

भारतीय रेल केंद्रीयकृत प्रशिक्षण संस्थान
संपर्क विवरण
INDIAN RAILWAYS
CENTRALISED TRAINING INSTITUTES
CONTACT DETAILS

भारतीय रेल राष्ट्रीय अकादमी (भा.रे.रा.अ.)
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भारतीय रेल यांत्रिक एवं
विद्युत इंजीनियरिंग संस्थान (इरीमी)
Indian Railways Institute of Mechanical &
Electrical Engineering, (IRIMEE)

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भारतीय रेल सिगनल इंजीनियरिंग एवं
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Indian Railways Institute of Signal Engineering
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भारतीय रेल परिवहन प्रबंधन संस्थान (इरिटम)
Indian Railways Institute of
Transport Management, (IRITM)

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जगजीवन राम रेलवे सुरक्षा बल अकादमी
(जेआरआरपीएफअ)
Jagjivan Ram RPF Academy, (JRRPFA)

📍 Talkatora Road, Alambagh,
P.O.-Manak Nagar, Lucknow-226011
☎ 0522-2983331
✉ directorjrr.academy@gov.in
🌐 www.jrrpf.indianrailways.gov.in

भारतीय रेल वित्तीय प्रबंधन संस्थान (ईरीफेम)
Indian Railways Institute of
Financial Management (IRIFM)

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भारतीय रेल केंद्रीयकृत प्रशिक्षण संस्थान
Indian Railways
Centralised Training Institutes

कार्यकारी विकास कार्यक्रम EXECUTIVE DEVELOPMENT PROGRAMMES



सर्वदैव शिक्षणम्
रेल मंत्रालय
भारत सरकार

Shaping Professionals For Tomorrow!

Welcome to our world. On Indian Railways (IR), we pride ourselves in being part of world's third largest organization, with over 170 years of glorious legacy. With its vast network of around 68000 km, IR connects people across the length and breadth of the country, justifiably earning the sobriquet - life line of the nation.

Even as Indian Railways keeps reinventing itself through the years, there has been a constant and relentless pursuit towards improvement in every field of its activity. IR has seven centralized training institutes which play a pivotal role in shaping up domain knowledge, expertise, morale and aptitude of its officers.

Endowed with state of the art infrastructure, the training institutes specialize in various management and technology disciplines. The faculties at these training institutes are committed professionals with vast experience in their respective fields on Railways. Experts from reputed academic institutes such as IIMs, IITs etc, captains of the industry & business organizations,

leaders from government and corporates are regularly invited to share their knowledge and experience. This ensures depth and diversity in learning outcomes.

More than 8000 managers across disciplines of IR are trained annually in different programmes conducted at the training institutes of IR.

Our programme offerings include training to personnel from other government departments, public sector undertakings and private organizations and officers from different Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), South Asian Association for Regional Cooperation (SAARC), Mekong Ganga Cooperation and other foreign countries.

In our endeavor to contribute to capacity building of professionals keen on continuous learning, we offer best-in-class Executive Development Programmes (EDP) at our training institutes.

Centralised Training Institutes, Indian Railways



National Academy of Indian Railways (NAIR)

National Academy of Indian Railways, originally a 98 years old Railway establishment, is the flagship training institute of Indian Railways. The Academy has been operating from the Pratap Vilas Palace situated in Vadodara, the cultural capital of Gujarat, since 1952. Every year, the Academy trains Probationary Officers of all the organized Railway services. Besides, Railway officers are trained at various stages of their career under various Management and Capacity building programmes. The Academy delivers training in Classroom, Online and Blended modes, which is coordinated by a team of well qualified and experienced Members, who are Railway officers posted under various functional Faculties at the Academy. The Academy also organizes training programmes for non-Railway personnel like Executives of Public Sector Undertakings, Foreign Nationals and Private organisations. NAIR is the Centralized Training Institute for the officers of IR Personnel, Stores and Health Services. There are 07 other Centralized Training Institutes which are under the administrative control of NAIR and are engaged in multi-disciplinary training of Railway Officers as well as outside.



Indian Railways Institute of Electrical Engineering (IRIEEN)

Status as CTI—1987, Location—City: Nasik, State: Maharashtra

The Institute caters to the specialized training needs of the Officers and Supervisors of Electrical Engineering department. It also trains officials of Foreign Railways, Non-Railway organizations and Private organizations.





Indian Railways Institute of Mechanical & Electrical Engineering (IRIMEE)

Status as CTI—1974, Location—City: Jamalpur, State: Bihar

The institute caters to the specialized training needs of the Officers and Supervisors of Mechanical Engineering department. It also trains officials of Foreign Railways, Non-Railway organizations and Private organizations.



Indian Railways Institute of Signal Engineering & Telecommunications (IRISET)

Status as CTI—1971, Location—City: Secunderabad, State: Telangana

The Institute caters to the specialized training needs of the Officers and Supervisors of Signal & Telecom department. It also trains officials of Foreign Railways, Non-Railway organizations and Private organizations.



Indian Railway Institute Of Civil Engineering (IRICEN)

Status as CTI—1959, Location—City: Pune, State: Maharashtra

The Institute caters to the specialized training needs of the Officers and Supervisors of Civil Engineering department. It also trains officials of Foreign Railways, Non-Railway organizations and Private organizations.



