

Syllabus for the post of
DGM (IT), Vacancy Notice No. 08/2026
Senior Manager (IT), Vacancy Notice No. 10/2026
Assistant Manager (IT), Vacancy Notice No. 13/2026

Domain Knowledge ≈ 70%

Topics	Sub topics
Cyber Security Fundamentals	CIA triad, malware types, phishing, vulnerabilities, basic cryptography, security best practices
Cloud Fundamentals	IaaS, PaaS, SaaS, public vs private vs hybrid cloud, regions & availability zones
IT Operations & Monitoring	Incident/problem/change management, SLA/SLO, logging, monitoring, alerting, root cause analysis
AFC Fundamentals	AFC architecture, gates, TVM/TOM, fare calculation, transaction flow, payment validation, system integration
SQL Basics	SELECT, WHERE, JOINS, GROUP BY, HAVING, ORDER BY, NULL handling, query output prediction
Web Development Basics	HTML, CSS, responsive design, JavaScript basics, APIs, frontend-backend communication
CRM Fundamentals	CRM lifecycle, customer data management, lead/opportunity stages, ticketing systems, reporting dashboards
Vendor Management Basics	Vendor onboarding, SLAs, KPIs, procurement lifecycle, contract basics, performance evaluation
Networking & Systems Basics	TCP/IP, DNS, VPN, load balancing, basic troubleshooting, system connectivity issues

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
DGM (AFC Systems), Vacancy Notice No. 09/2026**

Domain Knowledge ≈ 70%

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

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
Senior Manager (Data Analytics), Vacancy Notice No. 11/2026**

Domain Knowledge ≈ 70%

Section	Topics	Sub topics
Data Analytics	SQL Basics	Joins, subqueries, GROUP BY, HAVING
	SQL Advanced	Window functions, NULL handling, output prediction
	Python	Pandas, indexing, filtering, groupby
	Visualization	Chart selection, dashboards using Tableau / Power BI
LLM	Core Concepts	Attention Mechanism, context window, transfer learning
	Prompt Engineering	Zero-shot, few-shot, prompt design
Chatbots	Fundamentals	Rule-based vs AI chatbot
	Tools	Rasa, LangChain
Data Engg & Cloud	ETL & Storage	ETL, warehouse vs lake
	Processing	Batch vs real-time, Apache Spark
	Cloud Basics	Cloud Basics

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
Senior Manager (Cloud Infrastructure), Vacancy Notice No. 12/2026**

Domain Knowledge ≈ 70%

Topics	Sub topics
Cloud Fundamentals	IaaS, PaaS, SaaS, public vs private vs hybrid cloud, regions & availability zones
Compute & Storage	VMs, containers, autoscaling, object/block/file storage, backups
Networking	VPC, subnets, routing, load balancers, DNS, VPN, peering
Security & IAM	Identity & Access Management, roles, policies, encryption, key management
DevOps & Automation	CI/CD, Infrastructure as Code, pipelines, basics of Docker and Kubernetes
Monitoring & Reliability	Logging, metrics, alerting, SLAs, high availability, disaster recovery
Cloud Platforms & Integration	Basics of Cloud platforms (AWS, GCP, MS Azure) , APIs, hybrid integration

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
AGM/JGM (Safety – Operations), Vacancy Notice No. 14/2026**

Domain Knowledge ≈ 70%

a) Syllabus for Safety

- i) General Safety Rules & Operational Regulation.
- ii) Accident & Incident Management.
- iii) Human Factors & Safety Management.
- iv) Independent Safety Assessment (ISA).
- v) Statutory Certification (CRS/CMRS).
- vi) CENELEC Standards & System Safety.
- vii) Safety Integrity Level (SIL).
- viii) Hazard Analysis & Risk Management.
- ix) Safety Case & Assurance Documentation.
- x) Verification, Validation, & Testing.
- xi) Interface & System Integration.
- xii) Testing, Commissioning & High-Speed/Metro Systems.
- xiii) Configuration & Change Management.
- xiv) Safety Audit, Compliance & Quality Assurance.

