

NOTIFICATION**Sub. : Notification for selection to the posts of Instructor in ZRTI BSL**

The selection process for the post of Instructor will be conducted, with anticipated vacancies at the Zonal Railway Training Institute, Bhusawal. A notification will be issued regarding these vacancies. Applications will be invited from serving permanent Railway employees of CR (Central Railway) and WCR (West Central Railway) for selection to the ex-cadre post of Instructor in various faculties and other related posts.

A. Assessment of Vacancies :-

Existing vacancies, vacancies arising due to tenure completion, and anticipated vacancies over the next 24 months.

S.N.	Faculty /Instructor	ML	Actual Vacancies
1	Traffic	7	5
2	Commercial	7	5
3	AC/TRS	7	5
4	DSL	7	10
5	Engg. Works	7	2
6	OHE	7	1
7	TLGS	7	2
8	Management	7	1
9	S&T	7	2
10	Accounts	8	3
11	OHE (Demonstrator)	5	1
12	IT	7	2

B. Tenure

The tenure for selected candidates appointed to ex-cadre tenure posts will be 5 years only. Other conditions of the Railway Service (Conduct) Rules and the Discipline & Appeal Rules (D&AR) will apply. There will be a mandatory cooling off period of 02 years to become eligible for applying for another ex-cadre post. No employee can apply for ex-cadre post for a third time without undergoing the mandatory cooling off of 02 years

C. Age Limit:-

The upper age of the candidate should be 58 years on the date of notification.

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D. Selection and Classification of the post of the Instructor-:

The posts are classified as selection posts, and the selection will be conducted by a duly constituted Selection Board. The selection process will consist of a written test and a classroom test.

E. Selection Process -:

(i) The selection process will consist of a written test (75 marks) and a classroom lecture trial (25 marks). In class room test will evaluate both the knowledge and communication skills of the candidates, as both are essential for the post of Instructor.

(ii) There will be negative marking at the rate of 1/3 mark for each wrong answer in the selections.

(iii) The written exam will consist of 110 questions, of which at least 100 must be answered. Out of the 110 questions, 10 will be optional and related to Rajbhasha. If a candidate answers more than 100 questions, only the first 100 attempted questions will be considered.

(iv) Maximum Marks: 100; Qualifying Marks: 60%. The final panel will be drawn in order of merit.

(v) Reservation rules will not be applicable.

F. Currency of Panel: Panels notified will be valid for two years from the date of approval by the competent authority, or until the panel is exhausted, whichever is earlier

G. Cadre: The posts are classified as Ex-Cadre, and there is no further avenue for promotion.

H. Lien: The lien of selected employees will be maintained in their parent department.

I. Fixation: There is no provision of the benefit of reckoning of 30% pay element for the purpose of fixation of pay of running staff on their promotion/appointment to the posts filled through selection for general selection is not admissible. Only Training Allowance, at the prescribed rates, will be granted based on the cadre pay. The Teaching Allowance will be payable as per the existing basic pay and as per existing percentage. If any instructor reaches the highest pay level in their current matrix level, there is no provision to switch to a next matrix level or receive further increments in the current level.

J. Eligibility Criteria-:

(i) Instructors at Level-7 should be selected from staff already working at Level-7. However, if a sufficient number of candidates are not available from Level-7, staff working one level below (i.e., Level-6) can be considered. To avoid delays due to repeated selections, it can be notified in the selection that staff from Level-6 may also apply, but they will only be considered to fill

the shortfall from Level-7, and their names will be placed below those from Level-7 in the final selection despite of higher marks obtained in the selection.

(ii) **For Non-Running Categories:** Staff from the concerned department, working at the same grade + grade pay (Matrix Level) , having 2 years of experience in the same grade + grade pay (Matrix Level).

(iii) The staff of the concerned department working in the same grade + grade pay, having 5 years' experience in same grade + one lower grade pay or Matrix Level .

(iv) **For Running Categories:** For posts of Instructors, staff in ML-6, with 5 years of experience in the same Level.

(v) Applications for Account Instructor must be forwarded through FA&CAO (Admn).

(vi) For the Management Instructor post, candidates must possess a diploma or equivalent qualification in management.

K. General Conditions:

(i) The employee must substantively belong to the same pay level for which they are applying. The MACP, Ex-Cadre, or Deputation Pay Levels will not be considered.

(ii) The selected employee may be repatriated at any time, before the completion of the 5-year tenure, without assigning any reason, or if their performance is found unsatisfactory, if they are found guilty of indiscipline, or if they are found to be indulging in malpractice in any form.

(iii) The employee should have good teaching ability, including proficiency with advanced technology in both online and offline modes, a strong academic background, knowledge of extracurricular activities, practical teaching experience, and the capacity to prepare course material. The employee should have sufficient field experience to effectively impart practical knowledge to trainees.

(iv) The employee should be a good communicator, sensitive to the needs of people, resilient, open-minded, perceptive, honest, committed, and motivated.

(v) Selected employees will not normally be allowed to decline the post. They must join the post within the validity period of the panel.

(vi) There is no provision for a supplementary examination.

(vii) The decision of the Selection Committee regarding selection will be final.

(viii) Other duties and activities related to the Training Institute may be assigned to selected employees based on their knowledge, capacity, and the needs of the Zonal Railway Training Institute (ZRTI) in addition to their teaching job.

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(ix) Employees should be assessed not only based on outstanding service records but also on their training capability and aptitude for the job.

(x) All conditions must be fulfilled as on the date of the notification.

(xi) The services of selected running instructors (AC Instructor & DSL Instructor) may be utilized either in the Training Institute or with simulators, depending on the requirements of the administration and the direction of the Faculty Officer and Chief Instructor.

(xii) The duty of Instructors are notified in the Notification.

L. Syllabus:

Available on the website: <https://cr.indianrailway.gov.in>

Navigate to About Us > Training Centre > ZRTI BSL > Notification as Annexure-A.

