Syllabus for the post of
Deputy Engineer (Civil/Track)/
Deputy Chief Facility Controller (Civil & Track)
Vacancy Notice No. 21/2026

Domain Knowledge ≈ 70%

1. Engineering Mechanics:
Force (resolution of force, moment of force, force system, composition of forces), Equilibrium, Friction, Centroid and Center of gravity, Simple machines.

2. Building Construction:
Building components (substructure, superstructure), type of structure (load bearing, framed and composite structures).

3. Building Materials:
Masonry materials (stones, bricks, and mortars), Timber and miscellaneous materials (glass, plastic, fiber, aluminium steel, galvanized iron, bitumen, PVC, CPVC, and PPF).

4. Construction of Substructure:
Job layout, earthwork, foundation (types, dewatering, coffer dams, bearing capacity).

5. Construction of Superstructure:
Stone masonry, brick masonry, Hollow concrete block masonry, composite masonry, cavity wall, doors and windows, vertical communication (stairs, lifts, escalators), scaffolding and shoring.

6. Building Finishes:
Floors (finishes, process of laying), walls (plastering, pointing, painting) and roofs (roofing materials including RCC).

7. Building Maintenance:
Cracks (causes, type, repairs- grouting, guniting, epoxy etc.), settlement (causes and remedial measures), and re-baring techniques.

8. Building Drawing:
Conventions (type of lines, symbols), planning of building (principles of planning for residential and public buildings, rules and byelaws), drawings (plan, elevation, section, site plan, location plan, foundation plan, working drawing), perspective drawing.

9. Concrete Technology:
Properties of various types/grades of cement, properties of coarse and fine aggregates, properties of concrete (water cement ratio, properties of fresh and hardened concrete), Concrete mix design, testing of concrete, quality control of concrete (batching, formwork, transportation, placing, compaction, curing, waterproofing), extreme weather concreting and chemical admixtures, properties of special concrete (ready mix, RCC, pre-stressed, fiber reinforced, precast, high performance).

10. Surveying:
Types of survey, chain and cross staff survey (principle, ranging, triangulation, chaining, errors, finding area), compass survey (principle, bearing of line, prismatic compass, traversing, local attraction, calculation of bearings, angles and local attraction) leveling (dumpy level, recording in level book, temporary adjustment, methods of reduction of levels, classification of leveling, tilting level, auto level, sources of errors, precautions and difficulties in leveling), contouring (contour interval, characteristics, method of locating, interpolation, establishing grade contours, uses of contour maps), area and volume measurements, plane table survey (principles, setting, method), theodolite survey (components, adjustments, measurements, traversing), Tacheometric survey, curves (types, setting out), advanced survey equipment, aerial survey and remote sensing.

11. Computer Aided Design:
CAD Software (AutoCAD, Auto Civil, 3D Max etc.), CAD commands, generation of plan, elevation, section, site plan, area statement, 3D view.

12. Geo Technical Engineering:
Application of Geo Technical Engineering in design of foundation, pavement, earth retaining structures, earthen dams etc., physical properties of soil, permeability of soil and seepage analysis, shear strength of soil, bearing capacity of soil, compaction and stabilization of soil, site investigation and sub soil exploration.

13. Hydraulics:
Properties of fluid, hydrostatic pressure, measurement of liquid pressure in pipes, fundamentals of fluid flow, flow of liquid through pipes, flow through open channel, flow measuring devices, hydraulic machines.

14. Irrigation Engineering:
Hydrology, investigation and reservoir planning, percolation tanks, diversion head works.

15. Mechanics of Structures:
Stress and strain, shear force and bending moment, moment of inertia, stresses in beams, analysis of trusses, strain energy.

16. Theory of Structures:
Direct and bending stresses, slope and deflection, fixed beam, continuous beam, moment distribution method, columns.

17. Design of Concrete Structures:
Working Stress method, Limit State method, analysis and design of singly reinforced and doubly reinforced sections, shear, bond and development length, analysis and design of T Beam, slab, axially loaded column and footings.

18. Design of Steel Structures:
Types of sections, grades of steel, strength characteristics, IS Code, Connections, Design of tension and compression members, steel roof truss, beams, column bases.