Indian Railways Institute of Transport Management (IRITM)

Status as CTI—1999, Location—City: Lucknow, State: Uttar Pradesh

The Institute caters to the specialized training needs of the Officers of Traffic department. It also trains officials of Foreign Railways, Non-Railway organizations and Private organizations.



Jagjivan Ram RPF Academy (JRRPFA)

Status as CTI—2007, Location—City: Lucknow, State: Uttar Pradesh

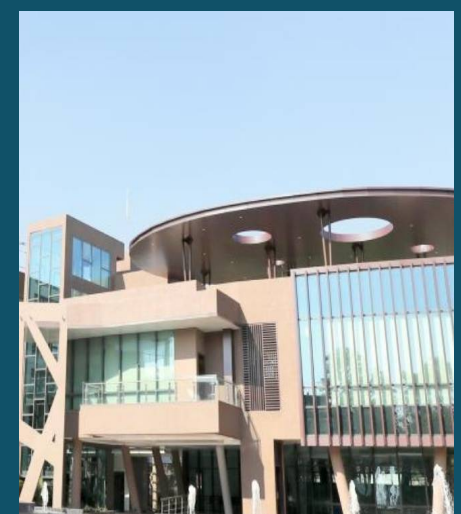
The Institute caters to the specialized training needs of the Officers and Supervisors of Security department. It also trains officials of Foreign Railways, Non-Railway organizations and Private organizations.



Indian Railway Institute of Financial Management (IRIFM)

Status as CTI—2019, Location—City: Secunderabad, State: Telangana

The Institute caters to the specialized training needs of the Officers of Accounts/Finance department. It also trains officials of Foreign Railways, Non-Railway organizations and Private organizations.



Our Offerings

Executive Development Programmes

National Academy of Indian Railways (NAIR)

- Transportation Management and Railways
- Communication & Presentation Skills for Managers
- Training of Trainers
- Management Development Program – Leadership & Change Management
- Supply Chain Management

Indian Railways Institute of Electrical Engineering, (IRIEEN)

- Traction Distribution (TRD)
- Traction Rolling Stock – Maintenance & Operation
- General Power Supply & Electrical Safety
- Green Energy

Indian Railways Institute of Mechanical & Electrical Engineering (IRIMEE)

- Trainset and DMU
- Environment and Housekeeping Management
- Workshops Management
- Operation and Maintenance of Diesel Electric Locomotives

Indian Railways Institute of Signal Engineering and Telecommunications (IRISET)

- Signalling Interlocking Design
- Computer Networking & Management
- Electronic Exchanges
- Mobile Communication

Indian Railways Institute of Civil Engineering (IRICEN)

- Railway Track Technology
- Railway Bridge Engineering
- Railway Construction Engineering
- Refresher course for Railway engineers

Indian Railways Institute of Transport Management (IRITM)

- Safety Management & Accident Investigation
- Artificial Intelligence & Data Analytics in Service Delivery
- Traffic Planning, Logistics & Supply Chain Management
- Development of Commercial Spaces & Sidings

Jagjivan Ram RPF Academy (JRRPFA)

- Law Enforcement in Railways and related area
- Explosives, IEDs & Countermeasures

Indian Railways Institute of Financial Management (IRIFM)

- Alternative Sources of Funding for Railway Projects
- Green Finance & InvIT Program
- Finance for Non-Financial Executives



Details of Programme

NAIR

Transportation Management and Railway

1. Overview & Objective

We have designed the programme to provide insight & understanding of Transport sector and the role of Railways as a service provider. The participants will learn about Railways functioning & processes thereby facilitating ease of doing. You benefit in terms of acquiring tools and techniques to plan effectively for future business needs.

2. Content

- Introduction – History, Growth of Transportation, Current status
- Economic Growth and Transportation
- Various modes of Transportation
- Role of Railway in Transportation Management
- Railway's interface with customers – freight, passenger, parcel
- Business partners – issues and concerns
- Recent developments, initiatives
- Future Road map- possibilities

3. Pedagogy

Blended learning through classroom sessions, industry visits and expert speakers

4. Duration: 5 days

Venue: National Academy of Indian Railways, Vadodara

5. Contact Person

1. Sr. Professor Transportation Mgt.
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2. Sr. Professor Commercial Mgt.
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Communication & Presentation Skills for Managers

1. Overview & Objective

Communication process significantly impacts the performance of any organization. Successful managers are invariably good communicators. Structured input on communication skills is essential for managers across the sectors. We have designed this programme with focus on developing communication skills of managers within the organization and with external business environment.

2. Content

- Introduction
- Oral Communication
 - Just-A-Minute Presentations (Workshop)
 - Public Speaking
 - Elevator Pitch
- Written Communication
 - Report Writing
 - Executive Summaries,
 - Proposal Writing
 - Letters/Memos
- Non-verbal Communications

- Media Release
- Resume/Bio-data Preparation
- Power-point Presentation Skills

3. Pedagogy

Our programme is essentially workshop style which includes learning-by-doing, learning through interaction with the instructors, from peers, reading and reflection. The sessions incorporate interactive lectures, the use of case studies, group exercises and videos.

4. Duration: 5 days

Venue: National Academy of Indian Railways, Vadodara

5. Contact Person

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Training of Trainers/Teachers

1. Overview & Objective

Training is essential tool to empower the employees to contribute in achieving organizational goals. A professionally trained trainer and teacher can play a critical role in meeting this objective. Our programme is designed to facilitate the Trainers/Teachers to hone their training/teaching skills.