b) Syllabus for Operations

- i) Basics of railway/metro operations
- ii) Train scheduling, headway, and control systems
- iii) Station management and passenger flow
- iv) Safety protocols in operations
- v) Signaling & Train Control basics
- vi) CBTC (Communication-Based Train Control) fundamentals
- vii) Automatic Train Operation (ATO), Automatic Train Protection (ATP)
- viii) Operating manuals and rules
- ix) Metro Railways General Rules (MRGR)
- x) RRTS operational guidelines
- xi) Emergency procedures
- xii) Evacuation, disaster management, incident reporting

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
AGM/JGM (Safety - Maintenance), Vacancy Notice No. 15/2026**

Domain Knowledge ≈ 70%

a) Syllabus for Safety

- i) General Safety Rules & Operational Regulation.
- ii) Accident & Incident Management.
- iii) Human Factors & Safety Management.
- iv) Independent Safety Assessment (ISA).
- v) Statutory Certification (CRS/CMRS).
- vi) CENELEC Standards & System Safety.
- vii) Safety Integrity Level (SIL).
- viii) Hazard Analysis & Risk Management.
- ix) Safety Case & Assurance Documentation.
- x) Verification, Validation, & Testing.
- xi) Interface & System Integration.
- xii) Testing, Commissioning & High-Speed/Metro Systems.
- xiii) Configuration & Change Management.
- xiv) Safety Audit, Compliance & Quality Assurance.

b) Syllabus for Maintenance

- i) Preventive and corrective maintenance practices
- ii) Condition monitoring and fault diagnosis
- iii) Maintenance schedules (daily, periodic, overhaul)
- iv) Tools, equipment, and modern maintenance technologies
- v) Safety Protocols
- vi) Railway/Metro safety codes and manuals (IRPWM, MRGR basics)
- vii) Fire safety and firefighting systems in stations and rolling stock
- viii) Emergency procedures: evacuation, disaster management, incident reporting
- ix) Personal protective equipment (PPE) and safe working practices
- x) Systems Knowledge
- xi) Electrical: OHE maintenance, traction substations, circuit breakers, relays
- xii) Mechanical: Bogies, braking systems, HVAC, compressors
- xiii) Civil: Track inspection, viaduct/tunnel maintenance, drainage systems
- xiv) Electronics: Signaling equipment, CBTC basics, sensors
- xv) Quality & Compliance
- xvi) ISO standards in maintenance
- xvii) Documentation and inspection protocols
- xviii) Safety audits and compliance reporting

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
Assistant Manager (Safety - Civil & Track), Vacancy Notice No. 16/2026**

Domain Knowledge ≈ 70%

a) Syllabus for Safety

- i) General Safety Rules & Operational Regulation.
- ii) Accident & Incident Management.
- iii) Human Factors & Safety Management.
- iv) Independent Safety Assessment (ISA).
- v) Statutory Certification (CRS/CMRS).
- vi) CENELEC Standards & System Safety.
- vii) Safety Integrity Level (SIL).
- viii) Hazard Analysis & Risk Management.
- ix) Safety Case & Assurance Documentation.
- x) Verification, Validation, & Testing.
- xi) Interface & System Integration.
- xii) Testing, Commissioning & High-Speed/Metro Systems.
- xiii) Configuration & Change Management.
- xiv) Safety Audit, Compliance & Quality Assurance.

b) Syllabus for Civil & Track

- i) Construction & Materials
- ii) Building materials (cement, concrete, steel, aggregates)
- iii) Concrete technology, mix design, curing methods
- iv) Construction practices in metro/rail projects
- v) Surveying & Alignment
- vi) Chain surveying, leveling, theodolite, total station
- vii) Alignment design for tracks, curves, gradients
- viii) Setting out works for bridges, tunnels, stations
- ix) Structural Engineering
- x) Strength of materials (stress, strain, bending, shear)
- xi) RCC design basics (beams, slabs, columns, footings)
- xii) Railway Track Engineering
- xiii) Types of track (broad gauge, standard gauge, metro-specific)
- xiv) Track components: rails, sleepers, ballast, fastenings
- xv) Track laying methods and modern mechanized techniques
- xvi) Track Maintenance
- xvii) Welding of rails, track geometry, alignment, tamping
- xviii) Preventive and corrective maintenance practices
- xix) Civil Engineering Basics
- xx) Surveying, leveling, alignment design
- xxi) Soil mechanics and foundation engineering
- xxii) Concrete technology and construction materials

