

**Formal Training Scheme to Associate Membership
CORE OBJECTIVES (ELL)**

1. Engineering Fundamentals of Electric Power Systems	Code	ES Initials and Date of Assessment			
		G	K	E	C
<p>1.1 Generation, Transmission , Distribution and Utilization of Electricity</p> <ul style="list-style-type: none"> - Principles of electricity generation, transmission and distribution - Development trends in electricity generation, transmission and electricity - Commercial and industrial utilization of electricity - Renewables and sustainability 	E				
1.2 Load Flow and Fault Level	E				
1.3 High Voltage Engineering	*E/K				
<p>1.4 Electric Power Plants and Apparatuses</p> <ul style="list-style-type: none"> - Generators and motors - Switchgear - Transformers - Electronic drives - Capacitors and reactors - Cables - Overhead lines - Protection and control equipment 	*E/K				
1.5 Application of Modern Electronic, Communication and Computer Systems to Electric Power Systems	*E/K				
* As Appropriate to the Company					

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2. Engineering Design	Code	ES Initials and Date of Assessment			
		G	K	E	C
<p>2.1 Design Office Practices</p> <ul style="list-style-type: none"> - Derivation of design requirements - Understanding and application of engineering standards, codes of practices, technical memoranda and use of design manuals - Stages of design - Computer aided design packages - Preparation of specification 	*C/E				
<p>2.2 Synthesis</p> <ul style="list-style-type: none"> - Selection of systems, plants, materials, units and components - Total design considerations including environmental influences, sustainability, safety, energy efficiency and maintainability, etc 	*E/K				
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3. Installation, Control, Operation and Maintenance Practices	Code	ES Initials and Date of Assessment			
		G	K	E	C
3.1 Installation, Testing and Commissioning <ul style="list-style-type: none"> - Installation, testing and commissioning standards, methods, procedures and practices - Site preparation and setting out - Resources scheduling, monitoring and control - Site supervision/management - Application of testing forms and commissioning checklists 	*C/E				
3.2 Measuring and Testing Equipment <ul style="list-style-type: none"> - Selection and use of measuring and testing instruments - Calibration and control of measurement accuracy - Performance monitoring 	C				
3.3 Quality Procedures <ul style="list-style-type: none"> - ISO 9000 Standards and other international standards - Total quality management system - Quality control and assurance procedures 	*E/K				
3.4 Operational Safety <ul style="list-style-type: none"> - Safety systems, procedures and practices 	*C/E				
3.5 Maintenance of Electrical Equipment <ul style="list-style-type: none"> - Condition monitoring and predictive maintenance - Preventive maintenance - Corrective maintenance - Fault analysis and investigation - Diagnostic techniques - Computer- aided maintenance management systems 	*C/E				
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4. Engineering Administration and Management	Code	ES Initials and Date of Assessment			
		G	K	E	C
4.1 Finance and accounting <ul style="list-style-type: none"> - Basic accounting methods - Account codes system - Estimates and budgets - Budget control - Stock control 	*E/K				
4.2 Commercial Procedures <ul style="list-style-type: none"> - Procurement and contracting - Tendering - Contract management and administration 	*E/K				
4.3 Personnel Management <ul style="list-style-type: none"> - Human resources deployment and development - Performance review, motivation and performance coaching 	E				
4.4 Information Management Systems <ul style="list-style-type: none"> - Electronic mailing and communication - Application of modern information management systems or solutions for record keeping, data archiving / retrieval facilities and works management, etc. - Organizing and filing of external and internal correspondences 	C/E				
4.5 Project Management <ul style="list-style-type: none"> - Supervisory skills - Problem solving and decision making - Project management and control - Cost management - Planning and programming of works - Quality management - Safety management - Environmental management 	*E/K				
* As Appropriate to the Company					