2. Content

- Introduction – Types training methods, structured approach
- Four ways of Learning Lecture Method
- Coaching Method Game Method
- Group Discussion Method
- Planning and conducting Sessions

group work besides theoretical inputs from experts.

4. Duration: 5 days

Venue: National Academy of Indian Railways, Vadodara

5. Contact Person

1. Professor (Law Management)
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Management Development Program – Leadership & Change Management

1. Overview & Objective

In today's globalized and VUCA (Volatile, Uncertain, Complex and Ambiguous) world, every management initiative involves change management processes and leadership challenges. Our programme is designed for leaders of corporate, social or government bodies to equip them to deal with these challenges. The programme provides participants ample opportunity to pause, reflect, review and engage with experts who are champions of Leadership and Change Management.

2. Content

- Leadership – Introduction
- Traits of successful leaders
- Leadership game
- Change management process
- Case study on change management

3. Pedagogy

Theoretical inputs, case discussions, best practices sharing and sessions by field experts & practitioners

4. Duration: 2 weeks

Venue: National Academy of Indian Railways, Vadodara

5. Contact Person

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Supply Chain Management

1. Overview & Objective

Supply Chain Management plays an important role in organizations. Today the survival of most firms depends on intelligent supply chain decisions. Many companies are achieving significant competitive advantage by the way they configure and manage their supply chain. Our programme comprehensively covers logistics, planning, use of E-commerce and strategy aspects of Supply Chain Management.

2. Content

- Electronic Commerce
- Inventory Management
- Warehousing
- Forecasting of Demand
- Measuring Supply Chain Performance
- Supply Chain Management Strategies
- Spend Analysis
- Block Chain in Supply Chain Management

3. Pedagogy

Theoretical inputs, simulation exercises, industry visits, case discussions and sessions by field experts & practitioners

4. Duration: 2 weeks

Venue: National Academy of Indian Railways, Vadodara

5. Contact Person

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Model Room

Details of Programme IRIEEN

Traction Distribution (TRD)

1. Overview & Objective

This programme provides insight into the working of Over Head Equipment (OHE) & Power Supply Installation (PSI) involved in Railway Traction Distribution. Participants will also be familiarized with the latest guidelines and current developments in this area.

2. Content

The breadth of topics to be covered in this programme is indicated below. The depth of coverage as also the number/ scope of field visits shall depend on the programme duration.

- 25 kV Traction Distribution systems covering OHE and PSI
- 2x25 kV Traction Distribution system and OHE upgradation for 160kmph operation
- OHE Mast and Foundation (including Foundation Bending Moment Code)
- OHE Parameters, Over Head Crossings and Clearance study
- Tower Wagon & Maintenance facilities
- Auto Tensioning Devices and adjustment thereof, Turnouts & Crossovers and Earthing & Bonding
- Power supply scheme & equipment in Traction Substation, Sectioning arrangements, Sectioning Posts and Sub-sectioning Posts
- Current collection tests
- Latest guidelines & current developments in TRD
- TRD Protection scheme and SCADA
- Visit to OHE Depot, OHE Yard, TRD Lab, Traction Substation & Remote Control Centre

3. Pedagogy

Classroom inputs by institute faculty, Lectures by invited experts, Practical sessions in Laboratory and Field visits.

4. Duration: 1/2 week(s)

Venue: Indian Railways Institute of Electrical Engineering, Nashik or Online

5. Contact Person

1. Sr. Professor (TRD),
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OHE Yard (with fittings at eye-level)

Traction Rolling Stock – Maintenance & Operation

1. Overview & Objective

This programme will provide exposure to the participants in the area of Traction Rolling Stock, the underlying technologies, maintenance and operation. Participants will also be familiarized with the current developments in this area.

2. Content

The breadth of topics to be covered in this programme is indicated below. The depth of coverage as also the number/ scope of field visits shall depend on the programme duration.

- Convention Locos (DC Drive) and 3-Phase Locos
- Evolution of locomotives
- General description, equipment layout and protection system
- Loco Shed, its layout and working
- Maintenance Schedules (including activities involved therein) and their periodicity
- Control and power circuit of conventional locos
- Traction motor maintenance, Pneumatic circuits
- Bogie design & maintenance
- Failure analysis & Reliability Action Plan
- VVVF control of 3-phase Asynchronous Traction Motor
- Control Electronics
- Diagnostic system and troubleshooting in 3-phase locos
- New Developments in Locos

Locomotive Operation:

- Specific Energy Consumption, Tractive Effort & Train Resistance
- Weight Transfer and Adhesion.
- Online troubleshooting
- Manpower Planning, Power Planning, Crew Training, Road Learning, System of classification of Loco Pilots, their monitoring and counselling
- Review of Power Plan, Line-haul cost and loco statistics
- Trip shed maintenance, Train parting and stalling
- Case studies of accident and breakdown
- Visit to Crew Lobby, Running room and Trip Sheds
- Crew Management System and Freight Operation Information System

3. Pedagogy

Classroom inputs by institute faculty, Lectures by invited experts, Practical sessions in Laboratory and Field visits.

4. Duration: 1/2 week(s)

Venue: Indian Railways Institute of Electrical Engineering, Nashik OR Online

5. Contact Person

1. Professor (Loco)

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Electric Loco (WAP-7)

General Power Supply & Electrical Safety

1. Overview & Objective

This programme is designed to familiarize the participants with General Electric Power Distribution System and Electric Safety issues of relevance to Rail Transportation. Participants will also be familiarized with the current developments in this area.

