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ADYAPAN

# Adyapan School

## Power System



Duration - 2 months

Industry  
Certification



Skill India Certified

250+  
Partner Companies

# Master modern grids. Drive power innovation.

From generation to grid intelligence - become industry-ready.

This immersive 8-week Power Systems program takes you beyond theoretical concepts into practical power system analysis and design. Learn system modeling, fault analysis, load flow methods, and protection schemes using industry-standard tools and techniques through hands-on problems and guided simulations. With a strong focus on real-world engineering practices and code-based design, you'll graduate with the ability to analyse complex power networks, interpret system behaviour, and design reliable protection and control strategies confidently for industry applications.

8

MODULES

30+

PROGRAM OFFERINGS

20,000+

STUDENTS

250+ PARTNERED COMPANIES



ABOUT ADYAPAN SCHOOLS

## Where education meets real-world impact

Not just a course — a platform to launch  
your career.

Adyapan Schools was built with a single conviction:  
learning works best when it happens in the real world.  
We partner with top companies, mentors, and industry  
platforms to ensure every student graduates with a  
portfolio of work that speaks louder than a certificate.

Our programs combine rigorous coursework with live  
client projects, giving you the skills and proof-of-work  
that employers actually want.

### MISSION

To equip ambitious learners with  
practitioner-level digital  
marketing skills through mentor-  
led, project-based education that  
bridges the gap between learning  
and earning.



### VISION

To be India's most trusted  
launchpad for the next generation  
of marketing leaders — defined  
not by degrees but by the real  
work.



## Everything you need to grow fast

### PROGRAM HIGHLIGHTS

#### Live Industry Projects

Work on campaigns for real brands alongside your coursework. Build portfolio projects that prove your expertise to employers.

#### 1-on-1 Mentorship

Dedicated mentors from Google, Microsoft, Mastercard and more. Get personalized guidance and industry connections.



#### AI-Powered Marketing

Learn cutting-edge AI tools alongside evergreen fundamentals. Stay ahead of the curve in a rapidly evolving landscape.



#### Dual Certification

Earn both a Course Completion and Internship Certificate – accredited by Skill India Digital Hub and NSDC.



#### Internship Guarantee

Graduate with an internship completion certificate from a live brand project. Concrete, resume-ready proof of work.



#### Industry Network

Join a network of alumni at Amazon, Google, Adobe, Microsoft. Access exclusive hiring events and referral opportunities.

## 8 weeks. 8 modules. Infinite impact.

### WEEK 1

#### Introduction to Power Systems

- Understand the structure, components, and flow of electrical energy from generation to end-user consumption
- The three pillars of power systems and how they interconnect to form a reliable grid
- Types of power plants and their working principles, capacities, and fuel sources
- Interpreting Single Line Diagrams (SLDs) and circuit breakers in system layout representation
- Load concepts and their significance in system planning



### WEEK 2

#### Power Generation

- Working of a Thermal Power Plant- Rankine cycle, boiler, turbine, condenser, and auxiliary systems in detail
- Hydro Power Plant operation- penstock, turbine types (Pelton, Francis, Kaplan), governor control, and run-of-river vs storage plants
- Renewable Energy Sources and their integration challenges with the grid
- Economic Load Dispatch across multiple generating units
- Power Plant Efficiency and overall thermal efficiency



### WEEK 3

#### Transmission Systems

- Transmission Line Parameters and effect on power transfer capacity
- Calculation Resistance, Inductance, and Capacitance of Overhead Lines
- Transmission Line Modeling
- Corona Effect - critical disruptive voltage, visual critical voltage, power loss due to corona, and methods to reduce corona in EHV lines
- Analyze Transmission Efficiency- voltage regulation, efficiency calculations, ABCD parameters, and their application to real transmission system problems



## 8 weeks. 8 modules. Infinite impact.

### WEEK 4

#### Distribution Systems

- Distribution System Types- adial, ring main, and interconnected systems
- AC and DC Distribution and current and voltage distribution problems
- Compute voltage drops in feeders and distributors with concentrated and uniformly distributed loads
- Substations and Equipment and the types of substations
- Introduction to Smart Grids- advanced metering infrastructure (AMI), demand response, distributed energy resources (DER).



### WEEK 5

#### Power System Analysis

- The Per Unit System
- Load Flow Analysis and the significance of load flow studies in system planning
- The Bus Admittance Matrix and interpretation of diagonal and off-diagonal elements
- The Gauss-Seidel Load Flow Method and the Newton-Raphson Load Flow Method



### WEEK 6

#### Fault Analysis

- Types of Faults and understand frequency of occurrence and severity of each fault type
- Perform Symmetrical Fault Analysis and Unsymmetrical Faults
- Sequence Components- construct sequence networks for generators, transformers, and transmission lines



## 8 weeks. 8 modules. Infinite impact.

### WEEK 7

#### Protection Systems

- Protective Relays, relay characteristics
- Circuit Breakers, interrupting ratings, and selection criteria for different voltage levels
- Designing Protection of Generators and Loss-of-Excitation Relay Schemes
- Designing Protection of Transformers and overfluxing protection schemes
- Protection Coordination and coordination between fuses, relays, and circuit breakers



### WEEK 8

#### Stability & Modern Trends

- Power System Stability and power angle curve and maximum power transfer concepts
- Swing Equation and critical clearing time calculations
- Voltage Stability and methods to improve voltage stability in heavily loaded systems
- Static VAR Compensator (SVC), STATCOM, TCSC, UPFC
- Smart Grid and Future Trends



WHO THIS IS FOR

## This course is perfect for

Students & Career Switchers

Aspiring Power System  
Engineers

Electrical & Electronics  
Engineering Students

Working Professionals in  
Power & Energy Sector

Power Plant & Grid Operations  
Professionals

Renewable Energy & Smart  
Grid Enthusiasts

### CERTIFICATIONS



### ALUMNI NETWORK

Our alumni work at world-class companies

Amazon

Adobe

Google

Autodesk

Microsoft

Deloitte

Your career switch is one click away.

Ready to begin? Apply at [adyapanschool.com](http://adyapanschool.com) or email us at [support@adyapan.com](mailto:support@adyapan.com)

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