M. Application Form:

Enclosed with the notification. The application form (Annexure-B) must be filled out carefully. The admit card (Annexure-C) for the written examination is also enclosed.

N. How to Apply:

(i) The application should be made in the prescribed proforma and must be filled out and signed by the employee themselves, providing accurate information to the best of their knowledge, especially regarding SPE/Vigilance/DAR cases. No alterations or corrections to the application will be entertained. Applicants must note that if any information provided by them is found to be false at any stage, the application or candidature will be summarily rejected. Submission of false or misleading information will lead to disciplinary action under DAR.

(ii) Eligible candidates who are subsequently found to be ineligible due to de-categorization or other reasons will not be considered for the post. For technical and safety category posts, only technical and safety category staff will be eligible to apply. For non-technical and non-safety posts, only staff as prescribed will be eligible to apply.

(iii) The particulars submitted by the applicant in the application must be verified and signed by the concerned officer. Applications will not be entertained unless they are forwarded by the office of the concerned Senior Divisional Personnel Officer (Sr. DPO) with DAR clearance and a "No Objection Certificate" from the concerned Executive, excluding Account Instructors.

(iv) Applications sent directly or as advance copies, without the approval of the controlling officer, will not be entertained.

O. Other conditions and duties of some Faculties : -

SN	Faculties	ML	Special conditions & Duty
1	Accounts	8	The Application for Account Instructor must have to be forwarded through FA&CAO (Admn).
2	OHE Demonstrator	5	a. Maintenance and up keeping of Equipment in Model Room. b. Maintenance of OHE Parts as per subjects. c. Practical demonstration of Isolator operation (ON/OFF) by Demonstrator and also get practical demonstration of the same by Trainees. d. Attachments and detachments of fittings. e. Practical Training of measuring equipment. f. Measurement of diameter with micrometer. g. Updating of Register of Model Room. h. Practical training of subject allotted such as placing and removal of discharging of Rod etc. i. Discharging of assigned work.
3	Management	7	The candidate having / Diploma or Equivalent in Management will be considered.
4	IT	7	i) Imparting IT Applications training such FOIS, ICMS, COA, CMS, SATSANG, e-office, IPAS, HRMS, TMS, GeM, HHT, PMS, PRS, NTES, RBS, IREPS, IRMMS, IRPSM, POS, UTS, Track Management System etc. and computer syllabus in various faculties. ii) Proposals for procurement, maintenance, repairs of hardware and software including all IT Equipment at ZRTI. iii) Database administration of trainee management software and mmc local website such as installation, troubleshooting, backup, maintenance etc. iv) Training and coordination with staff about IT applications such as e-office, HRMS, IPAS etc. v) Uploading / updating of various notifications, study material, training calendar, results etc. On central railway web site. vi) Any other work assigned by ZRTI Administration. vii) Proposals for procurement, maintenance, repairs of hardware and software including all IT Equipment at ZRTI. viii) Maintain CCTV records of Admn. Building & Examination Hall.

Apart from the above duties, as and when required the following work can be allotted:-

- 1) Attend Hostels on Arrival of courses to maintain discipline.
- 2) Inspection of Hostels and Classrooms to maintain cleanliness.
- 3) Mess Duty

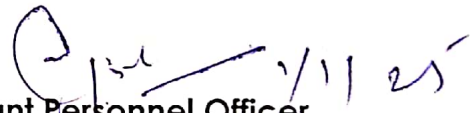
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P.- Selection Calendar:

1	Date of issue of notification	01.01.2025
2	Last date of submission of application to concerned units/depots by the applicant.	15.02.2025
3	Last date of submission of application to Division from Units/Depots.	22.02.2025
4	Last date of receipt of application in ZRTI BSL through Division & FA&CAO/Admn for Account Instructor	15.03.2025
5	Date of Declaration of Eligibility List.	29.03.2025
6	Tentative Date of Written Examination	As per convenience of Administration.

Encl.: Application Proforma and Syllabus are available in ZRTI site.
(<https://cr.indianrailway.gov.in>) About us - Training Centre-ZRTIBSL-Notification.

It should be given wide publicity to this Notification so that eligible employees can be applied.


Assistant Personnel Officer
For Principal ZRTI BSL
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APO(I) ZRTI.BSL

Copy forwarded to :

/- PCPO, PCOM, CTPM, PCE, PCEE, PFA, PCSTE, PCCM, PCME, COS
CR CSMT & WCR JBP.

/- Sr.DPO, , Sr.DEN, Sr.DEE/TRD, TRS, Genl, TRO, Sr.DFM, , NGP, PA, SUR, BPL,
JBP, KTT

Application Proforma

क्षेत्रीय रेल प्रशिक्षण संस्थान भुसावल में प्रशिक्षक पद के लिए आवेदन पत्र
Application for the post of Instructors and others at ZRTI BSL

Affix Recent
PassportSize Photo

संकाय/अन्य का नाम :

Name of Faculty/others:

1	आवेदक का पूर्ण नाम Full Name of applicant (in block letters)	
2	वर्तमान पदनाम Present Designation	
3	भविष्य निधि लेखा संख्या PF No.	
4	वर्तमान में कार्यरत स्थल Present place of posting	
5	वर्तमान में नियमित लेवल तथा मूलवतन Present Substantive Level / GP and Basic Pay (Without MACP / Ex-cadre Pay)	
6	वर्तमान लेवल / ग्रेड पे में नियमित रूप से नियुक्ति की तिथि Date of entry in present level / GP (Regular)	
7	जन्मतिथी Date of birth	
8	नियुक्ति तिथि Date of appointment	
9	अधिसूचना जारी करने की तिथि 01.01.2025 को वर्तमान लेवल एवं ग्रेड पे की गई कुल वा Total railway service in present level / GP as on date of notification .e. 01.01.2025	
10	अधिसूचना जारी करने की तिथि 01.01.2025 को आवेदक की आयु Age of the applicant as on date of notification i.e. 01.01.2025	
11	शैक्षणिक अहता / Educational Qualification	
12	इससे पहले प्रशिक्षक एवं अन्य पद पर किये गए कार्य की अवधि यदि हो)) क्षेत्रीय रेल प्रशिक्षण संस्थान से प्रत्यावर्तित किए जाने की तिथि (तोयदि कोई होतो (The last tenure of working as Instructor and others (if any) and date of repatriation from ZRTI (if any)	
13	कार्य अनुभव Working experience (Technical or other)	
14	क्या वर्तमान में कोई शास्ति अधिरोपित यदि हो तो पूर्ण विवरण) लंबित है / देPunishment under DAR is pending / undergoing. (if so please give details)	
15	आवेदक का मोबाइल नंबर व ई – मेल आई डी / (यदि हो तो) Applicant Mobile Number and E – mail id (if available)	