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
Assistant Manager (Safety - Electrical), Vacancy Notice No. 17/2026**

Domain Knowledge ≈ 70%

a) Syllabus for Safety

- i) General Safety Rules & Operational Regulation.
- ii) Accident & Incident Management.
- iii) Human Factors & Safety Management.
- iv) Independent Safety Assessment (ISA).
- v) Statutory Certification (CRS/CMRS).
- vi) CENELEC Standards & System Safety.
- vii) Safety Integrity Level (SIL).
- viii) Hazard Analysis & Risk Management.
- ix) Safety Case & Assurance Documentation.
- x) Verification, Validation, & Testing.
- xi) Interface & System Integration.
- xii) Testing, Commissioning & High-Speed/Metro Systems.
- xiii) Configuration & Change Management.
- xiv) Safety Audit, Compliance & Quality Assurance.

b) Syllabus for Electrical

- i) Electrical Fundamentals
- ii) Ohm's Law, magnetism, Fleming's rules, Lenz's Law
- iii) DC circuits, DC machines, commutation, speed control
- iv) AC circuits, parameters, simple calculations
- v) Overhead Equipment (OHE) & Substations
- vi) Installation and commissioning of OHE
- vii) Layout of 132kV/25kV traction substations
- viii) Earthing, bonding, capacitor banks, power factor improvement
- ix) Sectioning arrangements, neutral sections, mast/portal types
- x) Switchgear & Protection
- xi) Circuit breakers (SF6, vacuum types)
- xii) Contactors and relays (electromechanical, static, microprocessor-based)
- xiii) Protective relays, fault level calculations, relay settings
- xiv) Fuse protectors, isolators, arc chutes
- xv) Auxiliary Systems
- xvi) Batteries (charging, maintenance, reclamation)
- xvii) Auxiliary machines in AC locos (compressors, blowers, Arno converters)
- xviii) Cooling arrangements, sensors (speed, temperature)
- xix) Safety & Testing
- xx) Fire prevention and firefighting in electrical systems
- xxi) Earth testing, insulation testing, insulator checks
- xxii) Safe working practices in electrified sections
- xxiii) Maintenance schedules for OHE (AOH & POH)

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
Assistant Manager (Safety - Signalling & Telecom), Vacancy Notice No. 18/2026**

Domain Knowledge ≈ 70%

a) Syllabus for Safety

- i) General Safety Rules & Operational Regulation.
- ii) Accident & Incident Management.
- iii) Human Factors & Safety Management.
- iv) Independent Safety Assessment (ISA).
- v) Statutory Certification (CRS/CMRS).
- vi) CENELEC Standards & System Safety.
- vii) Safety Integrity Level (SIL).
- viii) Hazard Analysis & Risk Management.
- ix) Safety Case & Assurance Documentation.
- x) Verification, Validation, & Testing.
- xi) Interface & System Integration.
- xii) Testing, Commissioning & High-Speed/Metro Systems.
- xiii) Configuration & Change Management.
- xiv) Safety Audit, Compliance & Quality Assurance.

