isolators.
2.10	Liaison with power supply authorities, monthly meter reading, control over maximum demand, emergency power supply arrangements. Automated Meter Reading.
2.11	Maintenance of switching stations.
2.12	Remote control system, remote control equipment for AC substations and its working. Operation and maintenance of remote control, Specialized equipments for remote control work.
2.13	Remote control centre, traction power control organization, permit to

	work, emergency arrangements, coordination with operating and other departments. Liaison with supply authorities, emergency phones, safety precautions for electrified section.
2.14	Miscellaneous : Traction, stores and their accountal, regulation for electrical crossing of railway tracks.
2.15	Important instructions issued by Railway Board, RDSO's SMI./MS.TCs and related Investigation Reports.
3.0	Train lighting and air conditioned coaches
3.1	Designs, construction, principles of working schematic circuits diagrams of train lighting equipments used in train lighting system.
3.2	Coach wiring, under frame wiring, schedule of rewiring, couplers, lamp resistance, junction boxes and fuses, Generation to non-generation ratio, lights, fans and water raising apparatus.
3.3	Self generating coaches, End on-Generation, Head on Generation, , power cars, electrical and mechanical components, layout, operation and maintenance procedures for slip coaches.
3.4	Train lighting batteries their maintenance, defects analysis of causes of failures and remedial measures. Simplified system of train lighting use of alternators, anti theft measures.
3.5	Fires in trains, preventive measures and precautions.
3.6	Periodic over haul and heavy repairs to train lighting equipment
3.7	Broad outlines of types of equipments used in 110 V and 415 Volt air conditioned coaches, scheme of refrigerated vans. Drives and their problems, maintenance and operational problems Refrigeration, compressors their types in service and their problems, gear boxes, their maintenance and alignment.
3.8	Maintenance schedule for AC coaches, partial AC coaches, AC I, II/ III coaches, Sleeper coaches. Running repairs.
3.9	Coordination with Mechanical, Operating and Security Department

3.10	Important instructions issued by Railway Board, RDSO's SMIs, TCs and related investigations reports
4.0	Electric Locos-
4.1	Description of locomotives in service, principles of operation and characteristics of different types of locos used in electric traction on the Indian Railways.
4.2	Power, Auxiliary and control circuits: Their equipment, functioning, maintenance /overhauling schedules.
4.3	Various types of bogies and bogie suspension and their components, power transmission from traction motor to axles, traction motor mounting arrangement i.e. jacqueman drive, Quill drive, WN coupler: their equipment, functioning, maintenance/overhauling schedules.
4.4	Air, vacuum and Dual Break System, Air compressors, regenerative and rheostatic breaking, their equipment, functioning, maintenance/overhauling schedules.
4.5	Function of electric loco sheds and electric loco workshops.
4.6	Schedule inspection of locos i.e. IA, IB, IC, AOH, IOH and POH.
4.7	Records and registers maintained in loco shed, planning and progress organization, statistical data, rolling stock organization in sheds and shops, fire prevention, safety checks and history cards.
4.8	Important instructions issued by Railway Board, RDSO's SMI/MS/TCs and related investigation reports, AC Traction Manual.
5.0	EMU/MEMU/Metros
5.1	Utility of EMU trains for urban and suburban services vis-à-vis locomotives, various types of EMUs stock – AC, DC and AC-DC, their salient features, rake formation.
5.2	Power circuits, auxiliary, control circuit, break systems, bogies and other mechanical components, their equipment, functioning,

	maintenance/overhauling schedules.
5.3	Inspection schedules of EMUs/MEMU/Metros, troubleshooting sequence.
5.4	Safety precautions and fire prevention checks.
5.5	Maintenance and overhaul organization and liaison with other department.
6.0	Electric loco and EMU operation-
6.1	Operation of electric locos with single unit and multiple unit and with rheostatic and regenerative breaking.
6.2	Safety features to be followed in the operation of electric locos and EMUs
6.3	Failures of electric locos and EMUs, their cause, investigation and remedial measures for avoiding failures.
6.4	Inter-relation between electric mechanical and operating department in functioning of electric locos and EMUs.
6.5	Function of traction loco control organization.
6.6	Preparation of engine links and driver links – power plan.
6.7	Compilation of operating statics for electric locos and EMUs operation.
6.8	Outstation organization for maintenance of electric loco and EMU.
6.9	Working rules for preparation/operation of elect. Rolling stock.
6.10	Recruitment and training of running staff – conversion training etc.
6.11	Accidents and re-railing technique of locos and EMUs.
7.0	Stores Matters-
7.1	Procedure relating to procurement of stock items, non-stock items,

	distribution and accountal of stores.
7.2	Receipt and custody of stores
7.3	Sale of surplus stores.
7.4	Inventory control.
7.5	Schedule of Powers
8.0	Engineering Matters-
8.1	Estimates
8.2	Execution of Work
8.3	Contracts for work
8.4	Procedure for traffic and engineering surveys
9.	Disaster Management – Role of Electrical Officer.:

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

RBE NO.: 40/2016

No.E(GP)2008/2/06

New Delhi, dt: 25.11.2016

The General Managers,
All Indian Railways and Production Units.

**Sub: Syllabus for professional papers for 30% LDCE for promotion to
Group 'B' post of AEN in Civil Engineering Department of
Railways/Production Units.**

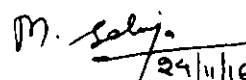
**Ref: Railway Board's letter No. E(GP)2008/2/6 dated 09.08.2012 &
24.06.2014.**

A revised syllabus for professional papers for 30% Limited Departmental Competitive Examination for promotion from Group 'C' to Group 'B' posts of AEN in Civil Engineering Department of Railways/Production Units is enclosed herewith for guidance. The revised syllabus may be given wide publicity and circulated amongst the eligible candidates.

2. The revised syllabus shall be effective from the date of issue of this letter. However, LDCEs for which written examinations have already been held or which are at an advanced stage, need not be disturbed.