मैं घोषणा करता करती हूँ कि ऊपर दिए गए / सभी विवरण सही है और सत्य है यदि उपरोक्त जानकारी गलत पायी जाती है तो मैं विभागीय कार्यवाही के लिए उत्तरदायी रहूँगा । रहूँगी /I declared that all particular furnished about are correct and true. If the same are found to be false and fabricated I am liable for the departmental action.
दिनांक Date:

आवेदक के हस्ताक्षर Signature of Applicant.

कार्यालय/ Office

मेमो संख्या /Memo No.

दिनांकDate

मंडल रेल प्रबंधक (कार्मिक) _____
for further necessary action please.

को अग्रिम कार्यवाही हेतु अग्रपित / Forwarded to DRM (P) _____

of Depot कार्यालय की मुहर / Office Stamp.

डिपो पर्यवेक्षक के हस्ताक्षर/ Signature of In-charge
पदनाम / Designation

कार्यालय Office

मेमो संख्या Memo No.

दिनांक Date

प्राचार्य क्षेत्र.प्र.सं .भुसावल को अग्रिम कार्यवाही हेतु अग्रपित । प्रमाणित किया जाता है की मद संख्या 01से15 तक मे दिये गये विवरण चेक किये तथा सेवापंजिका के अनुसार सही पाये गये ।

कार्मिक अधिकारी के हस्ताक्षर Signature of personal officer
कार्यालय की मुहर Office Stamp पदनाम Designation

(1)

Syllabus for Selection of Traffic Instructors Preliminary

1. Brief history of Indian Railways
2. Organisational Set up of Indian Railways at various levels viz. Railway Board, Zonal Railway and Divisional Railways.
3. Objectives & functions of Indian Railways.

Knowledge of Updated G&SR Book:

1. Definitions -
2. Classification of stations.
3. Rules applying to Railway Servants generally.
4. Signals -
 - a) General Provisions.
 - b) Description of various fixed signals.
 - c) Signal sighting committee and sighting of signals.
 - d) Equipment of signals.
 - e) Working of signals and points.
 - f) Hand signals.
 - g) Dealing signals.
 - h) Flare signals.
 - i) Defective signals.
5. Working of trains generally :
 - a) Various operating forms & precautions thereof.
 - b) Engine whistle code.
 - c) Speed of trains during failure of headlight, whistle & speedometer and different turn-outs.
 - d) Board and Indicators.
 - e) Equipment of train and train crew.
 - f) Precaution during train working - Before starting, during journey & on arrival and working of trains without Brake Van.
 - g) Marshalling & ODC Working and Ghat Rules.
 - h) Working of material train & Track maintenance machines.
6. Control & working of stations :
 - a) Responsibility of Station Master for working.
 - b) Station working Rules.
 - c) Reception of train on obstructed line, unsignalled line and despatch thereof.
 - d) Despatch of train from common Starter Signal Line.
 - e) Rules & responsibility towards shunting - SM, Guard & Driver.
 - f) Types of shunting & securing of vehicles.
 - g) Non-interlock working & train operation during over hauling / cable mugging / disconnection and re connection.

(b)

7. **Abnormal working :**

- a) T.S.L. Working.
- b) Working of trains during total failure of communication on double line and single line.
- c) Protection rules
- d) Train delayed in section.
- e) Train stalled on gradient.
- f) Requisition of assisting engine and cancellation.
- g) Train parting and train dividing.
- h) Fire on train.
- i) Vehicle escaping.
- j) Working of trains during thick and foggy weather.
- k) Explosion on track and lurch reported.
- l) Working of trains during hot axles.

8. **System of working :**

- a) On Indian Railways.
- b) On Central Railway - Absolute, Automatic & one train only.
- c) Essentials of Absolute and lock & block system.
- d) Conditions for grading line clear at 'A', 'B', & 'C' class station.
- e) Illustrative diagrams of various class of stations.

9. **Automatic Block System :**

- a) Essentials of Automatic Block System on double line.
- b) Duties of Driver and Guard when Automatic signal is at on.
- c) Abnormal working during prolonged failure of signals, failure of signals and communication, TSL working

10. **Block Working :**

- a) Uses and operation of Block Instrument & authority to proceed.
- b) Train entered into block section without or wrong authority to proceed.
- c) Bell Code on block Instrument - acknowledgement and action to be taken.
- d) Failure of block instrument & action thereupon.
- e) Conditions for taking off signals.
- f) Private Number sheet & Train Signal Registers.
- g) Precautions for clearing back of Block Section.

11. Permanent Way & Works :

- (i) Maintenance of line.
- (ii) Patrolling of lines.
- (iii) Works involving danger to trains or traffic and precautions.
- (iv) Protection rules.
- (v) Working of tories, trolleys and motor trolleys.

12. Level Crossing :

- a) Working of Traffic & Engineering gates and train operation.
- b) Defects at level crossing, obstruction at level crossings, train parting.
- c) Inspection of level crossing gates - TVU, Height Gauges.

13. Working of Trains in Electrified Section :

- a) Permit to work on electrical equipment.
- b) Warning to public and staff.
- c) Working of tower wagon.

