



**TATA POWER-DDL**

# DIGITAL UTILITY PROFESSIONAL

(Certification Course)

## 100 Hours online Certification Course in Power Distribution Systems

*An initiative of Tata Power-DDL to transform an Engineering Graduate/Post Graduate into an Industry Ready Professional*

The Indian Power Sector is witnessing a significant change. For driving this transformation, trained manpower with experience and hands on exposure is a pre-requisite. To ensure availability of personnel with exposure to all these cutting edge technologies, Tata Power-DDL, India's leading Power Distribution Company, which is acknowledged globally for the deployment of cutting-edge technologies, practices and processes has launched a certification course called "Digital Utility Professional" to address this need of trained manpower with adequate exposure to all these technologies.



This Industry ready Digital Utility Professional Certification Course in Distribution Systems, will cover all the essential & advanced topics for the engineers who would be groomed as per the requirement of Power Distribution related companies and Utilities. This will include practical trainings and real-time scenarios in Tata Power-DDL. To enable participants to imbibe the professional skills that are the need of the hour, this course design is developed by Veterans of Tata Power-DDL. The course is also open for Individuals as well as sponsored candidates from State Electricity Boards and Power Utilities (Public & Private). The objective of this online course is to develop well aware and groomed manpower having high skill and confidence in handling job roles that are going to be the most sought after functions in a typical Power Distribution Company / Utility in the coming days.

**ELIGIBILITY:** B.Tech./B.E./M.Tech or its equivalent in Electrical/Electrical & Electronics/Power Engineering and related branches. Those appearing in their final year examination can also apply. However, they must submit their final degree/provisional degree certificate at the time of online counselling. Candidates whose applications are cleared by the admission committee and also clear the online counselling will be provided an online link to complete the formalities and remit the course fee. Candidates will remit the fee through Tata Power-DDL's secure payment gateway. To enroll please click on **Register Now button below**

### **WHY YOU SHOULD JOIN?**

The main objective of the course is to create technically sound and trained manpower readily available for recruitment to the power utilities dealing with Electricity Distribution. This is a career oriented Digital Utility Professional Course for those who desire to make a career in the Power Sector. On successful completion of this course, Participants will be highly skilled and future ready to work anywhere in Power distribution.



**Digital Utility Professional  
(100 Hour online Certification  
Course on Distribution System)**

**Last Date of Registration –  
Monday, Aug 09, 2021.**

<b>Online Registration (Free of Cost)</b>	<b>05-July-2021 till 09-Aug-2021</b>
<b>Date of Online Counselling &amp; Spot Admission</b>	<b>16, 17, 18 /August/2021</b> <i>**Timings schedule will be intimated through email.</i>
<b>Commencement of Program</b>	<b>23/Aug/2021</b>

**Total Course Fee: ₹ 30,000 (Inclusive of Applicable Taxes)\***

**Click here to Register** →

**REGISTER FREE**



## Detailing of Topics

S No.	Topic	Sub-Topics	Duration / Total Days			
1	SCADA	Smart Grid & Communications	Day 1	Monday, 23 August, 2021	110 Mins	5 Days
		SCADA Overview	Day 2	Tuesday, 24 August, 2021	110 Mins	
		Outage Management System	Day 3	Wednesday, 25 August, 2021	110 Mins	
		Peak Load Management & Loss Reduction	Day 4	Thursday, 26 August, 2021	110 Mins	
		Customer Relation Management & Billing	Day 5	Friday, 27 August, 2021	110 Mins	
2	Data Analytics	Introduction to Business Data Analytics	Day 1	Tuesday, 31 August, 2021	110 Mins	5 Days
		Business Analytics Systems Overview at Tata Power-DDL	Day 2	Wednesday, 1 September, 2021	110 Mins	
		Business Analytics in Operations	Day 3	Thursday, 2 September, 2021	110 Mins	
		Business Analytics in Commercial				
		Data Analytics in HR	Day 4	Friday, 3 September, 2021	110 Mins	
Big Data at Tata Power-DDL/ Way Forward	Day 5	Monday, 6 September, 2021	110 Mins			
3	Smart Metering	Government Initiatives in Distribution Reforms	Day 1	Tuesday, 7 September, 2021	110 Mins	5 Days
		Energy Meters towards digitization & technology				
		Metering Protocol	Day 2	Wednesday, 8 September, 2021	110 Mins	
		Types of Meters				
		Smart Metering	Day 3	Thursday, 9 September, 2021	110 Mins	
		Net Metering	Day 4	Monday, 13 September, 2021	110 Mins	
Metering Technologies & AMR Application	Day 5	Tuesday, 14 September, 2021	110 Mins			
4	Geographical Information System	Overview on Geographical Information System	Day 1	Wednesday, 15 September, 2021	110 Mins	5 Days
		GIS Software & its Application				
		System Administration – GIS	Day 2	Thursday, 16 September, 2021	110 Mins	
		SCADA/OMS/DMS Overview				
		Integration of GIS with Advanced Distribution Management System	Day 3	Friday, 17 September, 2021	110 Mins	
		Consumer Indexing & Pole No. concept	Day 4	Monday, 20 September, 2021	110 Mins	
		Online Asset Monitoring				
		Network Planning through GIS	Day 5	Tuesday, 21 September, 2021	110 Mins	
Hands on GIS System						
5	Home Automation	Home Automation	Day 1	Wednesday, 22 September, 2021	110 Mins	5 Days
		Demand Side Management				
		Home Security	Day 2	Thursday, 23 September, 2021	110 Mins	
		Smart Appliances				
		Energy Management	Day 3	Friday, 24 September, 2021	110 Mins	
		Energy Efficiency				
		Energy Conservation	Day 4	Monday, 27 September, 2021	110 Mins	
		Demand Response				
		Peak Load Management	Day 5	Tuesday, 28 September, 2021	110 Mins	
Analysis offered - Device Control logs, Appliance Overload protection, Consumption History, Alert message, Condition based maintenance alert						

