



पूर्व मध्य रेल  
EAST CENTRAL RAILWAY

कार्यालय  
महाप्रबंधक (का.)  
हाजीपुर

No.ECR-HQ0PERS (RULE)/0013/2025 (Com.No.353304)

Date: As Signed

1. CAO (Con.)/उत्तर एवं दक्षिण/पटना।
2. संबंधित PHOD/CHOD/पूमरे/हाजीपुर।
3. DRM/पूमरे/दानापुर, डीडीयू, धनबाद, सोनपुर एवं समस्तीपुर।
4. मुख्य कार्मिक अधिकारी/आई.आर./पूमरे/हाजीपुर।
5. मुख्यालय के सभी कार्मिक अधिकारी।
6. CWM/पीडी/डीडीयू, यांत्रिक कारखाना/समस्तीपुर एवं हरनौत।
7. Dy.CPO/पीडी/डीडीयू।
8. Sr.DPO/पूमरे/दानापुर, डीडीयू, धनबाद, सोनपुर एवं समस्तीपुर।
9. उप महाप्रबंधक/विधि/पटना।
10. प्राचार्य/क्षेत्रीय रेल प्रशिक्षण संस्थान/मुजफ्फपुर एवं भूली।
11. सकाधि/यांत्रिक कारखाना/समस्तीपुर एवं हरनौत।
12. सभी मुकार्याधी/कार्याधी/पूमरे/हाजीपुर।

विषय:- Syllabus for Selection to the different Posts of Engineering Department under PRQ/IAQ/LDCE.

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विषयोक्त के संदर्भ में *Engineering Department* के विभिन्न पदों के लिखित परीक्षा हेतु पाठ्यक्रम (Syllabus) सूलभ संदर्भ हेतु संलग्न किया गया है। पदों का विवरण निम्नवत है : -

1. JE / Bridge.
2. JE / Works.
3. Tech.-III / Bridge

Note : Optional Question of 10% of total marks on Rajbhasha Policy and Rules.

सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित किया जा रहा है।

उपरोक्त पर PCE महोदय का अनुमोदन प्राप्त है।

*(प्रकाश कुमार सिंह)*  
06/02/26

सहायक कार्मिक अधिकारी/ई.एस.एम  
कृते महाप्रबंधक/कार्मिक/पूमरे/हाजीपुर

प्रतिलिपि/— निम्नलिखित को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित:-

1. प्रमुकाधि के निजी सचिव - प्रमुकाधि महोदय को सादर सूचनार्थ।
2. महासचिव/ईसीआरईयू/पूमरे/हाजीपुर।
3. महासचिव/एस.सी.एवं एस.टी.एशोसिएशन/ओ.बी.सी.एशोसिएशन/पूमरे/हाजीपुर।
4. सकाधि (एम.पी.पी.)/पूमरे/हाजीपुर-कृपया इसे वेबसाइट पर अपलोड कराने की व्यवस्था करें।