14. Essentials of Interlocking & means of Isolation :**15. Knowledge of Accident Manual:**

- a) Definition and classification of accidents.
- b) Operating and accident and other unusual occurrences.
- c) Duties of Railway Officials during accident.
- d) Relief and Restoration in case of an accident.
- e) Procedure for dealing with cases of sabotage and train wrecking.
- f) Action to be taken when
 - i) Dangerous or unusual condition noticed on train.
 - ii) Person thrown out / knock down by a train.
 - iii) Natural death / murder on train.
- g) Investigation and enquiry and disposal of enquiry reports.
- h) Disaster Management
 - 1) Objectives
 - 2) Tenets of disaster management.
 - 3) Duties of various departments.
 - 4) Ordering of ARME & A.R.T. (Hooter codes)

(4)

16. Higher Transportation :

- a) General principle and methodology of passenger train time table.
- b) Punctuality and factors affecting the punctuality.
- c) Planning of special trains and new trains.
- d) Rake-Links - Through & sectional coaches.
- e) Working time table - load tables & corridor blocks.
- f) Control of goods operation at Railway Board, Zonal & Divisional level and role of Control Office, Stations and marshalling terminal yard.
- g) Pooled and non-pooled wagons.
- h) Congestion of yard / Sections congestion and remedies.
- i) Operating statistics.
- j) Line / Section capacity & throughput and W.T.R.
- k) Principles of Train ordering.
- l) Area control, Stock report, D.W.B. and wagon census.
- m) Uses of computer operation for coaching (COIS) & freight operations (FOIS).
- n) Safety organisation - Railway Board, Zonal and Divisional level along with CCRS / CRS Organisation & Functions.
- o) Marshalling yards - Composition and formation of trains.
- p) Priority schedules - O.D.R., W.R.F. Wharfage and demurrage.
- q) Bans and restrictions.
- r) Siding rules - Private and Railway.
- s) Modernisation steps for enhancing safety in train operation.
- t) 10 Hours rule, recovery time and allowances in train working.
- u) Planning on Railways - Annual Works Programme (DCF & ROR Technique) traffic trends / forecast of future traffic requirements with analysis of traffic bottlenecks, Daily / Periodical performance reports, interchange transactions and commitments.
- v) Introductory knowledge of PSUs connected with Indian Railways. IRCTC, RITES, IRCON, CONCOR, RAILTEL, MRVC, RVNL, KRCL, PRCL, RLDA etc.
- w) Initiatives to increase freight traffic - freight forwarding scheme, station to station rate, double Decker container, RORO, OWYS, EOL Scheme, payment of freight through FOIS electronic network, round the clock loading, use of FOIS to take decisions etc.

17. C&W:

- 1) Wagon and coaching stocks mechanical codes.
- 2) Brake continuity test.
- 3) Brake power certificate.
- 4) Train working with flat tyre and clamps.
- 5) Kinds of rakes - CC, Jumbo, merry go round, Unit train, jugglers, sherpa.

18. Registers & Books maintained in Yards / Stations / Control Office.

19. Man Power Planning

20. HOER

21. Leave & Pass ~~Records~~ Rules

GENERAL

- 1) Should have good knowledge of Railway organization and its working.
- 2) Good aptitude in teaching, should be able to deliver lectures in Hindi as well as in English.
- 3) Should have good personality, clarity in speech.
- 4) Should have rapport with the trainee and must reach the trainee.
- 5) Knowledge of commercial rules: Tender contracts, Indian Railways Act, DAR Rules, Catering policy, working knowledge and practical knowledge of working on various posts.

COACHING

- 1) Knowledge of commercial manual and computerized ARTS, UTS, FOIS, NTES.
- 2) Various types of tickets including concessional tickets, RTC, military warrants etc.
- 3) Refund rules.
- 4) Reservation of berths, special coach / train, tourists cars, dining cars, VP s for coaching movement, their cancellation.
- 5) Rules for booking and delivery of luggage and parcels.
- 6) Irregular travel.
- 7) Booking of bulky articles, human ash, human corpses, livestock, 2-3 wheeler vehicles.
- 8) Procedure for opening of halt stations, flag stations.

GOODS

- 1) Forwarding and its importance.
- 2) Invoice and bill.
- 3) Rules for acceptance, booking and delivery of goods.
- 4) Registration and allotment of wagons, allotment. WRF and its Refund and Forfeiture.
- 5) PLM, sealing and re-labelling of wagons.
- 6) Rating and routing of goods.
- 7) Classification of goods.
- 8) Preferential Traffic Order, Rationalization scheme.
- 9) Wagon load and Train load consignments.
- 10) Rules for booking and delivery of dangerous, offensive, explosive, inflammable, contrabands, intoxicating goods, over dimensional goods, bulky articles.
- 11) Siding.
- 12) Wharfage and demurrage rules.
- 13) Rebooking and diversion.
- 14) Open delivery and assessment delivery and misdeclaration of goods.

(31) (18) (14)

8. Train Dynamics :-

- a. Fuel economy.
- b. Torque, tractive effort, adhesion, Free slack, spring slack, draft force, Buff force etc.
- c. Gradients and train handling on various gradient.
- d. Train parting, reason and how to avoid it.
- e. Multiple unit operation.

9. Duties:-

- a. Duties of Assistant Loco Pilot and Loco Pilot in Various condition.
- b. Duties of Loco Inspector- during inspection like running room, lobby and Foot Plate.
- c. Duties of TLC/LI in case of accident and abnormal situation.
- d. Knowledge of various forms-CTR, Trip card etc.

10. Management :-

- a. Power plan, Crew requirement, Loco link, Crew link.
- b. Calculation of speed of train.
- c. Loco statistics, shed outage.

11. Establishment :-

- a. Service conduct rule, Staff benefit fund, Workmen compensation act.
- b. Discipline and Appeal rule, knowledge of various type of standard form, procedure of imposing minor and major penalty, review etc.
- c. HOER rule, 10 Hrs rule, implementation of 10 Hrs rule.
- d. Pass, PTO rule, Leave rule, etc.
- e. Rajbhasha Act.