3. Please acknowledge receipt.

Encl: As above


24/11/16
(MEENAKSHI SALUJA)
DY. DIRECTOR ESTT.(GP)III
RAILWAY BOARD

भारत सरकार
रेल मंत्रालय
(रेलवे बोर्ड)

आरबीई सं. 149/2016

सं. ई(जीपी)2008/2/06

नई दिल्ली, दिनांक 25.11.2016

महाप्रबंधक,

सभी भारतीय रेलें एवं उत्पादन इकाइयां

विषय: रेलों/उत्पादन इकाइयों के सिविल इंजीनियरी विभाग में एईएन के ग्रुप 'बी' पद पर पदोन्नति के लिए 30% सीमित विभागीय प्रतियोगी परीक्षा के लिए व्यावसायिक प्रश्नपत्रों का पाठ्यक्रम।

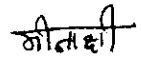
संदर्भ: रेलवे बोर्ड के दिनांक 09.08.2012 और 24.06.2014 का पत्र सं. ई(जीपी)2008/2/6.

रेलों/उत्पादन इकाइयों के सिविल इंजीनियरी विभाग में ग्रुप 'सी' से एईएन के ग्रुप 'बी' पदों पर पदोन्नति के लिए 30% सीमित विभागीय प्रतियोगी परीक्षा के लिए व्यावसायिक प्रश्नपत्रों का संशोधित पाठ्यक्रम मार्गदर्शन के लिए संलग्न है। पात्र उम्मीदवारों में संशोधित पाठ्यक्रम का व्यापक प्रचार-प्रसार किया जाए।

2. संशोधित पाठ्यक्रम इस पत्र के जारी होने की तारीख से प्रभावी होगा। बहरहाल, जिन सीमित विभागीय प्रतियोगी परीक्षाओं के लिए लिखित परीक्षा पहले हो गई है या जिनकी प्रक्रिया पूरी होने वाली है, उन पर इसे लागू करने की आवश्यकता नहीं है।

3. कृपया पावती दें।

संलग्नक: यथोक्त



(मीनाक्षी सलूजा)

उप निदेशक स्था.(जीपी)।।।

रेलवे बोर्ड

No.E(GP)2008/2/06

New Delhi, dt: 25.11.2016

Copy for information and necessary action to

- (1) The Director General & ex-officio General Manager, R.D.S.O., Lucknow.
- (2) The CAO, DMW, Patiala
- (3) The CAO, MTP (Rlys.), Mumbai and Chennai
- (4) The Chairman, Railway Recruitment Board:
Allahabad/Ahmedabad/Ajmer/Bangalore/Bhopal/Bhubaneswar/Kolkata/
Chandigarh/Chennai/Gorakhpur/Guwahati/Jammu&Srinagar/Malda/Mumbai/
Muzaffarpur/Patna/Ranchi/Secunderabad/Trivendrum.
- (5) The Director, NAIR, Vadodara.
- (6) The Director, IRISSET/Secunderabad, IRIMEE/Jamalpur, IRIEEN/Nasik, IRICEN/
Pune, CAMTECH/Gwalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New Delhi.
- (8) The General Secretary, IRCA, New Delhi.
- (9) The C.A.O, COFMOW, Rly. Offices Complex, Tilak Bridge, New Delhi-110002.
- (10) The Secretary, Railway Rates Tribunal (Chennai), 50 M.C.Nicholas Road,
Chetput, Chennai.
- (11) The Exec.Director, CRIS, Safdarjung Rly.Strn.Building, Chanakyapuri, New
Delhi.
- (12) The Director (Movement), Railways 17 N.S.Road, Kolkata.
- (13) The Joint Director (Iron & Steel) 3 Koilaghat Street, Kolkata.

M. Saluja
24/11/16
(MEENAKSHI SALUJA)
DY.DIRECTOR, ESTT.(GP) III
RAILWAY BOARD

No.E(GP)2008/2/6

New Delhi, dt: 25.11.2016

Copy forwarded to:

1. The General Secretary, All Indian Railwaymen Federation, Room No. 253,
Rail Bhavan, New Delhi (35 copies)
2. The General Secretary, National, Federation of Indian Railwaymen, Room
No. 256-E, Rail Bhavan, New Delhi (35 copies)
3. All Members, Departmental Council and National Council and Secretary, Staff
Side, National Council, 13-C, Ferozshah Road, New Delhi (90 spares)
4. The Secretary General, Federation of Railway Officers Association, Room No.
256-A, Rail Bhavan, New Delhi (5 spares)
5. The Secretary General, Indian Railway Promotee Officers Association, Room No.
268, Rail Bhavan, New Delhi (35 spares)

6. The General Secretary, All India RPF Association, Room No. 549, Rail Bhavan, New Delhi-110001.
7. Railway Board Secretariat Staff Association.



For Secretary/Railway Board

Copy to:

PPSs to MR, MOS(S), MOS(G),

Sr.PPSs to CRB, FC, MS, MRS, MT, MTR, ME

PPSs to Secretary, DG/RHS, DG/RPF, DG(Personnel), DG(S&T), DG/RS

PPSs to all Addl. Members.

Dy. C&AG(Railways), Room No. 222, Rail Bhawan.