- I. Establishment
  1. Pay and Allowance
  2. Pass Rules
  3. Leave Rules
  4. General Condition of Service
  5. Hours of employment Regulations
  6. Discipline and Appeal Rules & Conduct Rules
  7. Official language (Rajbhasha) Policy and Awards
- II. Bridge Manual
  1. General working of the Railways and organisation of various departments
  2. Duties of SSE/Bridge and JE/Bridge,
  3. Inspection and maintenance of Bridge and steel structures including prestressed concrete girders which should include overhauling, greasing of bearings, method of greasing for all types of girders, rivet testing, method of sample testing, loose rivet diagram, welding techniques, painting, preparation of steel surface for painting, painting schedule of bridge girders and metalizing.
  4. Maintenance of Bridge Inspection Register and other registers.
  5. Safety First Rules for protection of staff working on bridges and structures and for ensuring safety of travelling public and railway property.
  6. General Rules and Subsidiary Rules which should include basics of signalling, train running including essentials of Absolute Block System.
  7. Track protection rules.
  8. Rules for Trolleys and Lorries - working of.
  9. Actions during accidents, breaches and emergencies and restoration of through running.
  10. Procedure of testing new design of plate and PSC girders and obtaining CRS sanction (Safety Certificate).
  11. Rebuilding of bridges including temporary arrangement.
  12. Bridge Rules and General design practices, Specifications for steel - MS, HTS, etc
  13. Acquaintance with rationalised steel section available in the market alongwith their sectional properties, standard bridge spans with their dimensions and schedule.
  14. Erection of Bridge Girders and Calendar Hamilton spans and other steel structures, formulation of launching schemes and field organisations.
  15. Anticorruption, Public relations, Civil duties, labour organisation and leadership, Incentive.
  16. Fabrication of bridge girders and other steel structures such as platform shelters, foot over bridges, tank staging, steel cribs, gantries, overhead cranes etc.
  17. Office work - Correspondence, recruitment of casual labour, submission of returns, accountal of stores and bridge materials, imprest, tools, plant and machinery, stock verification, classification and disposal of surplus material and MAS account.
- III. Engineering Code
  1. Estimates (Para- E-701 to E-708)
  2. The execution of works (Para- E-1122 to E-1130)
  3. Contracts for works (Para- E-1203 to E-1214, E-1241, E-1244, E-1251)
  4. Initial records (Para E-1302, 1303, 1304, 1310, 1313, 1315, 1322, 1327, 1328)
- IV. Schedule of Dimensions [1676 mm Gauge (BG)]
  1. Chapter - I - General
  2. Chapter - II - Station Yard
- V. Standard Specifications for material and works.
  - (i) Material
    1. Steel used in Railway bridges.
    2. Paint use in Railways bridges.
    3. Other materials used in bridges of construction, repair, rehabilitation etc. (Such as rivet, HSFG bolt, aluminium wire, etc.)

(ii) Works

1. Identification of various parts of a Bridge Structure (particularly steel and concrete) and plant & machinery in use.
2. Inspection and maintenance programme of bearings, girders both steel and PSC/ RCC.
3. Camber & deflection measurement of girders.
4. Laying of diversions including erection of temporary girders.
5. Erection of girders including riveting, launching and regirding.
6. Fabrication of welded and riveted girders in workshops.
7. Maintenance of tools, plant and machinery. Painting and metalizing of girders including oiling and greasing of bearings.
8. Fabrication and erection of bridge girders including welding and riveting techniques.
9. Rehabilitation & repair of bridges.
10. Inspection of bridges including Numerical Rating technique.
11. Testing of girders.
12. PSC Bridges - Construction and maintenance.
13. Instructions contained in G and SR pertaining to protection of track and safety methods particularly in electrified areas, and
14. Accidents and breaches.

Note : Rajbhasha

- Optional Question of 10% of total marks on Rajbhasha Policy and Rules.

By  
27/01/26  
By CE/RAH/1757

**Syllabus for the Post of JE (Works) in Pay Band-9300-34800, GP-4200/-**

- I. **Establishment**
  1. Pay and Allowance
  2. Pass Rules
  3. Leave Rules
  4. General Condition of Service
  5. Hours of employment Regulations
  6. Discipline and Appeal Rules & Conduct Rules
  7. Official language (Rajbhasha) Policy and Awards
- II. **Works Manual**
  1. Duties of Section Engineer (Work)/JE (Works)
  2. Planning and General instructions
  3. Inspection and Maintenance of buildings
  4. Inspection of Structural steel and timber works
  5. Maintenance of sanitary and hygienic conditions in station building yards and Railway Colonies.
  6. Passenger Amenities, stations and yards.
  7. Water Supply
  8. Pumps
  9. Aqueducts and pipe lines
  10. Water treatment
  11. High level storage
  12. Distribution of water
  13. Maintenance and operation of water supply installations
  14. Damage and sewerage
  15. Garden and Plantations disposal of grass and other natural products.
  16. Land records, demarcation and verification of Railway Boundaries.
- III. **Engineering Code**
  1. Estimates (Para- E-701 to E-704)
  2. The execution of works (Para- E-1122 to E-1125)
  3. Contracts for works (Para- E-1203 to E-1214, E-1241, E-1244, E-1251)
  4. Initial records (Para E-1302, 1303, 1304, 1310, 1313, 1315, 1322)
  5. Building and Rents (Para E-1901, 1902, 1903, 1904, 1906, 1915 & 1916.)
- IV. **Schedule of Dimensions [1676 mm Gauge (BG)]**
  1. Chapter – I – General
  2. Chapter – II – Station Yard
- V. **Standard Specifications for material and works.**
  - V (i) **Material**
    1. Cement
    2. Lime
    3. Sand
    4. Wood
    5. Water supply and sanitary fittings
  - V(ii) **Works**
    1. Brick masonry and stone masonry
    2. Flooring
    3. Finishing, Plastering & Painting
    4. Wood work
    5. white washing, color washing, destempering etc.
    6. Road work
    7. Water supply & sanitary work
    8. Concrete
    9. Earth work
  - V(iii) **Dismantling and demolition**
  - V (iv) **Repairs to building and maintenance**
  - V (v) **List of records maintained by SE (W)/JE(W)**