SYLLABUS FOR ACT (RS) INSTRUCTOR

1. GENERAL:-

- Should have knowledge of Railway organization & working.
- Aptitude in teaching & able to deliver lectures in Hindi and English and have neat and clear speech.

2. ELECTRICAL ENGINEERING:-

- Knowledge of Basic electricity such as resistance, inductance, capacitance, insulation etc.
- Knowledge of electrical laws such as Ohm's law, Kirchhoff's law, Faraday's law etc.

3. Electrical Machines Basic principal of :

- D.C. motors, A.C. motors, single phase and three phase motors.
- Rectifier and Transformers
- Speed control of DC series motors and three phase induction motors.

4. OVERHEAD EQUIPMENTS:

General management of Power supply (TSS, FP, SSP & SP), different types of board bonds, type of neutral sections, cantilever arrangement, ATD device, duties of Loco pilot in case of OHE failure/breakdown, causes of pantograph entanglement and precautions.

5. ELECTRIC LOCOS:-

- Knowledge of AC locos, 3-phase locos and AC-DC locos – Main features, starting torque, tractive efforts, adhesion.
- Types of bogies used on AC locos and their suspension arrangement, power transmission.
- Safety fittings, lubrications and dampers.
- Various types of auxiliaries used and their capacities.
- Air brake, regenerative and rheostatic braking, sanding, wheel slip, EPC and contactors.
- Power circuit, Auxiliary circuit and control circuits, battery charger and pneumatic circuit.
- Trouble shooting of WAG5/WAP4 loco.
- Different types of schedules and their periodicity.
- Knowledge of various circuit modification issued by RDSO pertaining to loco operation.

6. SAFETY

- Knowledge of G & SR & WTT.
- Working of train in Normal & Abnormal condition.
- Classification of accidents, duties of loco pilot in case of accident.
- Types of fire extinguishers and their use.



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Dy. CEE (OP)

7. CREW MANAGEMENT:-

Loco and crew link, loco statistics, method of calculation of shed/territorial outage, time on run, punctuality, Various types of rest & allowances applicable to running staff etc.

8. TRAIN DYNAMICS:-

- i) Calculation of Tractive Effort to haul load as per RDSO's guidelines, effect of gradient on coupler forces etc.
- ii) Speed- time , torque-speed & speed -current curves for electric locomotive.
- iii) Specific energy consumption.
- iv) Train stalling & Parting

9. COMPUTER:

- i) Basic Knowledge of Computer Hardware like Mother board, CPU, Hard Drive, Memory, RAM, CD Writers, Printers, Scanner etc.
- ii) WINDOWS & MS OFFICE

10. STORES, ACCOUNTS AND ESTABLISHMENTS:-

- a. Stores: Knowledge of various stores, return of scrap, etc. procurement of stock and non-stock items. Elementary knowledge of inventory control.
- b. Accounts: Elementary knowledge of budgetary control, knowledge of TV & SV sheet, Audit and Account inspection, Dead stock register etc. Demands of grants.
- c. Establishments: Knowledge of D&A rules. Workmen's compensation act, Service conduct rule, HOER, Leave rules, Pass rules and Rajbhasha Act. etc.

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By Instruments & T LADIES FOR AC SIMULATOR INSTRUCTORS doc


11/8/14
DY. CEE(OP)

Kind attention to CMPE (DSL) BCSM

SYLLABUS FOR DIESEL LOCO INSTRUCTOR

1. General :-

- General Information of Indian Railway, Organization.
- Details about Hygiene, Pollution free Environment.
- Knowledge of GR & SR and WTT such as provision of G & SR for working of train in normal and abnormal conditions.
- Aptitude in teaching. Able to deliver lectures with examples while explaining the subject and should have neat and clear speech.

2. Mechanical :-

- Heat Engine, Definitions, Types of Heat engine, Functions of various type of heat engine, Different components and its function.
- Transmission, types of transmission and advantages.

3. Basic electricity :-

- Should have knowledge of basic electricity.
- Should know various electrical laws such as Ohms law, Lenz's law, Kirchoff's law, Faradays Law etc.

4. Electric Machines :-

- Motor- Principal, Functions, Advantages and various type of AC and DC motors.
- Generator- Principal, Functions, Advantages and various type of AC and DC generator.

5. Electrical equipment

- Safety equipment- fuse, Circuit breaker, relays and function of it.

- b. Battery, types of battery.
- c. Transformer, type of transformer and its function, Rectifier.

6. Measurement and Instrumentation:-

- a. Knowledge of Voltmeter, Ammeter.
- b. Pneumatic and Hydraulic pressure gauges.
- c. Temperature gauge.

7. Diesel Loco:-

- a. Main feature and parameters of various Diesel loco
- b. Major compartment and parts of various compartments of various locos.
- c. Power pack, Fuel oil system, Lube oil system, Cooling water system, Air Intake system.
- d. Expresser, Definition, function of Compressor, Exhauster and its lubrication system, Air charging system of Loco.
- e. Brake system, Type of brake system such as 28 LAV1 and IRAB1, Function of various valves.
- f. Various types of Engine Governor and its function such as GE, WW and MCBG.
- g. Various Rotating machines and its function.
- h. Various types of circuit such as Battery charging, starting circuit, Throttle DMR circuit, Propulsion circuit of various Loco.
- i. Dynamic braking advantages and application procedure.
- j. Transition and its requirement.
- k. Various types of bogies of Diesel loco and suspension arrangement.
- l. Different types of schedules of loco.
- m. Advantages of AC-DC and AC-AC loco.
- n. Various modifications in Diesel loco.

SYLLABUS FOR SELECTION FOR POST OF ENGINEERING INSTRUCTOR (WORKS)

1) ENGINEERING CODE

Engineering Code - Organisation & Administration - Engineering Organisation & administration at head quarter divisional office sub-divisional office. Construction offices. Modes of investigation of Railway project - Technoeconomic survey, categories of lines.