PPSs to Adv.(Vig.), , EDE, EDA, EDE(N), EDE(Res), JS, JS(E), JS(G), ED(E&R), EDE(GC), EDV(E), ED(Signal), EDV(S), EDF(E), ED(T&MPP), EDE(RRB), EDPC-I, DV(P), DE(L), DE(Res), DE(G), D(IH), JD(MPP), JDE(R)I&II, JDE(Rep)I&II, JDE(D&A), JDE(P&A), DPCI&II, JDE(L), JDE(N), JDE(N)II, JDE(N)III, DDF(E)I, DDF(E)VI, DDV(A&P), E(NG)I, E(O)III, DDRS(G), DDE(LR)I, Sec(E), PC-III, IV & V, E&R, E(Trg.), E(MPP), V(SS), E(SCT)I &II

Syllabus for professional papers for 30% LDCE for Promotion to Gr. B
Post of AEN in Civil Engineering Department

Paper-I

Maximum Marks : 150		Qualifying Marks : 90
Part-I		
General	50 Marks	
I. General Knowledge		
II. Official language		
Part-II		
Professional Subject	100 Marks	

(A) Paper I – Civil Engineering (General)

1. Surveying

(a) Types

i) Chain and Compass survey –

Basic principles; base lines; check lines; tick lines; perpendicular and oblique offsets; conventional signs; plotting of survey; true and magnetic bearings; open and closed traverses; recording plotting of traverse, closing errors.

ii) Plane Table Survey –

Techniques of using Distomat and total stations. Method of setting layouts & curves using these equipment.

iii) Levelling –

Level Lines – datum, bench marks, simple leveling, fly leveling; recording the levels in field book; method of reducing levels; arithmetical check; longitudinal and cross-section contouring.

iv) Theodolite Survey –

Types of theodolites; measurement of horizontal angles, vertical angles, magnetic bearings and deflection angles; prolonging a straight line; traversing by method of included angles; balancing the survey – closing errors; calculations of latitude and departure

v) Curves –

Elements of simple circular curves; setting out simple circular curves; different

vi) Set out works –

Setting out buildings, culverts, Central line of Railway alignment. Usage of GPS technology in setting out Centre line of Railway alignments.

(b) **Care & Custody of Survey Instruments-**

Handling of instruments – Transport and protection; permanent adjustments; repairs and periodical overhaul

2. **Strength of Materials, Structural Designs & Drawings**

(a) **Strength of Materials :**

Stress, strain, Hooke's Law, working stress, factor of safety; bending moment and shear force in simply supported beams and cantilevers; simple theory of bending; moving loads on simply supported beams; influence lines for bending moment and shear force in statically determinate beams; short columns, long columns – empirical formulae.

(b) **Structural Design & Drawings syllabus to be rearranged**

(i) **Drawings**

Different sizes of paper, folding and storage of drawing, plan, elevation, sections, isometric view.

(ii) **RCC Structures**

RCC, methods of design Working Stress Method and Limit State Method. Design of singly and doubly reinforced rectangular beams including T and L beams. Design of slabs. Design of columns. IRS Code of Practice for RCC (Concrete Bridge Code), Use of computer aided software such as STADD, FEM based software. Basic requirements for usage of these software.

(iii) **Steel Structures**

Rivets and welds. Sketch and detailing of connections. Different types of joints and strength determination. Design of tension member and compression member. Plate Girders. IRS Code of Practice for Steel Structures.

3. **Construction materials :**

Description, specification, properties and uses of building materials – stones, sand, timber, bricks, cement, lime, building hardware, paints varnishes, glasses, tiles.

4. **Foundation & Construction Engineering**

(a) **Soil Mechanics**

Different type of Soil, Three phase diagram and their relationships, IS classification of soil, index and engineering properties of soil, compaction, consolidation, shear strength, earth pressure theories, slope stability. Specification and construction of earthwork in embankment and cuttings.

(b) **Foundation Engineering**

Functions of foundation, different type of foundations, open foundations well foundations and pile foundations, determination of safe bearing capacity, stress and settlement analysis, methods of reducing differential settlements

5. **Hydraulics & Hydrology**

a) **Hydraulics –**

Elements of hydraulics – Open Channel flow; flow in pipes, frictional loss, empirical formulae.

b) **Hydrology**

Rainfall and run-off; rainfall statistics; rain gauges, run-off calculations by empirical methods, flood discharge estimation; measurement of flood discharge-current meter.

c) **Hydraulic structures**

Design of bridges – alignment, number of spans; economic spans; waterway calculations; scour depth afflux; clearance; depth afflux; clearance; depth of foundations; BOX and Pipe Culverts, river training works-spurs, groynes, aprons, levees. Water way calculations (i.e. estimation of design discharge based on para 4.3.4 of sub structure code namely using RDSO report RBF-16 for catchment size less than 25 sqkm and using flood estimation report (Synthetic unit hydrograph concept) for catchment size 25 sqkm to 2500 sqkm). In the sub topic river training works the following should be added. Guide bunds including launching aprons & protection works " drop wall & curtain wall i.e protection measures for minor bridges).

6. **PUBLIC HEALTH ENGINEERING**

a) **Water Supply**

- i) Standards of Quality of drinking water-physical, chemical and bacteriological standards of water; water-born diseases; water demand- methods of forecasting; sources of water; Method of treatment of water- aeration, sedimentation, filtration (slow and rapid sand filters); disinfection, hardness- methods of removal.

ii) **Conveyance and Distribution:-**

Preparation of Schemes for New Water Supply/Augmentation of Existing Water Supply; Estimating Requirements of Water; Types, Selection & Installation of Pumps; Capacity of Pumping, Conveyance of Water; rising mains; systems of distribution, residual pressure; different types of pipes and fittings; testing of pipes, Pipe Laying and Fitting of Valves and Meters. Storage tanks; Capacity, maintenance and Cleaning of Storage Tanks, Water-Supply Plans.

- iii) Planning & design of layouts for rain water drains. Principles of rain water harvesting, methods, estimation of capacity of rain water harvesting pits/salient etc.

iv) **Water Audit and water Management :-**

Conservation of Water, water reuse, water recycling, water recycling plant, flow measurement system, identification of losses & leakages.

b) **Sewerage:**

Preparation of Schemes of Sewerage, Sewage & waste water-collection and carriage; design of sewers; house connections; storm water drains; disposal of sewage - river pollution and control; sewage treatment; land irrigation, septic tanks, primary clarifier, sludge and scum removal, trickling filters, activated sludge process, sludge digesting, principles of anaerobic digestion, sludge gas, sludge drying and disposal.