2. Content

The breadth of topics to be covered in this programme is indicated below. The depth of coverage as also the number/ scope of field visits shall depend on the programme duration.

- Element of Power Distribution
- Distribution Substation and its Equipment
- Condition monitoring of substation equipment
- Preventive maintenance of substation equipment
- Power Cable
- IE Act, IE rules
- Principles of Earthing, Standards & Classification
- Maintenance Free Earthing
- Importance of Electric Safety and types of Hazards
- Troubleshooting
- Case studies

3. Pedagogy

Classroom inputs, Practical sessions in Laboratory, field visits and expert lectures

4. Duration: 1/2 week(s)

Venue: Indian Railways Institute of Electrical Engineering, Nashik OR Online

5. Contact Person

1. Professor (GS)

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Station illumination

Green Energy

1. Overview & Objective

This programme is designed to familiarize the participants with the problem of Global Warming and Climate Change, the need for eliminating our dependence on fossil fuels, Sources of Renewable Energy, Green Buildings and steps being taken by Indian Railways towards the adoption of Renewable Energy in a big way.

2. Content

The breadth of topics to be covered in this programme is indicated below.

- India's Power Sector
- Global Warming & its ill effects
- Introduction to various renewable energy sources
- Introduction to design features of Solar and Wind Energy Systems
- Maintenance of Solar & Wind Power Plants
- Energy Conservation Act & ECBC
- Green Building Concept & Case Study
- Green Energy Adoption in Railways
- Visit to Wind farms, Solar Power Projects

3. Pedagogy

Classroom inputs by institute faculty, Lectures by invited experts, Practical sessions in Laboratory and Field visits.

4. Duration: One week

Venue: Indian Railways Institute of Electrical Engineering, Nashik OR Online

5. Contact Person

1. Sr. Professor (PO)

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Wind turbine

Details of Programme IRIMEE

Trainset and Diesel Multiple Units (DMU)

1. Overview & Objective

Our programme gives an understanding of details of design features and working principles of Trainsets, DMUs and other similar self-propelled vehicles.

2. Content

- Introduction to Trainsets, Diesel Multiple Units, Electric Multiple Units and self-propelled vehicles
- Distributed Motive Power
- Traction System and other components of Trainsets, Train operation and control system, 3 Phase propulsion system
- Bogies & Brake Systems
- Diesel Engine components, their functioning and maintenance, cab layout, driving controls, control system
- On-board facilities

3. Pedagogy

Classroom inputs, field & model room visits, Audio-video sessions, e-learning content and sessions by field experts & practitioners

4. Duration: 5 days

Venue: Indian Railways Institute of Mechanical & Electrical Engineering

5. Contact Person

Senior Professor (Diesel Traction)

Mob.: +91 9771462409

E-mail: srprof.dt@irimee.railnet.gov.in



Mechatronics Lab

Environment and Housekeeping Management

1. Overview & Objective

Our programme covers various aspects related with environment and housekeeping management to make Railway as an environment friendly mode of transport. The inputs are designed to give an understanding of measures to conserve water, energy conservation, solid waste collection/ disposal/ treatment and compliance.

2. Content

- Legal/ statutory aspects of environment
- Treating Effluents, water conservation measures
- Solid waste collection and treatment technologies
- Chemicals and equipment used for cleaning
- Measures to reduce, recycle plastic and e-waste
- Energy conservation, renewable energy

3. Pedagogy

Classroom inputs, field visits, Audio-video sessions, e-learning content and sessions by field experts & practitioners

4. Duration : 5 days

Venue: Indian Railways Institute of Mechanical & Electrical Engineering

5. Contact Person

Senior Professor
(Rolling Stock Technology)

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Workshops Management

1. Overview & Objective

We have designed this programme to improve the performance of the participants by providing structured inputs on Production & Manufacturing techniques, Labour laws, planning of Civil & Electrical Infrastructure and M&P. It has modules on workshop practices, welding & corrosion, assessment of planned capacity, Draft Project Report preparation and setting up facilities, Workshop costing, quality and compliances.

2. Content

Workshop Module

- Workshop Organisation
- Hours Of Employment Regulation, Factories Act, Workshop Compensation Act, Labour laws, Pollution control, Principal Employer Responsibilities
- Different Quality System Certification - ISO 9001, ISO 50001, OSHAS 18001, ISO 3834, 5S
- Capacity and Infrastructure Planning in Workshops.
- Industrial Engineering and Performance Indices.
- Workshop Costing.
- Assessment of Workshop planned

capacity, preparation of Draft Project Report and Setting up facilities for Overhauling of Passenger & Freight Cars.

Welding & Corrosion Module

- Introduction to Welding Metallurgy & Overview of Welding processes
- Welding of steel and stainless steels
- Quality issues in different welding processes & Welding Certification Systems
- Corrosion in Steel & Stainless steel
- Welding training Centre-Practical & Demonstration

3. Pedagogy

Classroom inputs, field visits, Audio-video sessions, e-learning content and sessions by field experts & practitioners

4. Duration: 2 weeks

Venue: Indian Railways Institute of Mechanical & Electrical Engineering

5. Contact Person

Senior Professor/Workshop & Manufacturing Technology

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Operation and Maintenance of Diesel Electric Locomotives

1. Overview & Objective

This course is for imparting basic knowledge of diesel electric locomotives. The course is intended to explain the principles of working of diesel engine, general layout of Diesel Electric locomotives and their mechanical and electrical sub-systems.