Engineering surveys - classification of survey reconnaissance survey, preliminary survey, Final location survey. Drainage survey reports. Investment planning & works budget - preparation of preliminary works programme, Final works Programme, works budget, Demand for grants.

Estimates - Kinds of estimates, abstract estimate, detailed estimate, supplementary estimate, revised estimate, project abstract estimate, construction estimate, completion estimate, estimate for railway project. Estimate of open line works, estimate of deposit works, checking of estimate, currency of sanction.

Rules for acquisition of land, procedure for acquisition & management acquisition of land, responsibilities of administration. Classification of Rly. land. Land plan & schedules, application for acquisition procedure for acquisition of land, custody of land, management of land, lease & license policy letters regarding land, demarcation of land, execution of works, urgency certificates, material modification, agency for executing works. General instruction regarding execution of work, execution of deposit works, departmental charges, contracts for works- Definition of contract, works contracts, forms of works contracts, tender system, classes of tender list of approved contractor, General principle for contract earnest money & security deposit, standing earnest money, tender committee, delayed & late tenders, contract agreement, advances to contractors. Liquidated damages. Initial accounts of revenue & works expenditure, imprest, stores, store returns, day book, half yearly review of imprest & surplus stores, departmental stock verification, charged off stores, store obtained for specific purpose, Register of works, T&P adjustment memo, adjustment bill, ballast train returns, revenue allocation register, departmental register. Accounts of contractor's. Initial records - Muster sheet, register of wages, payment to supplier & contractors, measurement book power of recording measurement, standard measurements, measurement of ballast, petty contract bill, O/A bill, Final bill, hand receipt. Preparation of contract bill, pay order, checking of initial records. Revenue & budgetary control - responsibilities with regards to expenditure, budgetary control reviews, exchequer control.

Commissioning of Railway project - Commissioning of new lines, opening for goods traffic, opening passenger traffic, handing over of new lines to open line. Completion of railway project, completion estimate, completion reports, completion statements.

Miscellaneous works - Works required for defence purpose, works required to meet the requirement of civil & defence department/Ministries of Road cum rail bridges and public foot path over rail bridges. Works for civil departments/Ministry, level crossing over & under bridges, assisted siding, deposit work.

Building & rent - staff quarter rent, various charges, rest houses, military building on railway land, service building recovery of charges for maintenance of lawn in staff quarters & bungalow, rent rolls, list of buildings.

2) WORKS MANUAL

A brief idea about duties of works Inspector. Inspection & maintenance of bridges. Schedule of inspection of bridges by IOW/AEN/BRI, bridge inspection register. Detailed inspection of bridges. Distress bridges, river & flood, flood records, classification of rivers, river training works, such as guide bunds, marginal bunds, groynes & spurs, closure bunds, assisted cut off., Inspection & maintenance of tunnels, schedule of inspection. Detailed inspection of tunnels. Detailed inspection of tunnel & inspection register. Inspection & maintenance of turn table, weigh bridge and ash pits. Action during accident & breaches. Premonsoon precautionary measures, vulnerable points, Railway affecting works, engineering restrictions, short duration work, long duration works, protection of line. Engineering fixed signal & indicator. Working of light trolleys. Motor trolleys & material lorries, dip lorry. Engineering work in electrified area, rules for working in electrified section, precaution while working in electrified section, station & yards - Platforms & equipment thereon. Indication boards and colour scheme. Inspection & maintenance of building & structure other than bridges siting of building, building register, water supply & sanitary arrangements at station & colony, various colour scheme, maintenance of building. Directed maintenance periodical renovation works. Petty repair book. Inspection schedule for building & structure. Maintenance of sanitary & hygienic conditions in station yards & colony, sanitation committee, colony care committee & their inspection water supply - sampling, capacity of sources. Capacity of pumps & storage tank maintenance & cleaning of storage tanks, pipe line valves & meters. Distribution of water. Service pipe from distributory mains. Responsibility of engineering staff, calculating BHP of pump.

Drainage & sewerage sewer lines & their maintenance, surface drains, laying of sewer line pipes, sanitary arrangements at station & colony. Measurement of works & contract, earth work section measurements, measurement for white washing & painting, measurement books. Maintenance of M.Bs, Measurement of ballast O/A bills. Power of entering measurements, checking of bills in Division Office. Standard measurement register, Loan of tools & plants to contractor. Execution of work & progress reports- minor & material modification, field book site order book, Deposit works, excess & saving on estimate, engineering store & their accountal - custody of store, various types of store, maintenance of store accounts. Store returns, indenting of store, disposal of surplus materials verification of stores. Use of fog signals and flare signals, care and custody of detonators, testing and safety range, storage, use and destruction of explosives, acquisition, management and disposal of land including policy letter, demarcation of land boundaries, land records, verification of land boundaries, leasing and licensing, policy letters.

Garden & Plantation - Planting & care of young trees, garden in officer bungalow & Sr. Subordinates quarters maintenance, incidence of service. Provision of lawns & hedges in new bungalows, Police jurisdiction cognisable & non-cognisable offence, prevention of trespass, disposal of human bodies found

run over. Disposal of cattle found on the line. Books of reference - List of Books surveys, project estimates & construction of new lines, Introduction to engineering surveys project estimates, construction of new lines.

3) FINANCIAL CODE

Financial Code - Financial organisation, railway financial organisation, canons of financial proprieties.

Railway budget - Preparation of railway budget, submission & compilation demand for grants, appropriation bill, vetted & charged expenditure, reappropriation, contingency fund, consolidated fund of India; tender, works demand.

Parliamentary financial control - Appropriate accounts, public accounts committee, civil grants, Contracts & general principle contracts, Tender system, Tender Committee, security deposit, earnest money, condition of contracts, Variation of contract condition. Allocation of expenditure. Capital, development fund, depreciation reserve fund, open line works revenue, Capital fund and revenue fund, classification of expenditure concerning to civil engineering department.