**Note : Rajbhasha**

- Optional Question of 10% of total marks on Rajbhasha Policy and Rules.



# Syllabus for Selection to the Post of Tech-III/Bridge

तकनीशियन - III/ब्रिज पर के लिए चयन हेतु पाठ्यक्रम

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| Sl. No. | Topic                                                                                                                                                                                                                                                                                                                                                                                            |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | General knowledge of the railway organization and its structure.                                                                                                                                                                                                                                                                                                                                 |
| 2.      | Rajbhasha – directives of implementation of rajbhasha.                                                                                                                                                                                                                                                                                                                                           |
| 3.      | General knowledge of establishment rules – Pass Rules, Leave Rules, D&AR (1968) Rules, various allowance and modules introduced in railway efficient working.                                                                                                                                                                                                                                    |
| 4.      | Bridges – their components and parts, detailed types of bridges, bearings (types and uses), Clear span, effective span and overall span. Service girders, including vertical Clearances, freeboard, HFL FSL, danger level, and bridge name boards, etc.                                                                                                                                          |
| 5.      | Duties of bridge staff i. e. Technician Bridge Gr. I, II, III.                                                                                                                                                                                                                                                                                                                                   |
| 6.      | Schedule of maximum and minimum dimensions in Railways.                                                                                                                                                                                                                                                                                                                                          |
| 7.      | Inspection and maintenance of Bridge and steel structures including prestressed concrete girders which should include overhauling, greasing of bearings, method of greasing for all types of girders, rivet testing, method of sample testing, loose rivet diagram, welding techniques, painting, preparation of steel surface for painting, painting schedule of bridge girders and metalizing. |
| 8.      | Fabrications & erection of steel bridge girders & other steel structures, various shops in Bridge workshops and types of machines used. Use of HSFG bolts and checking of loose HSFG bolts in Railways.                                                                                                                                                                                          |
| 9.      | Corrosion & its preventive measures – painting, metallizing, epoxy based paints, riveting, welding & its procedure.                                                                                                                                                                                                                                                                              |
| 10.     | Safety – personal safety and track safety, use of temporary and permanent engineering signals, protection of railway lines during bridge work, and safe working practices in electrified and non – electrified sections.                                                                                                                                                                         |
| 11.     | Temporary arrangements and materials used for such arrangements, including CC cribs, steel trestles. Winches, and various types of service girders. Working rules for operations involving cranes and different methods of girder launching.                                                                                                                                                     |
| 12.     | Different unit systems – CGS, MKS and SI unit Systems, along with unit conversions.                                                                                                                                                                                                                                                                                                              |
| 13.     | Knowledge of rebuilding of bridges and changing of bed blocks including temporary arrangement. Knowledge of tools and equipment used in bridge works, including compressors, jacks, welding plants, generators etc.                                                                                                                                                                              |
| 14.     | Rules for working of trolleys and lorries.                                                                                                                                                                                                                                                                                                                                                       |

Note : Rajbhasha

➤ Optional Question of 10% of total marks on Rajbhasha Policy and Rules.

By  
27/01/20  
37 (B) / 44 / 11/20