2. Content

- General layout of Diesel Electric locomotive
- Different types of Diesel engines in use for Traction
- Major systems like Fuel, Lube Oil, Cooling, Air intake, Control Systems etc.
- Electrical Transmission and Excitation system including 3 phase technology
- Main features of Locomotive Bogies

- Compressor & Air Brake system, Computer Controlled Brakes, Dynamic Brakes
- High Horse Power Locomotives for freight and passenger train operations
- Facilities required and maintenance practices

4. Duration: 3 weeks

Venue: Indian Railways Institute of Mechanical & Electrical Engineering

5. Contact Person

1. Senior Professor (Diesel Traction)

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Details of Programme IRISSET

Signaling Interlocking Design

1. Overview & Objective

Meant to develop Railway Signal engineering specialists to meet the demands of emerging technologies, this programme focuses on various advanced signaling equipment such as Electronic Interlocking (EI), Solid State Block Proving by Axle Counter (SSBPAC), Train Protection & Warning System (TPWS), European Train Control System (ETCS) etc. Key deliverables are aimed to provide knowledge on system architecture, installation and maintenance aspects of various types of advanced signalling equipment.

2. Content

- Introduction to different types of advanced signaling equipment like EI, SSBPAC, TPWS, and ETCS etc.
- Electronic Interlocking, Electronic Interlocking Specification, working and different configurations, hardware, bits calculation, logic, design, installation and testing, maintenance.
- Introduction to SSBPAC working, configuration, hardware, installation and maintenance.
- ETCS Levels and working and configuration.
- TPWS working, configuration, hardware, installation and maintenance.

3. Pedagogy

Theoretical inputs in classrooms, hands-on in Laboratory, expert speaker session, simulation exercises



TPWS Lab.

4. Duration : 3 weeks

Venue: Indian Railways Institute of Signal Engineering and Telecommunications, Secunderabad

5. Contact Person

1. Professor Signaling -2

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E-mail: ps2@iriset.railnet.gov.in

Computer Networking & Management

1. Overview & Objective

In computer networking, managing resources and its security requires building up redundancies. The network is to be secured from outsiders, hackers & crackers by adopting various security measures like ACLs, Packet filters, proxies and firewalls. Engineers need to be upskilled to meet these challenges. Our programme is designed to introduce future network specialists to the principles of networking, systems of interconnectivity, IP schemes, integration & commissioning of data networks, network security, OSI layers model, TCP/IP Protocol, Wi-Fi networks and Configuration of Routers & its Protocols.

2. Content

- Introduction to TCP/IP, OSI reference model, MPLS concepts
- Railnet architecture, VLAN, Loopguard and High availability, VRRP, DHCP, DNS, Wi-Fi networks
- Advance routing, LAN security, Proxy, VPNs, IT Act & Wire-less security
- Various services running on Networks: Railnet, PRS, UTS, FOIS etc.
- Configuration of Routers, Routing protocols, Components, commands and modes of configuration
- Network Security and Performance
- Access control with AAA, SSL & VPN

3. Pedagogy

Theoretical inputs in classrooms, hands-on in Laboratory, expert speaker session, simulation exercises

4. Duration: 3 weeks

Venue: Indian Railways Institute of Signal Engineering and Telecommunications, Secunderabad

5. Contact Person

1. Asst. Prof (Tele),

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Computer Networking & Mgmt

Electronic Exchanges

1. Overview & Objective

Our programme aims to develop technical in-depth understanding and appreciation of working of electronic Exchanges. The participants gain conceptual clarity of Data on Voice Transfer, VoIP and next generation network.

2. Content

- Evolution of SPC – PCM – TDM Exchanges
- Signalling for Exchanges including Trunking
- IP based Telephony, Concepts, Soft Switches
- VoIP benefits & Asterisk Architecture
- Introduction to NGN
- Redundancy & Backup along with its Power Supply

3. Pedagogy

Theoretical inputs in classrooms, hands-on in

Laboratory, expert speaker session, simulation exercises

4. Duration: 1 weeks

Venue: Indian Railways Institute of Signal Engineering and Telecommunications, Secunderabad

5. Contact Person

1. Asst. Prof (Tele),

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Mobile Communication

1. Overview & Objective

Our programme helps participants to learn and gain keen insights about different types of media, mobile communications and Synchronous Digital Hierarchy (SDH) networking technology.

2. Content

- Different types of Transmission Media
- Types of OFC accessories and Measurements, SDH Concepts
- SDH Network Elements, Alarms and Troubleshooting
- Test and Measurements, Installation & commissioning of SDH Equipment
- Study of GSM architecture & signaling
- Study of GSM-R, WLL, CDMS, 3G, 4G, TETRA and VHF communication
- BTS, BSC & TRAU and Radio Commander in laboratory



Electronic Exchanges

3. Pedagogy

Theoretical inputs in classrooms, hands-on in Laboratory, expert speaker session, simulation exercises

4. Duration: 3 weeks

Venue: Indian Railways Institute of Signal Engineering and Telecommunications, Secunderabad

5. Contact Person

Asst. Prof. Training

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Details of Programme IRICEN

Railway Track Technology

1. Overview & Objective

Track technology plays a vital role in speedy, safe and robust rail transport. Our programme will equip you, as a rail professional, with the knowledge, skill sets and competencies in rail track engineering. The key deliverables cover technologies, components, inspections, maintenance, renewals of track and understanding of long term track behavior.