Financial powers of Division & head quarter engineering officers.

4) Building & structure including inspection & maintenance procedure.

List of building specification for construction of building & structure. Maintenance of building repair & inspections, directed maintenance, building registers, inspection of steel & timber work, petty repair book, building & rent Garden & plantation, colony care. Quality control and quality assurance in concrete production. Use of admixtures for high performance concrete.

5) Water supply & Sanitation

Water supply - Source, water sampling, pumps, yield of tubewells, tubewell failure & remedial measures, site selection for tubewell, quality of water, requirement of water, water treatment, sedimentation, filtration, disinfection, chlorination, storage tank. Distribution network, various fitting & their specification, Inspection & Maintenance of water supply.

Sanitation - Sewer, construction & maintenance & relevant specification, various fitting prescribed scale for w.c. & urinal, biolatrines, open drains construction & maintenance.

6) Station & Yard

Platform & equipment thereon - platform wall. Platform surface water supply & sanitary arrangement of platforms indication boards, passenger amenities. Inspection & maintenance.

7) Store Accounts & office procedures

Store organisation of Railways working. of stores departments price list classification of stores depot. Indenting of store materials, issue & receipt of materials. Disposal of surplus stores, stock verification, overhauling of store accounts. Issue Note, RMC notes, credit notes, issue of material to departmental

OHE

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SYLLABUS FOR SELECTION OF CHIEF INSTRUCTOR & SR. INSTRUCTOR/

(II) TRD Group

1. Activities in electrical department, activities of staff working in areas of TRD.
2. Use of lifting tackles, chains, wire ropes, procedure of their testing.
3. Energy Conservation : Over view of energy saving options in traction application, specific energy consumption.
4. Familiarization of AC & DC OHE, traction sub-station with circuit diagram. Description of functioning of SCADA.
5. Maintenance schedule of OHE, PSI & remote control assets : Knowledge of critical check points, settings. Difference between regulated and non-regulated OHE. Maintenance of PSI and remote control equipment; items requiring special maintenance attention. Important maintenance tool and gadgets used in OHE, PSI and remote control. Important provisions of bonding and earthing in 25 KV AC and 1500 V DC system. Safety precaution during power and traffic block and maintenance, need of competency certificate. Maintenance schedule of items attended in transmission line.
6. Testing, procedure and certificates required for commissioning of TRD assets, procedure of obtaining EIG sanction.
7. Important provisions of power line crossing in electrified territory.
8. Description of important items of reliability action plan, knowledge of description and content of SMI, modification sheet and technical circular for TRD.
9. Knowledge of inspection schedule, type of record kept, frequency of inspection and important items of check sheets used during inspection of OHE & PSI equipment.
10. Safety, first aid and fire fighting: Knowledge of safety rules, safety precautions to be taken while handling electrical equipment, preventive measures to avoid accidents. Measures to be taken in case of accidents. Type of fire fighting equipment and their application, electric shock treatment measure.
11. Main depot set up.
12. Break down vehicle and tower wagon and their maintenance.
13. Budgeting of TRD activities.
14. राजभाषा अधिनियम से सम्बन्धित विषय
15. Different types of failures in OHE & Sub-station and remedial measures

13. Knowledge of important provisions of Indian Electricity Rules.
13. राजभाषा अधिनियम से सम्बन्धित विषय

SYLLABUS FOR TLGS

TL/AC

1. Activities of electrical department, activities of staff working in areas of train lighting, air conditioning and general power supply.
2. General Electrical Technology, Theory of single phase & 3 phase electric circuit, DC electric circuit theory, Range, Accuracy, Procedure, frequency of calibration & use of ammeter, Voltmeter, Multimeter, Torque tester, meggar, earth resistance tester, Vernier Caliper, Tachometer.
3. Energy conservation, Overview of energy saving options in non traction application, energy audit, knowledge of alternative sources of energy and their application.
4. Maintenance schedule and overhauling of TL/AC alternator, regulator understanding and on board inverter, flooded & VRLA batteries, bells, protective device in power panels of TL/AC coach.
5. Construction detail, Principle of working and maintenance schedule of conventional air conditioning and roof mounted air conditioning plant in coach.
6. Different type of batteries of coaches, charging of different types of batteries, ingredients of electrolyte.
7. Commissioning and testing of TL/AC coaches, Procedure of testing of generating equipment testing of AC plant and electrical testing of non-AC and AC coaches, knowledge of description and content of SMIs modification & technical circular connected to TL/AC coaches.
8. Safety first aid and fire lighting knowledge of safety rules, safety precautions to be taken while handling electrical equipment, preventive measures to avoid electrical accidents. Measures to be taken in case of electrical accidents. Type of fire lighting equipment and their application electric shock treatment measure.

GS

9. Maintenance schedule & overhauling of energy meter, distribution transformers, switch gear, protection devices, AC motors & alternators.
- 10 Maintenance attention to lower light, high mast light fillings, maintenance schedule of overhead lines, re-wiring of service building, code of practice of earthing as applicable to service and residential buildings, procedure for measurement of earth resistance.
11. Maintenance schedule and overhauling of DG sets and pumps, different schedules followed in maintenance of pumps and DG sets, Part requiring periodical replacement, testing and commissioning of DG sets and pumps.
12. Knowledge of important provisions of Indian Electricity Rules.
13. राजभाषा अधिनियम से सम्बंधित विषय

