



पूर्व मध्य रेल
EAST CENTRAL RAILWAY

कार्यालय
महाप्रबंधक (का.)
हाजीपुर

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

Date: As Signed

1. CAO (Con.)/उत्तर एवं दक्षिण/पटना।
2. सभी PHOD/CHOD/पूमरे/हाजीपुर।
3. DRM/पूमरे/दानापुर, डीडीयू, धनबाद, सोनपुर एवं समस्तीपुर।
4. मुख्य कार्मिक अधिकारी/आई.आर.एण्ड डब्ल्यू/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 S&T Department under PRQ/IAQ/LDCE.

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

1. JE/Signal
2. JE/Tele
3. Tech-III/TCM
4. Tech-III/ESM

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 PCSTE महोदया का अनुमोदन प्राप्त है।

(अजित कुमार)

उप मुख्य कार्मिक अधिकारी/आई.आर.एण्ड.डब्ल्यू.
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।



Syllabus for Selection for Group-C Post for Tech-III/Sig
ग्रुप -सी की तकनिशियन-III/ सिग पोस्ट के चयन के लिए पाठ्यक्रम

SN Contents / Topics

- I. Signalling
- II. Codes & Manuals
- III. General

I. Signalling

(Weightage – 15)

Section – A

- 1. Basic Concept of Signalling
- 2. Use of Hand Measuring Instruments & Portable Tool
- 3. Basic Electricity & Magnetism
- 4. Principles of Interlocking
- 5. Colour Light signal concepts

(Weightage – 20)

Section – B

- 6. All type of Relays, Cables-6 Quad OFC & Signalling Cables.
- 7. Point Machines
- 8. Train Detection : DC Track Circuits, Axle Counters (SSDAC & MSDAC)
- 9. Interlocked Level Crossing Gated – MLB, ELB & SLB.

(Weightage – 20)

Section – C

- 10. Block Working- Absolute block working- Double line Block Instrument (SGE), UFSBI SSBPAC, Single line – IRS handle type token-less block instrument, UFSBI, SSBPAC, Automatic Block Working.
- 11. Power Supply Arrangements- integrated Power Supply, Charger, ELD & Cell (Low Maintenance Lead Acid & VRLA).
- 12. Basics of Automatic Signalling & Intermediate Block Signalling.
- 13. Signalling in 25 KV in RE Area.

(Weightage – 15)

Section – D

- 14. Relay Interlocking concepts – Metal to Carbon, Panel Interlocking and Route Relay.
- 15. Electronic Interlocking
- 16. Data Logger
- 17. Earthing, Lightning and Surge Protection arrangement

(Weightage – 10)

Section – E

- 18. Basic of Train Protection System-Kavach
- 19. Basic of AFDAS, SMMS, FACS.
- 20. Safety in Train Operation, Protection at Site, Disaster Management.

II. Codes & Manuals

(Weightage – 10)

- 1. Indian Railway Signal Engineering Manual.
- 2. Accident Manual
- 3. G&SR.
- 4. Block working Manual
- 5. Indian Railways Schedule of Dimensions.

III. Railway General

(Weightage – 10)

- 1. Basic Physics and Maths, General Knowledge, The Railway Services (Conduct) Rules-1966, The Railway Servants (Discipline And Appeal) Rules – 1968, Establishment.
- 2. Knowledge of HRMS, HMIS, UMID, Basic Computer Knowledge.

Note : Rajbhasha

(Weightage – 10)

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



Syllabus for Selection to post of Tech-III/Tele
तकनिशियन-III/ टेली पद के चयन परीक्षा के लिए पाठ्यक्रम

SN Contents / Topics

- I. Telecom
- II. Codes & Manuals
- III. General

I. Telecom

Section – A

(Weightage – 20)

- 1. Measuring Instruments, Hand and Portable Tools.
- 2. Basic Electricity & Magnetism
- 3. Telecom Cables (Copper, OFC, LAN & CAT)
- 4. Electronic Components
- 5. Telephone instruments.
- 6. Train Traffic Control

Section – B

(Weightage – 20)

- 7. Power Equipments, Cell and Battery.
- 8. Computer Appreciation, Data Communication & Networking-Railnet, Wi-Fi System, PRS, UTS & FOIS.
- 9. Electronic Exchange and IP Exchange – ISDN Exchange and Advancements
- 10. Optic fiber Communication, PDH/SDH Equipments, IPMPLS, VOIP, OFC Maintenance

Section – C

(Weightage – 20)

- 11. Passenger Amenities (PA, PIS, IPIS & GPS Clocks)
- 12. VHF, UHF, Basic Tower maintenance & Mobile Communication
- 13. Earthing & Surge Protection for Telecom Installations

Section – D

(Weightage – 20)

- 14. Disaster Management & Emergency Communication, ART/ARME Equipment, Satellite Communication basic.
- 15. IP based Video Surveillance System & FRS (Fare Recognition System)
- 16. Telecom basics of Kavach System, Basics of LTE

II. Codes & Manuals

(Weightage – 10)

- 1. Indian Railway Telecom Manual.
- 2. Accident Manual
- 3. G& SR.
- 4. Indian Railways Schedule of Dimensions.

III. Railway General

(Weightage – 10)

- 1. Basic Physics and Maths, General Knowledge, The Railway Services (Conduct) Rules-1966, The Railway Servants (Discipline And Appeal) Rules – 1968, Establishment.
- 2. Knowledge of HRMS, HMIS, UMID, Basic Computer Knowledge.