b) Syllabus for Signalling & Telecom

- i) Signalling Systems
- ii) Principles of railway signalling
- iii) Mechanical, electrical, and electronic signalling systems
- iv) Interlocking systems (route, panel, electronic interlocking)
- v) Block instruments, token systems, automatic block signalling
- vi) Train protection systems (ATP, TPWS, CBTC basics)
- vii) Telecommunication Systems
- viii) Basics of telecommunication (analog & digital)
- ix) Optical fiber communication, transmission systems
- x) GSM-R (Global System for Mobile Communications – Railway)
- xi) SCADA systems for monitoring and control
- xii) Train Control & Automation
- xiii) Communication-Based Train Control (CBTC) fundamentals
- xiv) Automatic Train Operation (ATO), Automatic Train Protection (ATP)
- xv) Signalling interfaces with rolling stock and track circuits
- xvi) Fail-safe design principles in signalling
- xvii) Electrical & Electronics Fundamentals
- xviii) Circuit theory, semiconductors, diodes, transistors
- xix) Digital electronics (logic gates, flip-flops, microprocessors)
- xx) Power electronics (rectifiers, inverters, converters)
- xxi) Control systems basics

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
Assistant Manager (Safety - Rolling Stock), Vacancy Notice No. 19/2026**

Domain Knowledge ≈ 70%

a) Syllabus for Safety

- i) General Safety Rules & Operational Regulation.
- ii) Accident & Incident Management.
- iii) Human Factors & Safety Management.
- iv) Independent Safety Assessment (ISA).
- v) Statutory Certification (CRS/CMRS).
- vi) CENELEC Standards & System Safety.
- vii) Safety Integrity Level (SIL).
- viii) Hazard Analysis & Risk Management.
- ix) Safety Case & Assurance Documentation.
- x) Verification, Validation, & Testing.
- xi) Interface & System Integration.
- xii) Testing, Commissioning & High-Speed/Metro Systems.
- xiii) Configuration & Change Management.
- xiv) Safety Audit, Compliance & Quality Assurance.

b) Syllabus for Rolling Stock

- i) Mechanical Systems
- ii) Bogies, wheelsets, axles, couplers
- iii) Suspension systems and vibration control
- iv) Electrical Systems
- v) Traction motors, converters, inverters
- vi) Auxiliary systems (lighting, HVAC, compressors)
- vii) Braking Systems
- viii) Pneumatic and electro-pneumatic brakes
- ix) Regenerative braking principles
- x) Traction & Power Supply
- xi) Basics of traction systems in metro/RRTS
- xii) Overhead equipment (OHE) and power distribution
- xiii) Maintenance Practices
- xiv) Preventive and corrective maintenance
- xv) Condition monitoring and fault diagnosis
- xvi) Safety & Standards
- xvii) Fire safety in rolling stock
- xviii) Railway/metro safety codes and inspection protocols

General Awareness, English, Reasoning ≈ 30%

**Syllabus for the post of
Assistant Manager (Safety - Operations), Vacancy Notice No. 20/2026**

Domain Knowledge ≈ 70%

a) Syllabus for Safety

- i) General Safety Rules & Operational Regulation.
- ii) Accident & Incident Management.
- iii) Human Factors & Safety Management.
- iv) Independent Safety Assessment (ISA).
- v) Statutory Certification (CRS/CMRS).
- vi) CENELEC Standards & System Safety.
- vii) Safety Integrity Level (SIL).
- viii) Hazard Analysis & Risk Management.
- ix) Safety Case & Assurance Documentation.
- x) Verification, Validation, & Testing.
- xi) Interface & System Integration.
- xii) Testing, Commissioning & High-Speed/Metro Systems.
- xiii) Configuration & Change Management.
- xiv) Safety Audit, Compliance & Quality Assurance.

b) Syllabus for Operations

- i) Basics of railway/metro operations
- ii) Train scheduling, headway, and control systems
- iii) Station management and passenger flow
- iv) Safety protocols in operations
- v) Signaling & Train Control basics
- vi) CBTC (Communication-Based Train Control) fundamentals
- vii) Automatic Train Operation (ATO), Automatic Train Protection (ATP)
- viii) Operating manuals and rules
- ix) Metro Railways General Rules (MRGR)
- x) RRTS operational guidelines
- xi) Emergency procedures
- xii) Evacuation, disaster management, incident reporting

General Awareness, English, Reasoning ≈ 30%