SYLLABUS FOR MANAGEMENT INSTRUCTOR

- 1 Organization and Role of Personnel Department, its functions and objectives,
- 2 Manpower Planning, Bench Marking.
- 3 Training and development of Railway employees.
- 4 The Disciplinary & Appeal Rules and Railway Services Conduct Rules.
- 5 Recognition of Trade Unions and dealing with unrecognized Trade Unions/
Associations.
- 6 Industrial Disputes Act their causes, strikes, lock outs, layoffs, provision of
Industrial Disputes Act and functions of Labour Enforcement Officers and
Labour Courts.
- 7 Labour legislation viz., payment of wages, Workmen's Compensation Act.
- 8 Hours of Employment Regulations, conducting of job analysis, payment of
overtime etc.
- 9 Industrial Relations- Machinery for negotiation. Rule of unrecognized trade
unions and method of dealing with them.
- 10 Principles of Management:
Management concept,
Definition, Roll Qualities and skill of manager.
Levels of management process.
Functions of management.
Planning, Process of forecasting, Staffing
Supervision, Co-ordination,
Functions of MIS, Roll of Computer in MIS.
- 11 Human relation management in management.
HRD importance,
Transactional Analysis,
Motivation & Morel,
Communication,
Leadership.
- 12 Stress Management.
- 13 Vigilance Management
- 14 General Financial Rules.
Canon of Financial Propriety, Financial Reviews, Classification of Demands
of Grants, Draft Audit Para, Preparation of Budget.
- 15 Stock Verification, Stock Sheet.
- 16 Courtesy and consumer's satisfaction.
- 17 Raj Bhasha.

SFT

Syllabus for selection of Chief Instructor (Signal) and Senior Instructor (Signal) at ZRTI Bhusawal

General and Subsidiary Rules as applied to Railway Operation, Signaling and Works connected with Signaling Provision of Signaling at Level Crossing Gates and outlying Siding, Rules for working of putting siding with and without Token on single line, Catch and Slip Siding Isolation, DCN and Procedure for Running of Trains during Non Interlocking, Station Working Rules, Station Working Rule Diagram. Signal Engineering manual with Special reference to various requirements of Block Working.

Fundamental Engineering and Applied Technology, Simple Machinery like Inclined Plane, Pulley, Blocks, Traveling, Trolleys, Machines which aid in reduction of time and labour in installation of various Signaling Gears, Principal of Magnetism and Electricity as affecting the operation of Signaling equipments like Relays both AC and DC, Point Machine, Crank Handle Interlocking.

Principles of Signal Engineering, Standard of Inter-locking and their requirements.

Track Circuits / Axle Counters, Precaution to be observed for resetting of Axle Counters, Application of Axle Counters, BPAC, Interlocking Plane, Locking Table and selection Circuits, Joints Inspection of Points and Crossing. Checks required while taking over points from Engineering Department.

Panel Interlocking / Route Relay Interlocking (Operation) with DATA Logger.

Auxiliary Warning System, Anti Collision Devices, Provision of Double Distant Signals, Aspect Control Chart and Modern Signaling.

Telecommunication equipments used at Accident Site.

In Modern Technology basic concept of Audio Frequency Track Circuit, Digital Axle Counter and Electronic Interlocking.

RAJBHASHA

Provision of Rules for RAJBHASHA etc.

SYLLABUS FOR INSTRUCTOR SELECTION OF ACCOUNTS FACILITY

1. Financial Justification of Expenditure

Technique of Assessment & evaluation of profitability of capital investment. technique of financial appraisal applied to different investment proposals- New lines, Electrification, Diesellisation, New production units and repair workshops, Examination of alternatives, e.g. make or buy, lease or by departmental vs contract works.

2. Traffic costing in Indian Railways

Concept of costing- costing of Goods- Coaching Services- costs & rate making.

3. Management Accounting

- i. Function and role of management accountant- tools of financial analysis including ratio analysis- break even analysis.
- ii. Accounting analysis for managerial planning- factors in planning- forecasts useful in planning.
- iii. Communications and controls - accounting reports for administrative controls.
- iv. Controls of operation (Budgetary Control) - Cash Capital and Operation Budget- Performance budgeting- Responsibility Centers
- v. Control of operation (Costing)- Costing System- Standard Costing- Material Costing- Costing and management decisions.

4. Books Budget

5. General Expenditure Act

6. Workshop Accounts

7. Store Accounts

8. Traffic accounts

9. Establishment Accounts

10. General Establishment Rules

1. Training and development of Railway employees, functioning of Zonal Training Schools and other training institutions, training of Gazetted Officers in Railway as well as non-Railway institutions.
2. The principles of wage fixation. The various allowances admissible to the Railway employees including allowances to the running staff.
3. The loans and advances admissible to the Railway employees.
4. The Disciplinary & Appeal Rules and Railway Services Conduct Rules.
5. Retirement benefits under Provident Fund & Pension rules and Schemes of Financial Settlement.
6. Leave Rules and joining time.
7. Medical assistance to Railway employees and retired Railway employees.
8. Reimbursement of tuition fees and legal expenses.
9. Schedule of powers on Establishment matters.
10. Industrial Disputes Act and functions of Labour Enforcement Officers and Labour Courts.

Minimum Wage Act, Payment of Bonus Act, Minimum Compensation Act, ex-gratia payment, incentive bonus scheme, Minimum Wages Act, etc.

Hours of Employment Regulations. conducting of job analysis. payment of overtime, etc.

Function of Cash & Pay Department.

Syllabus for IT Instructor

SN	Item	Description
1.	Office working	Routine Office Knowledge
2.	Software	Operating System – Windows, MS Office etc., IT / Cyber Security
3.	Hardware	Basic knowledge of Computer Hardware / architecture and Peripherals, Storage media, Networking – LAN / WAN etc.
4.	Computer Applications	Computerization in Indian Railways, Email, Internet and usage, Antivirus, Autocad etc, Social Media and their use
5.	Database Management	Knowledge of data porting processing, analysing and sorting. Data backup and recovery.
6.	IT Applications	FOIS, ICMS, COA, CMS, SATSANG, e-office, IPAS, HRMS, TMS, GeM, HHT, PMS, PRS, NTES, RBS, IREPS, IRMMS, IRPSM, POS, UTS, Track Management System etc.
7.	Social Media	Facebook, X, Youtube, blogging etc.
8.	Rajbhasha	Knowledge of Rajbhasha, Use of Information Technology for working in Hindi.