Paper-II

Maximum Marks : 150	Qualifying Marks : 90
<u>Part-I</u>	
Establishment & Financial Rules	50 Marks
<u>Part-II</u>	
Professional Subject	100 Marks

(B) Civil Engineering (Railways)

1. Railway Surveys & Construction

Provisions in Engineering Code regarding - Classification of Surveys, Terms of Reference, Principles governing Railway alignment, Ruling gradients, Grade compensation for curves, Horizontal and vertical curves, ; Hill Surveys, Catch sidings, tunnels, preparation of various maps and drawings, preparation of Survey reports for RECT, PECT and FLS, Project estimates.

2. Railway Track

Sl. No.	Existing Syllabus	Suggested Syllabus	Remarks
1	2. <u>Railway Track:-</u> Description, specifications and functions of the structure elements; Rails, sleepers, fastenings ballast, formation and other sub-structures; points and crossings; geometry and design features Track layouts.	2. <u>Railway Track:-</u> Description, specifications and functions of the structural elements; Rails, sleepers, fastenings, ballast, blanket, formation (embankment/cutting), drainage system and other sub-structures; points and crossings; geometry and design features, and Track layouts.	Minor changes

3. Maintenance of Permanent Way:-

a) Duties:-

Duties of Assistant Divisional Engineers; duties of SSE/JE (P.Way); SSE/JE (Works), SSE/JE (Bridges), Gangmates, Keymen, Trackmen, Gatekeeper.

b) Maintenance of Permanent way:-

Methods of maintenance; Beater packing, Machine packing, Systems of maintenance; (conventional and mechanized), overhauling, systematic through packing, picking up slacks, Directed Track Maintenance; Miscellaneous works; lifting and lowering of track, shallow/deep screening of ballast; Maintenance of drains, lubrication of rail joints; adjustment of creep, maintenance of level crossings, Maintenance of points and crossings, track on bridges;

c) Special Maintenance Works:

Maintenance of short welded rails, long welded and continuous welded rails; maintenance of Switch Expansion Joints, maintenance in electrified section; special precautions; maintenance of track circuited sections; special precautions.

d) Design, Maintenance of curved track and realignment of curves: Curvature, transitions, super elevation of curves, safe speeds, cant deficiency, speed on curves with turnouts, Realignments of curves: method, extra clearances on curves

e) Testing Monitoring of track with by track recording car, frequency of recording based on category, OMS frequency, and category, interpretation of track recording charts results and exception reports; analysis of the charts TRC reports to improve track parameters. The allowable limits of parameters category-wise, prioritization of attention to track defects etc.

f) Heavy axle traffic and different types, precautions and checks to ensure safety of track and bridges.

g) Maintenance and working of various track machines.

h) Formation treatment works for Railway embankments - various methods, and their advantages and disadvantages. of the methods.

4. Maintenance of Bridges

a) Maintenance of bridges: Responsibility of the engineering officials, Action to be taken after inspection of bridges; Maintenance of foundations; Protective works and waterways - maintenance of foundations, maintenance of protective works, maintenance of waterways; Maintenance of substructure - abutments, piers, wing walls and return walls, Maintenance of arches, Dismantling of arches, Details of common repair techniques - Cement pressure grouting, Epoxy grouting, Shotcreting / Guniting; Maintenance of RCC & PSC super structures - periodical maintenance, Common defects and repair/strengthening techniques; Maintenance of super structure steel girders - loss of camber in steel girders, cracks in steel works, strengthening of weak girders, replacement of loose rivets, maintenance of HSFG bolts, corrosion and its prevention, protective coatings by painting - periodicity and precautions, patch painting, ordinary paints – for severe and no severe corrosion, metallising & epoxy based paints, Maintenance of welded girders; Action taken for maintenance of composite girders; Various defects of bed blocks and their remedies; Bearings; Precautions while carrying out maintenance works on bridges.

b) Inspection of bridges: Classification of bridges – major, minor, important; Inspection of Bridges by Permanent Way and Works Inspectors, by Bridge Inspectors (SSE/JE-P.Way, Works, Bridges) - Periodicity schedule and details of inspection, Record of Bridge Inspection, Registers to be maintained by the Bridge Inspectors, Certificate of Inspection. By Assistant Divisional Engineers - Bridge Inspection Register, Numerical Rating System (NRS), Unique Rating Number, Condition Rating Number, Overall Rating Number, Certificate by the Assistant Engineer.

Details of Inspection of a Bridge - Flooring and foundations, Masonry in substructure, Under-water substructure inspection, arch bridges, Protective works and water ways, Girder alignment and seating, Structural condition of girders, Track on the bridge approaches, Trolley and safety refuges, Foot paths, Painting, marking HFL and Danger level, providing foundation particulars and bridge name boards, Flood records at important bridges, Road over/under bridges, Concrete bridges, Health Monitoring of Very Important Bridges, Special Inspection During Monsoon, Equipment Required For Inspection of Bridges.

Works connected with maintenance of bridges; Laying of bridge sleepers; Replacing cracked bed blocks; Painting of steelworks.

5. Inspection and Maintenance of Tunnels and Deep Cuttings:

a) Tunnels - Inspection by Engineering Inspectors, Items to be covered in the Inspection, Record of Inspection, Mobile staging for Inspection, Details of tunnel inspection, Ventilation of tunnels, Leakage in tunnels and methods of correction Works connected with the maintenance of tunnels.

b) Deep Cuttings – General, Inspection Register of Vulnerable Cuttings, Points to be noted during inspection of cuttings, Action to be taken in the case of boulder drops, Action to be taken after inspection of cutting, Guarding of Vulnerable Cuttings.

6. Inspection and maintenance of turntable and weigh-bridge pits:

Coordination for satisfactory working of turntable; adjustments and overhauling of turntable; inspection and maintenance; erection and dismantling of turntables; Weighbridge pits and approaches – responsibility of engineering staff; inspection and maintenance of weigh bridge pits; drainage of weighbridge pits; construction of new weighbridges.

6.1 Track Management System:- Salient feature of TMS, pre-requisites for introducing TMS in division, advantage of TMS etc.

6.2 Mobility Index:- Concept, principles, methods of evolution etc.

7. Inspection & Maintenance of buildings & structures other than Bridges

The following is in addition to existing syllabus on this topic.