19. Transportation Engineering:
Railway Engineering (alignment and gauges, permanent way, railway track geometrics, branching of tracks, stations and yards, track maintenance), Bridge engineering (site selection, investigation, component parts of bridge, permanent and temporary bridges, inspection and maintenance), Tunnel engineering (classification, shape and sizes, tunnel investigation and surveying, method of tunneling in various strata, precautions, equipment, explosives, lining and ventilation).

20. Highway Engineering:
Road Engineering, investigation for road project, geometric design of highways, construction of road pavements and materials, traffic engineering, hill roads, drainage of roads, maintenance and repair of roads.

21. Environmental Engineering:
Environmental pollution and control, public water supply, domestic sewage, solid waste management, environmental sanitation, and plumbing.

22. Advanced Construction Techniques and Equipment:
Fibers and plastics, artificial timber, advanced concreting methods (under water concreting, ready mix concrete, tremix concreting, special concretes), formwork, pre-fabricated construction, soil reinforcing techniques, hoisting and conveying equipment, earth moving machinery (exaction and compaction equipment), concrete mixers, stone crushers, pile driving equipment, working of hot mix bitumen plant, bitumen paver, floor polishing machines.

23. Estimating and Costing:
Types of estimates (approximate, detailed), mode of measurements and rate analysis.

24. Contracts and Accounts:
Types of engineering contracts, Tender and tender documents, payment, specification.

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Deputy Engineer (Electrical)/
Deputy Chief Controller (Electrical)
Vacancy Notice No. 22/2026

Domain Knowledge ≈ 70%

1. **Building Electrical Works:** Electrical wiring systems, Wiring accessories and fittings, Earthing systems, Load calculation, Cable sizing, LT panels, Distribution boards, Lighting installations, DG sets, Lift & Escalator, UPS systems, Firefighting system, Electrical safety and IE rules.

2. **Railway Traction Power Supply System:** Basics of railway electrification, 25 kV AC traction system, traction substations, feeding arrangements, sectioning arrangements, return current system, bonding arrangements.

3. **Various types of Overhead Equipments (OHE):** Basics of OHE systems, OHE components, catenary system, contact wire arrangement, OHE fittings and structures, insulators, tensioning devices, sectioning arrangements, switching arrangements, earthing and bonding, OHE maintenance and safety practices.

4. **Power Distribution/ Auxiliary Power System:** Ring main network**,** Cable, Earthing & Lightning Protection System, HV/LV Substation

5. **SCADA & Automation System:** SCADA Architecture & Operation, Remote Monitoring & Control, PLC & Automation Basics, Alarm & Event Management, Communication protocols

6. **Maintenance methods:** Types of maintenance strategies, Fault tracing and troubleshooting, Predictive and condition-based monitoring, Asset Management System, work with inspection and maintenance vehicles

7. **Workplace Safety:** Earthing, working in vicinity of OHE/ live parts, Use of PPEs, Safety precautions for Working at height and for avoiding Man-vehicle collision accidents, Response to Electrical accidents

8. **Renewable Energy & Energy Management Solar** PV System, Rooftop Solar Plant, Solar Inverter, Energy Monitoring, Energy Conservation Practices

9. **Operational Practices in Railway Systems:** Power block management, interdepartmental coordination, emergency handling, , Permit to work (PTW)

10. **Relay & Protections:** Basics of protection relays, types of relays, protection coordination, relay setting, protection and operational interlocking.

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Deputy Engineer (Signalling & Telecom)/
Deputy Chief Controller (Signalling & Telecom)
Vacancy Notice No. 23/2026

Domain Knowledge ≈ 70%

1. General Railway Signalling and Telecommunication
2. Various types of Signalling and Telecommunication systems used in Railways, Metros and RRTS.
3. Signalling & Interlocking Principles.
4. Electronic Interlocking, Point Machines, Signalling Cables.
5. Optical fiber communication and its related equipment.
6. Electromagnetic Theory.
7. Electronics and Electrical Instrumentation.
8. Contracts and tendering.
9. Acts and Rules of Railways and Metros for opening and operation.
10. International standards of RAMS (CENELEC etc.)
11. Grade of Automation in Railways and Metros.