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6	Cyber Security	Overview of Cyber Security Trends worldwide.	Day 1	Wednesday, 29 September, 2021	110 Mins	3 days
		Security Risk Assessment Concepts				
		Ethical Hacking, Penetration Testing and Vulnerability Auditing.				
		Overview of Cyber security Control Room Operations.				
		Vulnerability Assessment & Prevention				
		Introduction to Network Security, Application Security and Cyber Attack Methodology.				
		Demonstration of Network and Application scanning using tools	Day 2	Thursday, 30 September, 2021	110 Mins	
		OT (Operational Technology) Security				
		Overview of Cyber Attacks on Critical Information Infrastructure.				
		Details of Cyber security Standards and frameworks for OT Security.	Day 3	Friday, 1 October, 2021	110 Mins	
		Introduction to Tools & Technologies available for securing OT Network.				
		Overview of IT Act 2000				
		Aims and Objectives of IT Act 2000				
Cyber Appellate Tribunal						
7	Battery Energy Storage System	Overview of Battery Storage System	Day 1	Monday, 4 October, 2021	110 Mins	2 Days
		Details of working of BESS				
		Costs Involved				
		Application & Benefits of BESS				
		Ancillary Services				
		Deviation settlement Mechanism (DSM) Loss Mitigation	Day 2	Tuesday, 5 October, 2021	110 Mins	
		Peak Load Management				
		Power Quality Management				
		Preferential services to consumers				
		Algorithms for BESS				
		Future Plan of BESS in Power Sector				
8	Electric Vehicle Charging Infrastructure	Electric Vehicle charging Infrastructure	Day 1	Wednesday, 6 October, 2021	110 Mins	2 days
		Types of Charging				
		Comparison of Existing EVs				
		EV Charging Infra- Govt. Policies & Incentives				
		EV Projections	Day 2	Thursday, 7 October, 2021	110 Mins	
		Electric Vehicle charging				
		Benefit of Electric Vehicle/ Types of Electric Vehicle				
		Smart Grid Technologies Supporting RE Integration				
		Tata Power / Tata Power DDL Initiatives on E-Mobility				

S No.	Topic	Sub-Topics	Duration / Total Days			
9	IT Intervention in Revenue Cycle Management	SMRD - Smart Meter Reading Device	Day1	Friday, 8 October, 2021	110 Mins	5 Days
		SRDD - Smart Recovery and Disconnection Device				
		Digitised Mode of Payment and its Integration	Day2	Monday, 11 October, 2021	110 Mins	
		Payment Reconciliation Process	Day3	Tuesday, 12 October, 2021	110 Mins	
		Mapping of Consumer Behaviour through AI	Day4	Wednesday, 13 October, 2021	110 Mins	
		Digitisation in Customer Service (CRM)	Day5	Thursday, 14 October, 2021	110 Mins	
10	AI, ML & Robotics in Power Distribution	Introduction to Artificial Intelligence Techniques, Framework and Legal, Social & Ethical aspects of AI	Day1	Monday, 18 October, 2021	110 Mins	5 Days
		Need, Benefits and Application of AI in Utilities				
		ML, Deep Learning, Analytical, Visualization and other Tools				
		Infrastructure Requirements for AI & ML				
		Data Science and Analytics	Day2	Thursday, 21 October, 2021	110 Mins	
		Introduction, Approach and Landscape of Machine Learning				
		Popular Algorithms of Machine Learning				
		Types of Machine Learnings				
		Machine Learning: Deep Learning and Reinforced Learning	Day3	Friday, 22 October, 2021	110 Mins	
		Virtual Reality (VR) and Augmented Reality (AR)				
		Data Science and Advanced Analytics - Big Data Visualization, Dashboards and Forecasting				
		Robotics and its use in Utilities				
		Robotics Design, Autonomy and Software	Day4	Monday, 25 October, 2021	110 Mins	
		Forecasting Energy Demand and Solar Generation				
		Drone based Monitoring of Assets and Operations				
		Monitoring of Operations with Inputs from Sensors				
		Prediction and Optimization Solutions	Day5	Tuesday, 26 October, 2021	110 Mins	
IoT Controlled Street Lighting						
Loss Reduction/Power Theft Modelling Using Machine Learning						