- Vacant Railway Buildings,
- Building Registers,
- Periodical maintenance of Works including repairs to leaky roof/water proofing of roofs,
- Standard Measurement Registers for Buildings,
- Dismantling of buildings/structures.
- Retro-fitting / structural repairs of existing weak buildings/structures,
- Seismic retro-fitting and repairs/strengthening of buildings/structures.

8. Maintenance of sanitary and hygienic conditions in station yards and railway colonies; water supply, drainage and sewerage:

a) Sanitation:

Formation of sanitation committee; inspection by sanitation committee, sanitary arrangements in stations and colonies, drinking water wells-protection; Cleaning of wells; disinfection; prevention of infectious diseases; disinfection of quarters.

b) Water supply:

Source of water supply; water sample analysis; open wells – sizes; pumping capacity, improving yield; shallow tube wells; deep tube wells; impounding reservoirs; storage capacity; flood discharge; record of water levels in wells; rainfall registers; high level

storage tanks; precaution against pollution; pumps – types, selection, installation; aqueducts and pipelines-types, selection, laying, estimating requirements of water; layout of distribution systems; water supply from outside sources; maintenance and operation of water supply installation – responsibilities of Engineering department, and Mechanical department and Electrical Department.

c) Drainage and Sewerage:

Drainage systems, waterborne sewerage; sizes of sewers; sewage treatment systems; sewage disposals; sewage purification systems; surface drainage – layout, size of drains; disposal of sullage effluent; drainage of latrines; maintenance of sewerage and drainage systems; maintenance of open sullage drains; storm water drains; house connections; conservancy and sanitary arrangements; responsibilities of engineering staff.

9. Acquisition, management and disposal of land:

General code/ Manual rules:

Ownership of Railway land; sanctioning authority for acquisition and relinquishment; Principles of acquisition and relinquishment; Procedure for acquisition and relinquishment; Land plans and schedule; Documents of Handing over and taking over Railway Land ; Land Records- Responsibility and procedure for demarcation , verification of railway boundary , land plan etc. maintenance of right of way; religious structure. Management of railway Land – leasing, licensing of land, way leave facility and easement rights, grow more food. Leasing licensing for merchants and vendors at stations, bulk oil installation. Encroachment and responsibly ; Rules of permission for construction of building near Railway land; instructions regarding cutting/ trimming and sale of natural product like mature tree, dry trees within and outside railway boundary, near electric or telegraph lines , sale of grass right etc.

10. Large Scale Permanent Way renewals:

Classification of routes and tracks; track renewal programmes, factors governing permanent way renewal; preparation for relaying; preliminary work; systematic operation for complete relaying; speed restrictions to be observed during relaying; post relaying work; classification and disposal of released materials.

11. Rehabilitation of Bridges

Reasons for Rehabilitation, Special Strengthening, Imposition of speed restriction, Priority for rehabilitation of bridges, Special Inspection, Site Data, Execution of rehabilitation works, Precautions when working on bridges; rebuilding of alterations to bridges – design and execution of bridge works; temporary arrangements; false work for erection of girders; assembly and erection of girders; cranes for erection of girders; testing of girders; proposal for strengthening existing girder spans; methods of regirding major bridges; Strengthening of foundations, Strengthening / rebuilding of substructure, Shaken/displaced/ cracked bed blocks, Distressed arch bridges, Replacement of non standard girders, Replacement of pipe culverts, Distress in parapets, Replacement of small opening, Distress in superstructure, Replacement of Meter Gauge Bridges.

12. Works Affecting Railway Safety and Opening New Works

General – Reference to rules; works requiring sanction of the CRS and notice there for; application to the CRS – execution of works and Safety Certificates; documents to

accompany application; submission of Safety Certificate; deviations from plans approved by CRS; applications for running of new types of locomotives and/or rolling stock and for increase in speed; notification to railway officials when opening works; works arising out of accidents including breaches; opening of new lines; Infringements to Schedule of Dimensions – condonation; procedure thereof; movement of ODCs – types and procedure for sanction for movement, precautions during movements.

13. Railway Operation :

a. General :

Reference to G.&S.R.; types of signals and their significance; rules for working of trains; block working rules – types, introduction of temporary single line working.

b. Engineering restrictions and indicators :

General – Definitions: Responsibility of the Inspector incharge; works of short duration; protection of line in block section and procedure for passing trains; works of long duration; temporary engineering fixed signals; arrangements prior to commencement of work; protection in block section for speed restrictions; procedure for blocking lines for engineering purposes; works at times of poor visibility; temporary signals in emergency; periodical notices of engineering restrictions; permanent speed restriction indicators; review of permanent speed restrictions; indicators – General.

c. Level Crossings :

General – Classification, Standard Specifications; normal position of gates; level crossing equipment, traffic and engineering gates; siding gate lodges; appointment of gatemen; duties of gatemen; maintenance of level crossings; examination of gate equipment and gatemen in rules; level crossings register; road traffic census; manning/demanning of level crossings.

d. Working of Trolleys :

General Instructions: rules for working; distinction between trolleys, lorries and motor trolleys; Certificate of competency; officials permitted to use trolleys and lorries; responsibility for safe working; working at night or in bad weather; working on track circuited sections; conveyance of non-railway officials; trolley permits for private sidings; trolley refuges; protection; equipment on trolleys and lorries; working of trolleys and lorries; in block sections, in station limits.

e. Ballast and material trains

General – Rules for working; Restrictions in running; ordering of ballast trains; issue of "fit to run" Certificate; equipment; testing of brake power; working in block sections; running on Ghat section; loading and unloading from hopper wagons; planning of ballast and material train movements; training out materials and daily reports of ballast train working; charges for ballast trains; register of engineering vehicles.