Note : Rajbhasha

(Weightage – 10)

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



Syllabus for Selection to post of JE/Tele
जेई/टेलीकॉम के पद पर चयन परीक्षा के लिए पाठ्यक्रम

SN Contents / Topics

- I. Telecom
- II. Codes & Manuals
- III. General

I. Telecom

Section – A

(Weightage – 20)

- 1. Telecom Cables (Copper, OFC, LAN & CAT)
- 2. Telephone Instruments
- 3. Signalling in Telecommunications
- 4. Train Traffic Control

Section – B

(Weightage – 20)

- 5. Electronic Exchange and IP Exchange – ISDN Exchange and Advancements
- 6. Optic fiber Communication, PDH/SDH Equipments, IPMPLS, VOIP, OFC Maintenance
- 7. Data Communication & Networking –Railnet, Wi-Fi System, PRS, UTS & FOIS, Computer Appreciation & its application.

Section – C

(Weightage – 10)

- 8. Passenger Amenities (PA, PIS, IPIS & GPS Clocks)
- 9. Power Equipments, Cells And Battery, SMPS.
- 10. Earthing & Surge Protection for Telecom
- 11. VHF, Basic Tower maintenance & Mobile Communication

Section – D

(Weightage – 10)

- 12. Disaster Management & Emergency Communication.
- 13. IP based Video Surveillance System, ISS & Cyber security system.

Section – E

(Weightage – 10)

- 14. Telecom basics of Kavach System,
- 15. Basics of Cyber Security
- 16. Mobile Communications – GSM-R and LTE

II. Codes & Manuals

(Weightage – 10)

- 1. Indian Railway Schedule of dimensions.
- 2. Indian Railway Telecom Manual
- 3. Accident Manual
- 4. G& SR.
- 5. Block working Manual
- 6. Extracts of Indian Railways manual of AC Traction Maintenance and Operation and Indian Railways Permanent Way Manual
- 7. RDSO Specifications & TAN

III. General

(Weightage – 20)

- 1. Basic Physics and Maths, General Knowledge, The Railway Services (Conduct) Rules-1966, The Railway Servants (Discipline And Appeal) Rules – 1968, Establishment. Store (Imprest, Consumable stock, T&P, Asset Registers, Stock Verification, loss & theft of stores, DMTR, UDM GeM etc), Tender & Contracts, Accounts, Workshops, Vigilance.
- 2. Knowledge of HRMS, e.office, HMIS, UMID & IREPS.

Note : Rajbhasha

(Weightage – 10)

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



Syllabus for Selection for Group – C Post for JE/Sig
ग्रुप - सी की जेई / सिग पोस्ट के चयन के लिए पाठ्यक्रम

SN Contents / Topics

- I Signalling
- II Codes & Manuals
- III General

I Signalling

Section – A

(Weightage : 15)

1. Basic concept of Signalling.
2. Principles of Interlocking, Signal Interlocking plan, Table of Control, ESP, SWR, SWRD, Panel/VDU diagram, Cable Coreage, Cable Route Plan, Track Bonding Plan etc.
3. Color Light signal concepts.

Section – B

(Weightage : 15)

4. All type of Relays, Cables – 6 Quad OFC & Signalling Cables.
5. Point Machines – IRS, TWS, EPD.
6. Train Detection: DC Track Circuits, Axle Counters (SSDAC & MSDAC).
7. Interlocked Level Crossing Gates – MLB, ELB & SLB.

Section – C

(Weightage : 20)

8. Block working – Absolute block working – Double line Block Instrument (SGE), UFSBI, SSBPAC, Single line – IRS handle type token-less block instrument, UFSBI, SSBPAC, Automatic Block Working.
9. Power Supply Arrangements – Integrated Power Supply, Charge, ELD & Cell (Low Maintenance Lead Acid & VRLA).
10. Automatic Signalling & Intermediate Block Signalling.
11. Signalling in 25 KV in RE Area.

Section – D

(Weightage : 15)

12. Relay Interlocking concepts – Metal to Carbon, Metal to Metal, Panel Interlocking and Route Relay Interlocking.
13. Electronic Interlocking – Principles, Configuration, Interface logic, Application logic, VDU logic, FAT, SAT, Technical System Approval.
14. Data Logger.
15. Earthing, Lightning and Surge Protection arrangements.

Section – E

(Weightage : 15)

16. Train Protection System – Kavach.
17. Centralized Traffic Control (CTC), Train Management.
18. Execution of S&T Infrastructure works – Planning, Execution, CRS sanction, Documentation, Testing and Commissioning.
19. AFDAs, SMMS, FACS & RDPMS.
20. Basics of Cyber Security.
21. Safety in Train Operations, Protection at site, Disaster Management.

II Codes & Manuals

(Weightage : 10)

1. Indian Railway Signal Engineering Manual.
2. RDSO Specifications & TAN
3. G & SR.
4. Block working Manual.
5. Indian Railways Schedule of Dimensions.
6. Accident Manual
7. Railways (Opening for Public Carriage of Passengers) Rules.
8. Extracts of Indian Railways manual of AC Traction Maintenance and Operation and Indian Railways Permanent Way Manual.

III General Awareness

(Weightage : 10)

1. Basic Physics and Basic Maths, General Knowledge, Railway Service Code. The Railways Services (Conduct) Rules – 1966, The Railway Servants (Discipline and Appeal) Rules – 1968. Establishment, Stores (Imprest, Consumable stock, T&P, Asset Registres, stock verification, loss & theft of stores, DMTR, UDM, GeM etc.), Tender & Contracts, Accounts, Workshops, Vigilance.
2. General Knowledge on HRMS, e – office, HMIS, UMID, IREPS.

IV Rajbhasha

(Weightage : 10)

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