S No.	Topic	Sub-Topics	Duration / Total Days			
11	Renewables and Grid Integration and Microgrids	Indian Power Sector & Challenges in Integration of Renewable Energy	Day1	Wednesday, 27 October, 2021	110 Mins	3 Days
		International Power Scenario in Renewable Energy Source				
		Policy Framework for clean & sustainable power				
		Harvesting Maximum Solar Energy, Operational issues and Performance Improvement of solar plant.				
		Renewable Energy	Day2	Thursday, 28 October, 2021	110 Mins	
		Grid Integration Challenges				
		Load Forecasting in Renewable Energy				
		Regulation Perspective of Integration of Renewable Energy.				
		Site Visit to Smart Grid Lab & Solar Plant				
		Overview of Microgrids at Tata Power-DDL.	Day3	Friday, 29 October, 2021	110 Mins	
		Operations of Microgrids				
		Setting up, operating principles and functioning of plants, grids, micro grids in detail.				
		Basics of Electrical Overview - Laying, Cabling, Circuits				
		Renewable energy role in Microgrids				
		Microgrids module from basic to expertise (Microgrids control)	Day3	Friday, 29 October, 2021	110 Mins	
		Energy management techniques in Microgrids				
Peak shaving, Load-shedding, Energy shifting and PV smoothing in Microgrids						
12	Energy Efficiency & Demand Side Management	Overview of Indian Power Scenario & Various Government Initiatives in Distribution Reforms	Day1	Monday, 1 November, 2021	110 Mins	5 Days
		Introductory session on Demand Side Management and Energy Efficiency				
		Various types of DSM techniques	Day2	Tuesday, 2 November, 2021	110 Mins	
		Energy Accounting to assess losses, energy auditing to identify measures for reduction of loss	Day3	Monday, 8 November, 2021	110 Mins	
		Different types of DSM				
		Overview of BEE role in implementation of Energy Efficiency Programs	Day4	Tuesday, 9 November, 2021	110 Mins	
		Power Quality Improvement	Day5	Wednesday, 10 November, 2021	110 Mins	
		Energy Management Solutions				

S No.	Topic	Sub-Topics	Duration / Total Days			
13	Electrical Safety Procedure, Accident Prevention & Disaster Management	Safety Culture at Tata Power-DDL	Day 1	Thursday, 11 November, 2021	110 Mins	5 Days
		Best Safety Practices adopted By Tata Power-DDL				
		Development an effective Safety culture				
		Safety Zone Creation				
		Behavioural based Safety	Day 2	Friday, 12 November, 2021	110 Mins	
		Safety Terminology				
		Hazards identification & Risk Management (HIRA)				
		Incident investigation	Day 3	Monday, 15 November, 2021	110 Mins	
		Significance of Incident Prevention				
		Incident Causation & Approach to Investigation				
		Determine Causes (Root Cause Analysis)				
		Disaster Management	Day 4	Tuesday, 16 November, 2021	110 Mins	
		Case Studies & Discussions				
		Hands on Safety Practices	Day 5	Wednesday, 17 November, 2021	110 Mins	

**100 Hours (spread across 55 days)**

### WHY YOU SHOULD JOIN?

The main objective of the course is to create technically sound and trained manpower readily available for recruitment to the various companies and Utilities in the Power Distribution Sector. This career oriented Digital Utility Professional Course is for those who desire to make a career in the power sector. On successful completion of this course, Participants will be fully conversant with the various technologies that is part of the curriculum.

### SELECTION CRITERIA FOR ADMISSION:

**On Merit Basis** (on the basis of percentage secured in UG & PG courses of Engineering) **& on first come first serve basis.**

### Fee Structure

- Consolidated Cost for 100 hours spread across 55 days **INR 30,000 (all inclusive)**

#### **\*\* The Fee includes**

- Training Charges
- Certification Cost
- Course Material
- Technical Site Glimpse Online

### GENERAL

**Refund on Discontinuation of the course:** In -case a selected candidate discontinues from the program for any reason, no part of course fees will be refunded.

**Late Fee:** If a shortlisted candidate fails to deposit course fee by the due date, late fee @ Rs. 100/- per day will be chargeable from the due date. The discretion to give admission to the applicants will rest with Tata Power-DDL. Candidates found irregular in attending training or uninterested shall not be considered for the attendance and hence can be detained for getting certification.

All queries related to admission process and for any further details, please contact:

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