14. Accidents :

General – Observance of rules; intimation of accidents by station masters; duties and responsibility of the engineering officials in the event of accident impairing through traffic action at site, reporting details of accident – provisions of Accident Manual; action in case of derailments; examination of site and preparation of sketches; recording track and rolling stock measurements – accident procedure; use of recorded data; restoration of through running; procurement and arrangement of labour and equipment; temporary arrangements at site of accident; transshipment; funds required during emergencies;

attendance of police at accidents; driver's reports on defects in track; action on receipt of reports of defective track; abnormal occurrence attributable to oscillation of locomotives; accidents not impairing through traffic; records of accidents.

15. Rivers & Floods, pre-monsoon precautionary measures and patrolling of Railway lines:

Rivers and Floods: General – Behavior of rivers; Past History of Bridges, Danger level at Bridges, Watchman at important bridges, Duties and Equipment of Bridge watchmen; Special Inspection during Monsoon, Action to be taken in the case of weather warning, pitching stone, boulder and monsoon reserve; vigilance during floods; flood records during and after the monsoon; survey of the course of river; river protection works; types, design, repairs and maintenance records – rivers and floods. Flooded Causeways / Dips. Special precautions when track is submerged. Rivers and flood register, Flood Reports, Rainfall data, Provision of Anemometer on Bridges.

a) Pre-monsoon precautionary measures:

General precautions to be taken before monsoon, Vulnerable sections; materials for anticipated emergencies; monsoon emergency rakes; equipment tools, rail clusters, temporary bridge spans; protective works; Railway affecting works and tanks; R.A.W. tablet, joint inspection of WAR/RAT, inspection and vigilance over railway affecting tanks during heavy rain; pre-monsoon, during monsoon.

b) Monsoon and emergency patrol:

Types of Patrolling, keymen's daily patrol, gang patrol during abnormal rain; night patrolling during monsoon, Security patrolling during civil disturbances and for movement of VIP specials, Hot weather patrolling for LWR/CWR, stationary watchman at vulnerable points; Protection of line in case of Emergency, Commencement and termination, Preparation of Patrol Charts, Distribution of Patrol Charts, Patrol Books and Systematic Patrolling, duties of patrolmen and their equipment, review of patrolling systems and vulnerable locations, Selection of Patrolman, Certificate to be submitted by P.W.I. (JE/SSE(P.Way)), Duties of Patrolmen, reporting damage & obstruction on track to Station Masters; Action by A.E.N. and P.W.I. on receipt of information regarding Damage to the Line, check over patrolling; inspection of equipment; surprise checking at night, Responsibility of Engineering Officials in the matter of Patrolling, Vulnerable locations (Points).

16 Preparation of Plans and Estimates:

Preparation of plans:

General procedure; plan for other departments; size of drawings; titles and numbering of drawings; scale of drawings; details on drawings; symbols and colours of in drawings; RDSO drawings; CE's plan; Plans in Divisional/Asstt. Engineer's/Inspector's Offices; Completion drawings; care and filing of tracings/Ferro/Prints; Preparations of estimates – code rules; technical details, rates and quantities; schedule of rates and price – listing of stores; report – and justification; rent statement for staff quarters; special features of estimates for remodelling of station yards, track renewal works, deposit works; Urgency Certificate; Supplementary Estimates, Revised Estimates.

17 Contracts and Execution Of Works

a) Contracts

General – Code reference for contracts; schedule of rates; Analysis, non schedules rates, tenders; types; tender documents, drawings and specifications, tender committees, acceptance of tenders, contracts; types, contract documents, General and special condition of contract; measurement and measurement books – code reference; recording measurements; 'on account' and final measurements; standard measurements Books ; responsibilities of Inspectors/JE/SSE) and Asst Engineers for measurement of works; ballast measurement; computation of quantities; preparation of abstract in measurement books; submission of bills; checking of bills; bill registers; Variations; PVC; Basics Of Arbitration.

b) Execution of Works:

General instructions – Code rules; agencies for executing works; responsibilities of executive officers; deposit works; excess and savings on estimates; attention to public interests; prevention of accidents; planning – activity, milestone, barcharts, critical path networks, PERT; departmental execution of work – record; progress reports, charges for stores and labour, execution of works in Engineering workshops; contracted works; issue of work orders; completion documents; zonal works.

18 Miscellaneous:

a) Engineering plant:

General – code rules; engineering plant reserve, plant register; valuation of plant; maintenance; storage and repairs; requisitioning of plants; use of plant at site; maintenance of log books; hiring out of engineering plant; examination of boilers of the engineering department.

b) Explosives:

General – Issue of instructions on use of explosives; observance of rule of carriage of explosives; commonly used explosives; selection of explosives; storage and conveyance to work site; blasting operations; boring holes; amount of charge; preparation of charge; electrical and safety fuses; precaution to be observed during blasting; misfires; protection of trains and railway property; destruction of explosives; detonating signals – care and custody; use of detonators and test, competency certificates for handling explosives.

c) Management of Engineering Stores:

General – Reference to code and Rules; procurement of stores; requisition; receipt and issue of challans; claims of short receipts; etc.; custody of stores – classification, handling and storage, Account head of stores – operation, records and returns; disposal of released and surplus stores – return to stores Depot, disposal by auction; verification of stock and adjustment for shortage/excesses.

d) Law and Order

Railway Police; lodging complaints; cooperation with railway police; cognizable offences; non cognizable offences; powers of arrest by railway staff; warrant against railway staff; action by railway staff in case of attempted sabotage; answering of court summons;

prevention of trespass; disposal of human bodies found run over; disposal of cattle found dead on the line.

19. Track Machines

- i) Provisions of Indian Railway Track Machines Manual.
- ii) Working principles and performance parameter of various Track Machines on Indian Railways.
- iii) Controls and working systems of various Track Machines.
- iv) Working of various Track Machines: Pre- requisites, pre- block preparatory works, and operations during block, post-block attention works.
- v) Working of tamping machines in design mode.
- vi) Performance and quality parameters in tamping, squeezing pressure, squeezing time, vibration pressure and tamping depth.
- vii) Maintenances schedules of various track machines.
- viii) Troubleshooting
- ix) Rules for movement and working of track machines.
- x) Types of small track machines required for maintenance of track and their maintenance systems.

