

- 1 PROTECTED OBJECTS
 - 1.1 NOMINAL DATA OF GENERATORS
 - 1.2 NOMINAL DATA OF TRANSFORMERS
 - 1.3 OPERATION / STABILITY / CAPABILITY DIAGRAM
 - 1.4 STATIONARY AND TRANSIENT FAULT BEHAVIOUR
- 2 PROTECTIVE CONCEPTS
 - 2.1 APPLICATION OF GENERATORS
 - 2.2 EARTHING
- 3 PROTECTIVE FUNCTIONS – NECESSITY AND PRINCIPLES
 - 3.1 TYPES OF FAULTS
 - 3.2 DIFFERENTIAL PROTECTION
 - 3.3 STATOR EARTH FAULT PROTECTION
 - 3.4 ROTOR EARTH FAULT PROTECTION
 - 3.5 LOSS OF FIELD PROTECTION
 - 3.6 NEGATIVE SEQUENCE PROTECTION
 - 3.7 REVERSE POWER PROTECTION
 - 3.8 FREQUENCY PROTECTION
 - 3.9 OVER AND UNDER VOLTAGE PROTECTION
 - 3.10 OVERCURRENT PROTECTION
 - 3.11 OVERLOAD PROTECTION
 - 3.12 IMPEDANCE PROTECTION
 - 3.13 OUT OF STEP PROTECTION
- 4 TRIPPING MATRIX
 - 4.1 ALARMING
 - 4.2 TRIPPING
- 5 SETTING
 - 5.1 CALCULATION BASICS
 - 5.2 IMPORTANT EQUATIONS AND TOOLS
 - 5.3 EXAMPLES
 - 5.4 PRACTICAL MEASUREMENTS AND EXPERIENCES
- 6 COMMISSIONING
 - 6.1 CT's
 - 6.2 SHORT CIRCUIT TESTS
 - 6.3 EARTH FAULT TESTS AND ZERO SEQUENCE MEASUREMENTS
 - 6.4 MEASUREMENT OF THE REVERSE POWER
 - 6.5 SYNCHRONISATION
 - 6.6 EXPERIENCES

The knowledge of GSC power engineering is based on successfully completed projects regarding conception, calculation and commissioning. The participant will receive well-founded basics and useful background information as well as extensive long time experiences.