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Deputy Chief Controller (Rolling Stock),
Vacancy Notice No. 24/2026

Domain Knowledge ≈ 70%

A) Knowledge of Rolling Stock Discipline

1. General aspects of Railways such as infrastructure jargons, grades of automation, etc.
2. Basic understanding of EMU type Rolling Stock such as integration of systems, sub-systems and nomenclature of equipment.
3. Facilities, including the M&Ps, and their upkeep/maintenance in modern Depots/ Workshop for Railway/ Metro
4. Basics of Propulsion system including HV power collection, transformer, traction converter, traction motor and auxiliary converter etc. of EMU rolling stock (relevant International Standards).
5. Basics of Train Control and Management System (TCMS) or Train Information and Management System (TIMS); control circuit and other electronics & communication devices of EMU rolling stock (relevant International Standards).
6. Bogie system parts i.e. Bogie frame, Suspension, Wheel, Axle, Bearing, Centre pivot etc. material, function, design (Relevant International Standards) of EMU rolling stock.
7. Pneumatic System – Different type of Brakes in Rolling Stock, Adhesion, Slip-Slide, Brake blending etc concepts (relevant International Standards) of EMU rolling stock.
8. Maintenance practices of Rolling Stock

B) Knowledge Of Engineering Discipline

1. Basic Electrical and Electronics Engineering
2. Electrical Machines-I & II (DC and AC)
3. Electrical and Electronics Measurement
4. Digital Electronics
5. Power Electronics
6. Industrial Drives
7. Strength of Materials
8. Manufacturing Processes
9. Fluid Mechanics & Hydraulic Machines
10. Machine Drawing
11. Theory of Machines (TOM)
12. Design of Machine Elements
13. Power Engineering & Refrigeration
14. Advanced Manufacturing Processes
15. Industrial Management & Quality Control
16. Microprocessors and Microcontrollers
17. Industrial Automation and PLC
18. Communication Systems (Analog, Digital, Optical Fiber, and Microwave)

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Deputy Chief Controller (Operations),
Vacancy Notice No. 25/2026

Domain Knowledge ≈ 70%

1. **Acts, Rules, Manuals, Safety & Disaster Management**

   Indian Railways Act, Metro Railways (O&M) Act, Opening Rules, Accident & Disaster Management, General Rules, Subsidiary Rules (SR), Station Working Rules, Absolute Block System, Single Line Working, Authority to Proceed, Movement Authority, Caution Orders, Permit to Work (PTW)Procedures, Emergency Working Procedures, Degraded Mode Operations, Incident Reporting.

2. **Signalling & Train Control Systems**

   Principles of Railway/Metro Signalling, CATC/CBTC/ETCS and ATS Operations, Train Detection Systems, Signal Aspects & Indications,

3. **Rolling Stock**

   Basics of Rolling Stock, Propulsion System, Brake System, Pneumatic & Electro-Pneumatic Brakes, TCMS/TIMS, Door Control System, HVAC System, Auxiliary Power Supply, Pantograph & VCB, Fire & Smoke Detection System, Train Radio, Fault Diagnosis & Troubleshooting.

4. **Traction Power Supply & Electrical Systems**

   Basics of OHE, Traction Power Distribution System, Neutral Section, SCADA Basics, Emergency Power Block Procedures.

5. **General**

   Vigilance, RTI

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Junior Engineer (Civil/Track)/
Facility Controller (Civil &Track)/
Junior Engineer (Safety – Civil & Track)
Vacancy Notice No. 26/2026

Domain Knowledge ≈ 70%

1. Engineering Mechanics:
Force (resolution of force, moment of force, force system, composition of forces), Equilibrium, Friction, Centroid and Center of gravity, Simple machines.

2. Building Construction:
Building components (substructure, superstructure), type of structure (load bearing, framed and composite structures).

3. Building Materials:
Masonry materials (stones, bricks, and mortars), Timber and miscellaneous materials (glass, plastic, fiber, aluminium steel, galvanized iron, bitumen, PVC, CPVC, and PPF).

4. Construction of Substructure:
Job layout, earthwork, foundation (types, dewatering, coffer dams, bearing capacity).

5. Construction of Superstructure:
Stone masonry, brick masonry, Hollow concrete block masonry, composite masonry, cavity wall, doors and windows, vertical communication (stairs, lifts, escalators), scaffolding and shoring.

6. Building Finishes:
Floors (finishes, process of laying), walls (plastering, pointing, painting) and roofs (roofing materials including RCC).