2. Content

- Ballast, Concrete sleepers & elastic fastenings,
- Rail specification & corrosion, Welding Techniques, SWR, LWR (including new SEJ)
- Rail & Weld failures, USFD including SPURT Car
- Curves – Design & Realignment, Points & Crossings, Layout calculations
- Mechanized track maintenance & renewals, Track monitoring & tolerances
- Schedule of Dimensions, Derailments - Rail Wheel Interaction with case studies
- Accident / Disaster Management, Breaches & Diversion
- Track policy, track standards & renewal criteria
- Track structure on bridges, Track on electrified & track circuited sections

3. Pedagogy

Theoretical inputs in classrooms, sessions by field experts & practitioners, laboratory work, demo yard, model room and field visits

4. Duration: 3 weeks

Venue: Indian Railways Institute of Civil Engineering, Pune

5. Contact Person

Sr. Professor Track -1,

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Classroom with Smart Touch Panel

Railway Bridge Engineering

1. Overview & Objective

Rail bridges are important infrastructural assets that need to be constructed and maintained to high standards of structural integrity. Well maintained bridges ensure safe and uninterrupted movement of traffic. Our programme is designed to provide insight and understanding of construction, inspection, maintenance and rehabilitation of various types of bridges on Indian Railways.

2. Content

- Various types of bridges and classification of bridges on India Railways.
- Investigations & Hydrological planning of bridges
- Various Codes governing design of bridges on India Railways.
- Bridge foundation- Open, Pile & Well foundations

- Superstructure- Fabrication of Steel girders, Construction aspects of PSC girders
- Launching of Girders, Bridge Bearings, Inspection of Bridges
- Provision of Bridge Manual, Maintenance of Arch, Steel and RCC/PSC Bridges
- Assessment of strength of existing bridges and Rehabilitation/Strengthening of different types of Bridges for normal/higher axle loads.

3. Pedagogy

Theoretical inputs in classrooms, sessions by field experts & practitioners, demo yard, model room and field visits

4. Duration : 2 weeks

Venue: Indian Railways Institute of Civil Engineering, Pune

5. Contact Person

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Laboratory

Railway Construction Engineering

1. Overview & Objective

Our programme incorporates elements of modern surveying, geotech investigation, earthwork, construction and planning of bridges. As thorough bred professionals it will equip you with knowledge for effective planning and execution of Railway projects.

2. Content

- Modern surveying equipment- GPS, Total Station etc.
- Hydrological investigation catchment area and waterway calculations.
- Geotechnical investigation including field test, RDSO guidelines for embankment construction and blanketing, basic concepts of tunneling.
- Safety at work site, Practical aspect of Project Management

3. Pedagogy

Theoretical inputs in classrooms, sessions by field experts & practitioners, laboratory work, demo yard, model room and field visits

4. Duration : 1 week

Venue: Indian Railways Institute of Civil Engineering, Pune

5. Contact Person

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Classroom

Refresher Course for Railway Engineers

1. Overview & Objective

Keeping the track fit in all weather conditions is vital for ensuring speedy, safe and comfortable transportation of passengers as well as smooth movement of freight. This programme is designed to refresh working knowledge of track construction, inspection and maintenance, including methods of improving the existing track for upgradation.

2. Content

- Maintenance aspects of SWR/LWR,
- Curves – Realignment, Provision of vertical curve in existing track for high speed.
- Points & Crossings, Layout calculations for correction of defective layout geometry.
- Yard Maintenance- Safety aspects & good maintenance practices
- Monitoring by track recording car, OMS and inspection trolley, track tolerances.
- Maintenance of Arch, Steel and RCC/PSC Bridges.
- Raising of speed on existing track.
- Rehabilitation of unstable formation/slope/cutting.

3. Pedagogy

Theoretical inputs in classrooms, sessions by field experts & practitioners, laboratory work, demo yard, model room and field visits

4. Duration : 1 week

Venue: Indian Railways Institute of Civil Engineering, Pune

5. Contact Person

Sr. Professor Track -1,
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Museum



Details of Programme IRITM

Safety Management & Accident Investigation

1. Overview & Objective

Accidents cause significant loss to human life, property and adversely impact the public image. It is of utmost importance to devise appropriate mitigation systems. In case of unfortunate occurrence, an effective system should respond quickly and provide timely succor to the affected ones. This programme aims at learning to strategize and execute rescue, relief and restoration in typical rail disaster scenarios. It incorporates investigation techniques and adopts case study methodology for achieving learning outcomes.

