Exam questions "Transmission and Distribution"

1. Load-flow calculation in power system
   - Gauss-Seidel method (power flow solution)
   - Newton-Raphson method (power flow solution)
2. Overhead line ampacity
   - Steady states
   - Dynamic states
   - Transient events
3. Overhead Line Thermal Models
4. Overhead Line conductors dimensioning
5. Environmental impact of overhead lines
6. Impact of el-mag. field generated by overhead line
7. Electric field calculation
   - Electric field control
8. Magnetic field calculation
   - Magnetic field control
9. Overhead line noise
10. Power flow and power transmission, critical cable length
11. FACTS technologies
    - TCR, TSC, SSSC, TCSC
    - SVC
    - STATCOM
    - UPFC
    - PST
12. HVDC technology
    - LCC HVDC
    - VSC HVDC
13. Energy accumulation and storage
14. Hydro power production
15. Wind power production
16. Solar power production
17. Biomass and cogeneration
18. Power quality
    - Power quality indexes
    - Parameters calculation
19. Power quality improvement
    - Passive, active filters
    - Compensation
20. Smart grid (concept and elements)
21. Smart metering
22. Virtual power plant