22

GOVERNMENT OF INDIA (BHARAT SARKAR)
MINISTRY OF RAILWAYS (RAIL MANTRALAYA)
Techniques of RAILWAY BOARD.

.....

NO: 78 AC III/20/49

New Delhi, dated 9-9-1978.

The General Managers,
All Indian Railways,
(including CLW, DLW & ICF),

Sub:- Limited Departmental Competitive Examination
for promotion of 25% of vacancies in case of
posts of Assistant Accounts Officers -
Books of reference thereof.

.....

Kindly refer to Board's letter No. E(GP)76/2/96
dated 3.8.77 wherein instructions were issued for the
introduction of the above examination in Accounts Department.
It has been represented to the Board that syllabus and books
of reference have not been prescribed for the paper on
subjects like Management Accounting and Cost Accounting.

The question has been examined and the following
syllabus is prescribed. Some books of reference have also
been recommended.

In Railway Board's letter No. E(G)76/2/96 dated
3.8.1977 Paper III reads as under:-

Part I - Financial justification for
expenditure and Traffic costing.

Part II - Management Accounting.

It has been decided that Part I and Part II shall
carry equal marks i.e. 50 each.

Syllabus for both the parts are as under:-

Part I - Financial justification for Expenditure

Techniques of assessment and evaluation of
profitability of capital investments. Techniques of
financial appraisal applied to different investment
proposals - new lines, electrification, dieselisation,
new production units and repair workshops. Examination of
alternatives e.g. make or buy, lease or buy, departmental Vs
Contract Works.

Recommended Readings.

1. Indian Railway General Code Volume I.
2. Indian Railway Engineering Code.
3. Techniques of Financial Analysis - E.A. Helfort.

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-2-

4. Report by the Committee on Techniques of Financial Appraisal of Railway Projects.

Traffic Costing in Indian Railways.

Concepts of Costing - Costing of Goods and

Coaching Services - Costs and rate making.

Recommended Reading.

Hand Book on Traffic Costing published by the Ministry of Railways.

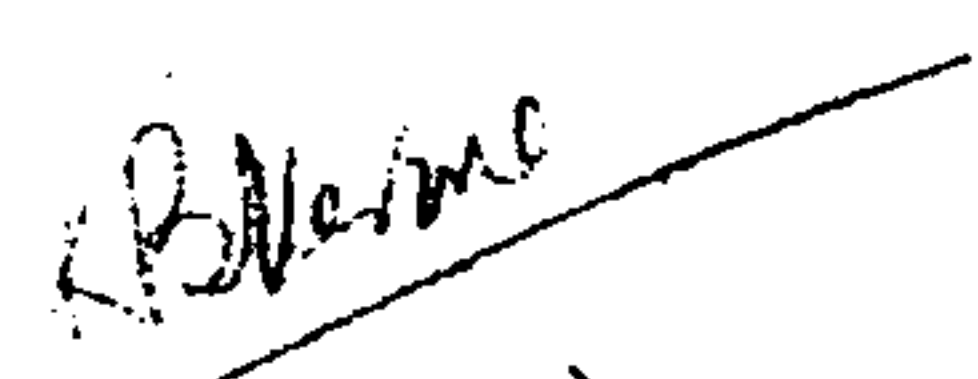
Part II - Management Accounting.

1. Functions and role of management accountant -
Tools of Financial analysis including
Ratio Analysis - Break-even-Analysis.
2. Accounting Analysis for Managerial Planning -
factors in planning - forecasts useful in planning.
3. Communication and controls - accounting reports
for administrative controls.
4. Control of operations (Budgetary Control)
- Cash, Capital and Operating Budget -
Performance Budgeting - Responsibility Centres.
5. Control of Operations (Costing) - Costing system
- Standard Costing - Managerial Costing - Costing
and management decisions.

Recommended readings.

1. Management Accountancy - J.Baity.
2. Financial Management - S.C.Kuchhal.
3. Management Accounting - N.L.Hingorani & others.

Note:- The question on the subject will be intended to test the familiarity of the candidates with the various concepts under the items listed in the syllabus above and the general principles and procedures adopted in their implementation.


(K.B. Verma)
Deputy Director, Finance (A/c)
Railway Board.

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

RBE No.: 74/2008

No. E(GP)2005/2/8

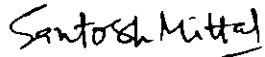
New Delhi, dt: 20.06.2008

**The General Managers,
All Indian Railways and Production Units.**

**Sub: Syllabus for 30% LDCE for promotion to Group'B' post of
AME/AWM in Mechanical Department of Railways/Production
Units.**

Ref: Railway Board's letter No. E(GP)2005/2/8 dated 22.03.2007.

With reference to Board's letter of even number dated 22.03.2007 prescribing revised syllabus for 30% LDCE for filling up Group'B' post of AME/AWM in Mechanical department, it is clarified that the topic of 'Official Language' may be included as part of General Knowledge in Paper I as provided for in terms of Board's letter No. Hindi-81/OL-14/12 dt.14.01.1982.


(SANTOSH MITTAL)
Dy. DIRECTOR, ESTT.(GP)-II
RAILWAY BOARD

No. E(GP)2005/2/8

New Delhi, dt: 20.06.2008

Copy for information and necessary action to

- (1) The Director General & ex-officio General Manager, R.D.S.O., Lucknow.
- (2) The CAO, DCW, Patiala
- (3) The CAO, MTP(Rlys.), Mumbai and Chennai
- (4) The Chairman, Railway Recruitment Board:
Allahabad/Ahmedabad/Ajmer/Bangalore/Bhopal/Bhubaneswar/Kolkata/
Chandigarh/Chennai/Gorakhpur/Guwahati/Jammu&Srinagar/Malda/
Mumbai/Muzaffarpur/Patna/Ranchi/Secunderabad/Trivendrum.
- (5) The Director General, Railway Staff College, Vadodara.
- (6) The Director IRISSET, Secunderabad/IRIMEE.
Jamalpur/IRIEE, Nasik,/IRICEN, Pune/IRCAMTECH, Gawalior.
- (7) The Railway Liaison Officer, Jeevan Tara Building, Parliament Street, New Delhi.
- (8) The General Secretary, IRCA, New Delhi.
- (9) The C.A.O, COFMOW, Rly. Offices Complex, Tilak Bridge, New Delhi-110002.
- (10) The Secretary, Railway Rates Tribunal (Chennai), 50 MC.Nichola Road, Chetput, Chennai.
- (11) The Exec.Director, CRIS, Safdarjung Rly.Stn.Building, Chanakyapuri, New Delhi.
- (12) The Director (Movement), Railways 17 N.S.Road, Calcutta.
- (13) The Joint Director (Iron & Steel) 3 Koilaghat Street, Calcutta.