7. Building Maintenance:
Cracks (causes, type, repairs- grouting, guniting, epoxy etc.), settlement (causes and remedial measures), and re-baring techniques.

8. Building Drawing:
Conventions (type of lines, symbols), planning of building (principles of planning for residential and public buildings, rules and byelaws), drawings (plan, elevation, section, site plan, location plan, foundation plan, working drawing), perspective drawing.

9. Concrete Technology:
Properties of various types/grades of cement, properties of coarse and fine aggregates, properties of concrete (water cement ratio, properties of fresh and hardened concrete), Concrete mix design, testing of concrete, quality control of concrete (batching, formwork, transportation, placing, compaction, curing, waterproofing), extreme weather concreting and chemical admixtures, properties of special concrete (ready mix, RCC, pre-stressed, fiber reinforced, precast, high performance).

10. Surveying:
Types of survey, chain and cross staff survey (principle, ranging, triangulation, chaining, errors, finding area), compass survey (principle, bearing of line, prismatic compass, traversing, local attraction, calculation of bearings, angles and local attraction) leveling (dumpy level, recording in level book, temporary adjustment, methods of reduction of levels, classification of leveling, tilting level, auto level, sources of errors, precautions and difficulties in leveling), contouring (contour interval, characteristics, method of locating, interpolation, establishing grade contours, uses of contour maps), area and volume measurements, plane table survey (principles, setting, method), theodolite survey (components, adjustments, measurements, traversing), Tacheometric survey, curves (types, setting out), advanced survey equipment, aerial survey and remote sensing.

11. Computer Aided Design:
CAD Software (AutoCAD, Auto Civil, 3D Max etc.), CAD commands, generation of plan, elevation, section, site plan, area statement, 3D view.

12. Geo Technical Engineering:
Application of Geo Technical Engineering in design of foundation, pavement, earth retaining structures, earthen dams etc., physical properties of soil, permeability of soil and seepage analysis, shear strength of soil, bearing capacity of soil, compaction and stabilization of soil, site investigation and sub soil exploration.

13. Hydraulics:
Properties of fluid, hydrostatic pressure, measurement of liquid pressure in pipes, fundamentals of fluid flow, flow of liquid through pipes, flow through open channel, flow measuring devices, hydraulic machines.

14. Irrigation Engineering:
Hydrology, investigation and reservoir planning, percolation tanks, diversion head works.

15. Mechanics of Structures:
Stress and strain, shear force and bending moment, moment of inertia, stresses in beams, analysis of trusses, strain energy.

16. Theory of Structures:
Direct and bending stresses, slope and deflection, fixed beam, continuous beam, moment distribution method, columns.

17. Design of Concrete Structures:
Working Stress method, Limit State method, analysis and design of singly reinforced and doubly reinforced sections, shear, bond and development length, analysis and design of T Beam, slab, axially loaded column and footings.

18. Design of Steel Structures:
Types of sections, grades of steel, strength characteristics, IS Code, Connections, Design of tension and compression members, steel roof truss, beams, column bases.

19. Transportation Engineering:
Railway Engineering (alignment and gauges, permanent way, railway track geometrics, branching of tracks, stations and yards, track maintenance), Bridge engineering (site selection, investigation, component parts of bridge, permanent and temporary bridges, inspection and maintenance), Tunnel engineering (classification, shape and sizes, tunnel investigation and surveying, method of tunneling in various strata, precautions, equipment, explosives, lining and ventilation).

20. Highway Engineering:
Road Engineering, investigation for road project, geometric design of highways, construction of road pavements and materials, traffic engineering, hill roads, drainage of roads, maintenance and repair of roads.

21. Environmental Engineering:
Environmental pollution and control, public water supply, domestic sewage, solid waste management, environmental sanitation, and plumbing.

22. Advanced Construction Techniques and Equipment:
Fibers and plastics, artificial timber, advanced concreting methods (under water concreting, ready mix concrete, tremix concreting, special concretes), formwork, pre-fabricated construction, soil reinforcing techniques, hoisting and conveying equipment, earth moving machinery (exaction and compaction equipment), concrete mixers, stone crushers, pile driving equipment, working of hot mix bitumen plant, bitumen paver, floor polishing machines.