2. Content

- Disaster Management-Planning & Co-ordination for Crisis situation Management
- Chemical, Biological, Radiological and Nuclear Disasters
- Investigation techniques
- Investigation reports of serious accidents in India & Abroad
- Gender Sensitization for handling accidents
- Pinpointing & Plugging of Human Failure areas
- Handling Fire hazards & Coordination with Fire Services and Demonstration
- Crowd & Media Management during accidents
- Major Accidents-Case Studies
- Inspection and Data Loggers
- Emergency Medical Response and Trauma Care Management with hands-on
- Liability in Accident Cases
- Personal, Institutional & Societal Safety practices & Disaster Management
- Use of Data Analytics & Artificial Intelligence for Safety

3. Pedagogy

Case study, experience sharing and sessions by field experts & practitioners

4. Duration: 3 weeks

Venue: Indian Railways Institute of Transport Management

5. Contact Person

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Rail Safety



Artificial Intelligence & Data Analytics in Service Delivery

1. Overview & Objective

Large amount of structured and unstructured data is generated in the course of operation and maintenance of transportation services. Decision making facilitated by use of data analytics & artificial intelligence results in better, reliable & satisfactory service delivery. It results in improved predictive maintenance of assets, replacement, rehabilitation & planning. This programme envisages purposeful discussion on basics of emerging technologies and their application in service delivery. Exposure to this programme will enable the professionals to take timely and effective decisions.

2. Content

- Introduction to Big Data Analytics and Artificial Intelligence
- Case Studies
- Applications of AI in service design & delivery
- Asset Management for Value Creation
- Complaint Management & Grievance Redressal - use of DA
- Leveraging Cloud, Mobile & AI for Business Transformation
- Cloud Computing for Business/leveraging scale
- Social Impact of Machine Learning/Artificial Intelligence

3. Pedagogy

Case study, experience sharing and sessions by field experts & practitioners

4. Duration: 2 weeks

Venue: Indian Railways Institute of Transport Management

5. Contact Person

Sr. Professor (IT, Logistics & Training)
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Traffic Planning, Logistics & Supply Chain Management

1. Overview & Objective

Various sectors of economy require different logistic frameworks. Efficient logistics & supply chain management requires multi-modal transport infrastructure. It becomes imperative to strengthen the infrastructure by planning new assets and easing bottlenecks within the existing transport systems. Our programme provides for comprehensive coverage of Logistics & Supply Chain Management with due emphasis on sectoral requirement, logistics solutions, network strengthening and assets planning.

2. Content

- Introduction to Logistics and SCM
- Planning, Costing and Rating of Transport Services
- Strategic Planning for Multi Modal Terminals & Sidings
- Logistics & SCM for facilitating E-commerce & FMCG Industry
- Logistics for Military Movement
- Logistics for Cement, Coal, Food-grains, etc.

practitioners

4. Duration: 1 week

Venue: Indian Railways Institute of Transport Management

5. Contact Person

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3. Pedagogy

Conceptual inputs, Case study, experience sharing and sessions by field experts &

Development of Commercial Spaces & Sidings

1. Overview & Objective

Land is a high value asset in any organization more so in Railways who own large chunks of land in prime locations. Its efficient use entails, inter alia, the commercial development of vacant spaces, efficient design of yards to maximize non-fare revenue generation. This programme covers land value capture techniques including valuation methodology of land assets, various models of collaborative development (PPP), architecture and design of commercial spaces. It aims to align various stakeholders by exposing them to extant policies and contemporary development models.

2. Content

- Introduction to Policies on PPP and land development
- Various models of PPP and collaborative efforts
- Designing of yards and terminals
- Sector wise requirement of yards and siding design
- Advances in development of Logistics Parks, PFTs, etc.
- Legal Framework for long term contracting & arbitration
- Integration of all transport sectors for integrated transport solutions.

3. Pedagogy

Class room sessions, Case discussion, experience sharing and sessions by field experts & practitioners

4. Duration: 1 week

Venue: Indian Railways Institute of Transport Management

5. Contact Person

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Library



Class Room

Details of Programme JRRPFA

Law Enforcement in Railways and related area

1. Overview & Objective

This programme is meant for public and private law enforcement agencies. The coverage includes basics of security protocols, weapons handling, and statutes etc.

2. Content

- Basic Drill knowledge
- Basic Physical Training
- Proper Wearing of Uniform
- Familiarizing with different weapons presently used in the uniformed services.
- To develop leadership qualities & to learn command and control.
- Familiarization with the issues of Law Enforcement over Railways

3. Pedagogy

Workshop style with some class room sessions

4. Duration: 1 week

Venue: Jagjivan Ram RPF Academy

5. Contact Person

ASC (Outdoor)
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Firing Range



IED Model Room

Explosives, IEDs & Counter Measures

1. Overview & Objective

In present times, Improvised Explosive Devices (IEDs) are widely used by terrorists, naxalites & criminals to instill terror and disrupt law & order. This programme will equip participants with basic knowledge of explosives/explosions etc. It helps in dealing effectively with incidents of bomb threats/blasts etc. and taking follow-up action apart from preventive measures.

2. Content

- Introduction to Explosives, Types of Explosions, Effects of Explosion etc.
- Concept of IEDs/Bomb & visit to IED Model Room at the Academy.
- Introduction to BD equipment & visit to BD Unit of Army
- Countermeasures: Bomb Threat Contingency Plan, Real bomb calls, Hoax bomb calls & DO's & Don'ts

- Forensic Science Laboratory: Examination of exploded materials, collection, investigation techniques, and report writing.

3. Pedagogy

Theory and concepts in class rooms, laboratory sessions, field visits and inputs by field experts & practitioners

4. Duration.: 02 week

Venue.: Jagjivan Ram RPF Academy

5. Contact Person:

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Details of Programme IRIFM

Alternative Sources of Funding for Railway Projects

1. Overview & Objective

The program aims at giving awareness of alternative sources of funds for Railway projects and explores the possibilities for future investment sources for SAG officers. It is designed so as to benefit not only IR Finance officers but such officers who are concerned with high value projects conceptions and estimation. Indian Railways is making heavy investments to make robust rail infrastructure and reverse the decline share of Railways in the transport sector as Funds for GBS are limited and are now depending on EBR, multilateral funding from IBRD & JICS, PPP projects, private investment in the railways.