Santosh Mittal

(SANTOSH MITTAL)
Dy. DIRECTOR, ESTT.(GP)-II
RAILWAY BOARD

No. E(GP)2005/2/8

New Delhi, dt: 20.06.2008

Copy forwarded to:

1. The General Secretary, All Indian Railwaymen Federation, Room No. 253, Rail Bhavan, New Delhi (35 copies).
2. The General Secretary, National, Federation of Indian Railwaymen, Room No. 256-E, Rail Bhavan, New Delhi (35 copies)
3. All Members, Departmental Council and National Council and Secretary, Staff Side, National Council, 13-C, Ferozshah Road, New Delhi (90 spares)
4. The Secretary General, Federation of Railway Officers Association, Room No. 256-A, Rail Bhavan, New Delhi (5 spares)
5. The Secretary General, Indian Railway Promotee Officers Association, Room No. 268, Rail Bhavan, New Delhi (35 spares)
6. The General Secretary, All India RPF Association, Room No. 256-D, Rail Bhavan, New Delhi-110001.
7. Railway Board Secretariat Staff Association.

H. G. M. M. M.
For Secretary/Railway Board

Copy to:

PSs to MR, MSR(N), MSR(V)

Sr.PPSs to CRB, FC, MS, MM, MT, ML, ME

PPSs to Secretary, DG/RHS, DG/RPF

PPSs to all Addl. Members.

Dy. C&AG(Railways), Room No. 222, Rail Bhawan.

PSs to Adv.(Staff), Adv.(Vig.), EDE, EDA, EDE(N), EDE(Res), JS, JS(E), JS(G), ED(E&R), EDE(GC), EDV(E), ED(Signal), EDV(S), EDF(E), ED(T&MPP), EDE(RRB), EDPC-I, DV(P), DE(L), DE(Res), DE(G), D(IH), JD(MPP), JDE(R)I&II, JDE(Rep)I&II, JDE(D&A), JDE(P&A), DPCI&II, JDE(L), JDE(N), JDE(N)II, JDE(N)III, DDF(E)I, DDF(E)VI, DDV(A&P), E(NG)I, E(O)III, DDRS(G), DDE(LR)I, Sec(E), PC-III, IV & V, E&R, E(Trg.), E(MPP), V(SS), E(SCT)I&II.

भारत सरकार
रेल मंत्रालय (रेलवे बोर्ड)

RBE No: 74/2008

सं. ई (जी पी)2005/2/8

नई दिल्ली, दिनांक 20-6-2008

महाप्रबंधक,
सभी भारतीय रेलवे एवं उत्पादन इकाइयां.

विषय: रेलों/उत्पादन इकाइयों के यांत्रिक विभाग में ए एम ई/ए डब्ल्यू एम के समूह 'ख' पर पदोन्नति के लिए 30% सीमित विभागीय प्रतियोगी परीक्षा के लिए पाठ्यक्रम.

संदर्भ: रेलवे बोर्ड का 22.03.2007 का पत्र सं. ई (जी पी)2005/2/8.

बोर्ड के 22.02.2007 के समसंख्यक पत्र जिसमें यांत्रिक विभाग में ए एम ई/ए डब्ल्यू एम के समूह 'ख' पद को भरने के लिए 30% सीमित विभागीय प्रतियोगी परीक्षा के लिए संशोधित पाठ्यक्रम निर्धारित किया गया था, के संदर्भ में, यह स्पष्ट किया जाता है कि बोर्ड के 14.01.1982 के पत्र सं. हिन्दी-81/ओ एल-14/12 में दिए गए अनुसार राजभाषा विषय को पेपर-I में सामान्य ज्ञान के भाग के रूप में शामिल किया जाए.

संतोष मिश्र

(संतोष मिश्र)

उप निदेशक स्था. (जीपी)II

रेलवे बोर्ड.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. E(GP)2005/2/08

New Delhi, dt: 12.09.2012

The General Manager,
N.W.Railway,
Jaipur.

(Kind Attn.: Shri Rajeev Singh, Dy.CPO(G))

Sub: Syllabus for 30% LDCE for promotion to Group 'B' post of
AME/AWM in Mechanical Department of Railways/Production
Units

Ref.: N.W. Railway's letter no.871E/1/Mech./Gr 'B'(LDCE-30%)
dt.20/07/2012

As per Board's letter of even number dated 22.3.2007, the revised syllabus was prescribed for 30% LDCE for promotion to Group 'B' post of AME/AWM in Mechanical Engineering Department of Railways/Production Units. The Part B of Paper II shall contain Professional portion of 100 marks in four sections representing various streams of Mechanical Branch i.e. Division & Workshop Management, Diesel Locomotives, Carriage & Wagon and Workshops, and candidates can attempt questions from their own discipline or from more than one discipline if he so desires to complete upto 100 marks. In this regard it is clarified that Part B of Paper-II (Professional portion) will have each section of 100 marks with a liberty to the candidate to attempt any one of them or a mix from different sections upto a total of 100 marks.


(Ashok Kumar)
Director/Estt.(GP)II
Railway Board

Copy to: General Managers (P), All Indian Railways (except N.W. Railway) and PUs for information.