23. Estimating and Costing:
Types of estimates (approximate, detailed), mode of measurements and rate analysis.

24. Contracts and Accounts:
Types of engineering contracts, Tender and tender documents, payment, specification

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Junior Engineer (Electrical)/
Electric Power Controller/
Junior Engineer (Safety – Electrical)
Vacancy Notice No. 27/2026

Domain Knowledge ≈ 70%

1. **Building Electrical Works**: Installation of electrical wiring systems, conduits, cable trays, wiring accessories and fittings, earthing systems, load assessment, cable sizing and laying, erection and commissioning of LT panels and distribution boards, lighting system installation, DG set installation, lift & escalator electrical interfaces, UPS systems, fire fighting system integration, testing & commissioning, electrical safety standards and IE rules.

2. **Railway Traction Power Supply System**: Fundamentals of railway electrification, 25 kV AC traction system, construction and commissioning of traction substations, feeder arrangements, sectioning and paralleling posts, return current systems, bonding arrangements, testing and energization procedures.

3. **Overhead Equipment (OHE)**: Basics of OHE systems, erection of OHE structures, installation of catenary and contact wire systems, Erection and maintenance of OHE fittings and assemblies, insulators, tensioning devices, sectioning and switching arrangements, earthing & bonding works, wiring adjustments. Testing, commissioning, and safety practices during OHE construction and maintenance.

4. **Power Distribution / Auxiliary Power System**: Construction and Maintenance of ring main network systems, cable laying and termination works, earthing & lightning protection systems, installation of auxiliary and distribution substations, transformer installation, testing and commissioning activities.

5. **SCADA & Automation System**: SCADA architecture and system integration, installation of remote monitoring & control systems, PLC installation and automation basics, configuration of alarm & event management systems, communication protocols, testing and commissioning and maintenance of automation systems.

6. **Site Execution and Maintenance**: Work Planning and execution methodologies, site coordination for carrying out construction works as well as maintenance, material inspection, quality assurance & quality control (QA/QC), testing & commissioning procedures, construction equipment and machinery handling, documentation and project progress monitoring.

7. **Workplace Safety**: Earthing and electrical isolation procedures, working in the vicinity of OHE/live parts, use of PPEs, safety precautions for working at height, lifting operations, heavy equipment handling, prevention of man-machine/vehicle collision accidents, emergency response during construction/maintenance activities.

8. **Renewable Energy & Energy Management**: Commissioning of Solar PV systems, rooftop solar plants, solar inverters, energy monitoring systems, integration with electrical networks, and implementation of energy-efficient practices.

9. **Operational Coordination During Construction**: Power block planning and execution, interdepartmental coordination, shutdown management, emergency handling, permit to work (PTW) system, and coordination with operation teams for safe energization and maintenance.

10. **Relay & Protection Systems**: Fundamentals of protection systems, installation and testing of protection relays, relay coordination concepts, relay setting and commissioning, protection interlocking schemes, testing of operational interlocks and safety systems.

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Junior Engineer (Signalling & Telecom)/
Signalling & Telecom Controller/
Junior Engineer (Safety – Signalling & Telecom)
Vacancy Notice No. 28/2026

Domain Knowledge ≈ 70%

1. General Railway Signalling and Telecommunication
2. Various types of Signalling and Telecommunication systems used in Railways, Metros and RRTS.
3. Signalling & Interlocking Principles.
4. Electronic Interlocking, Point Machines, Signalling Cables.
5. Optical fiber communication and its related equipment.
6. Electromagnetic Theory.
7. Electronics and Electrical Instrumentation.
8. Contracts and tendering.
9. Acts and Rules of Railways and Metros for opening and operation.
10. International standards of RAMS (CENELEC etc.)
11. Grade of Automation in Railways and Metros.

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Junior Engineer (Rolling Stock - Electrical)/
Rolling Stock Controller/
Junior Engineer (Safety – Rolling Stock)
Vacancy Notice No. 29/2026

Domain Knowledge ≈ 70%

I. Knowledge of Rolling Stock discipline

1. General aspects of Railways such as infrastructure jargons, grades of automation, etc.
2. Basic understanding of EMU type Rolling Stock such as integration of systems, sub-systems and nomenclature of equipment.
3. Facilities, including the M&Ps, and their upkeep/maintenance in modern Depots/ Workshop for Railway/ Metro
4. Basics of Propulsion system including HV power collection, transformer, traction converter, traction motor and auxiliary converter etc. of EMU rolling stock (relevant International Standards).
5. Basics of Train Control and Management System (TCMS) or Train Information and Management System (TIMS); control circuit and other electronics & communication devices of EMU rolling stock (relevant International Standards).
6. Maintenance practices of Rolling Stock