2. Content

- Capital Markets & Indian Financial Systems,
- Indian Money Market & Development,
- EBR and the role of IRFC,
- Private Investment in Indian Railways - A Case Study of various financial models,
- Public Private Partnership : Introduction, International & National Experience, Indian Railway Experience and Learnings,
- Multilateral Project Financing from IBRD, ADB, JICA etc, The Case Study of MVRC, DFCCIL - A Case Study, Future Freight Corridors

3. Pedagogy

Training, mentoring and learning by doing Project report, Project presentation.

4. Duration : Five days Online Training (twice a year)

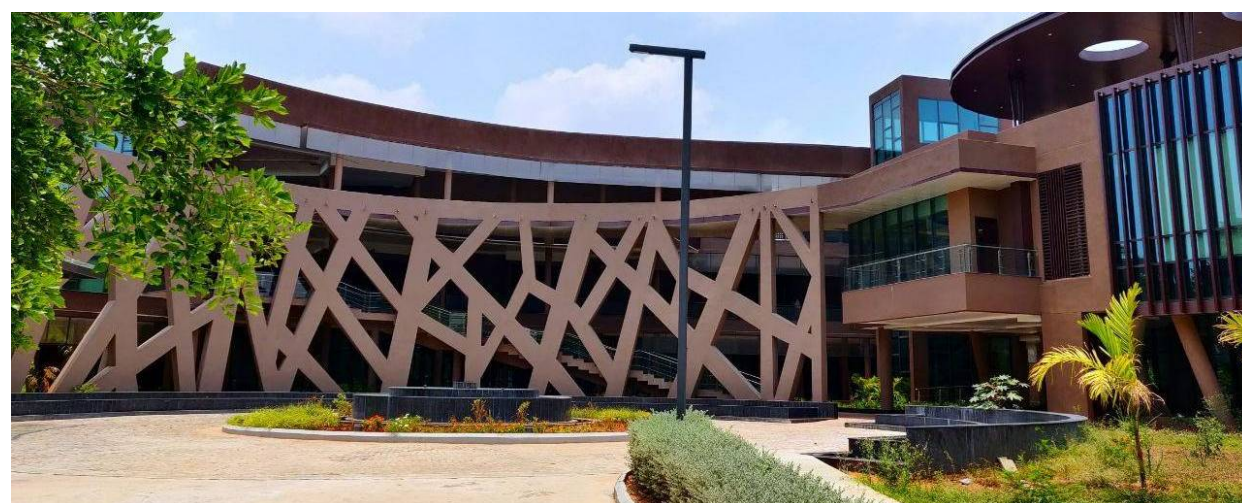
Venue: IRIFM, Secunderabad

5. Contact Person

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Green Finance & InvIT Program

1. Overview & Objective

This is a 6-week participant driven learning program with 2 weeks on campus and 4 weeks project / field visit. The major component of the training program involves participants in understanding the concept and undertaking the project work. The first week of training involves concept building. Thereafter, the participant will work on the project at his Headquarters of the location of the project field. The concluding week of the training program involves presentation of the outcomes and deliverables. The project work chosen has to be relevant and dealing with critical issues, leading to a meaningful conclusion. After completion of the training program a certificate will be provided to the successful participants.

The program aims at appreciating the new initiatives proposed by GoI and find implementable solutions. The objective is to develop concept building, problem identification, reflection and analysis to implement solutions.

2. Content

- Climate Change and Climate Finance
- Infrastructure Investment Trusts
- Green Business Strategy
- Indian Government response to climate change and building Green India
- Infrastructure Financing with focus on ESG Framework
- Green Bonds and Carbon Credits
- Impact Investing in Infrastructure

3. Pedagogy

Training, mentoring and learning by doing Project report, Project presentation.

4. Duration : 6 weeks

- a 1 week - Class room sessions
 - b. 4 weeks - Project work/Field visit
 - c. Last week- Class room concluding session
- Venue: IRIFM, Secunderabad

5. Contact Person

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Finance for Non-Financial Executives

1. Overview & Objective

To impart fundamental about financial practices amongst non-financial executives

2. Content

- Financial Management Managers-Wealth Maximization of Business,
- Decisions in the process of Wealth creation,
- Understanding balance sheet and income statements,
- Time value of money-Its Applications in Capital
- Budgeting and project appraisal-Estimation of cash flow,
- Financial Statements and Analysis,
- Sources of Funds, Measurement of Risk and Cost of Capital,
- Economic value added & Market value added-Tools for wealth creation evaluation,
- Managing Capital Structure Finance Leverage,
- Risk Analysis in Capital Budgeting,
- Dividend Decisions and policies,

- Working capital Management-Operation cycle, Receivables Management, Inventory,
- Cost Accounting-Cost concepts, cost Sheets, Activity based costing,
- Working Capital Financial (Risk versus Returns),
- Introduction to IFRS and Program summary

3. Pedagogy

Training, mentoring and learning by doing Project report, Project presentation.

4. Duration : Five days

Venue: IRIFM, Secunderabad

5. Contact Person

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