II. Knowledge Of Engineering Discipline

1. Basic Electrical & Electronics Engineering
2. Electrical Machines-I & II (DC and AC)
3. Electrical and Electronics Measurement
4. Digital Electronics
5. Circuit Theory
6. Electrical Materials.
7. Transmission & Distribution of Power
8. Switchgear & Protection
9. Power Electronics
10. Industrial Drives

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Junior Engineer (Rolling Stock - Mechanical)/
Vacancy Notice No. 30/2026

Domain Knowledge ≈ 70%

I. Knowledge of Rolling Stock discipline

1. General aspects of Railways such as infrastructure jargons, grades of automation, etc.
2. Basic understanding of EMU type Rolling Stock such as integration of systems, sub-systems and nomenclature of equipment.
3. Facilities, including the M&Ps, and their upkeep/maintenance in modern Depots/ Workshop for Railway/ Metro
4. Bogie system parts i.e. Bogie frame, Suspension, Wheel, Axle, Bearing, Centre pivot etc. material, function, design (Relevant International Standards) of EMU rolling stock.
5. Pneumatic System – Different type of Brakes in Rolling Stock, Adhesion, Slip-Slide, Brake blending etc concepts (relevant International Standards) of EMU rolling stock.
6. Maintenance practices of Rolling Stock

II. Knowledge Of Engineering Discipline

1. Strength of Materials
2. Thermal Engineering
3. Manufacturing Processes
4. Fluid Mechanics & Hydraulic Machines
5. Machine Drawing
6. Theory of Machines (TOM)
7. Design of Machine Elements
8. Power Engineering & Refrigeration
9. Advanced Manufacturing Processes
10. Industrial Management & Quality Control

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Train Manager/Station Manager/Depot Controller/Operations Controller/
Junior Engineer (Safety – Operations)
Vacancy Notice No. 31/2026

Domain Knowledge ≈ 70%

1. **Acts, Rules, Manuals, Safety & Disaster Management**

   Indian Railways Act, Metro Railways (O&M) Act, Opening Rules, Accident & Disaster Management, General Rules, Subsidiary Rules (SR), Station Working Rules, Absolute Block System, Single Line Working, Authority to Proceed, Movement Authority, Caution Orders, Permit to Work (PTW)Procedures, Emergency Working Procedures, Degraded Mode Operations, Incident Reporting.

2. **Signalling & Train Control Systems**

   Principles of Railway/Metro Signalling, CATC/CBTC/ETCS and ATS Operations, Train Detection Systems, Signal Aspects & Indications,

3. **Rolling Stock**

   Basics of Rolling Stock, Propulsion System, Brake System, Pneumatic & Electro-Pneumatic Brakes, TCMS/TIMS, Door Control System, HVAC System, Auxiliary Power Supply, Pantograph & VCB, Fire & Smoke Detection System, Train Radio, Fault Diagnosis & Troubleshooting.

4. **Traction Power Supply & Electrical Systems**

   Basics of OHE, Traction Power Distribution System, Neutral Section, SCADA Basics, Emergency Power Block Procedures.

5. **General**

   Vigilance, RTI

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%

Syllabus for the post of
Junior Engineer (Automatic Fare Collection (AFC) Systems)
Vacancy Notice No. 32/2026

Domain Knowledge ≈ 70%

1. AFC System & Devices: AFC architecture, gates, validators, TVM, TOM, system flow
2. Transactions & Payments: Entry/exit logic, fare calculation, closed vs open loop, payment flows
3. Payment Gateways: Gateway flow, authorization, settlement, failure handling, retries
4. Backend & Networking: AFC servers, transaction processing, logs, TCP/IP basics, offline mode
5. Enterprise Integration: APIs, middleware, third-party systems, ERP/CRM integration
6. Network Infrastructure: MPLS concepts, latency, redundancy, failover handling
7. Cloud & Security: Cloud basics, encryption, fraud detection, access control

Quantitative Aptitude ≈ 10%
Logical Reasoning ≈ 10%
General Knowledge & English≈ 10%