1. Explain the following terms in detail with mathematical expressions and examples

THD, TDD, Distortion power factor in the harmonic domain, Telephone influence factor, K-factor, and Flicker factor.

1. Develop the transient model equivalent circuit of Synchronous Reluctance Motor which has 2.2 KW Power with RLC in Series. Derive an expression for the Voltage and current in the stator winding along with the equivalent circuit parameters
2. Develop the transient model equivalent circuit of the Induction Motor which has 4 KW Power with RLC in Series. Derive an expression for equivalent circuit parameters.
3. Develop the transient model equivalent circuit of BLDC Motor which has 2.5 KW Power Derive an expression along with the equivalent circuit parameters.
4. Drive a Modeling of PMSM Motor with all the required Parameters.
5. State various methods in charging techniques of Lead-Acid Batteries.
6. Compare the Values of Voltage and current in each of the Charging Techniques
7. Annalise the SOC & SOH parameters w.r.t. the charging techniques
8. Explain in detail about Battery Characterization. Also, explain the development methodology of Active and passive balancing of batteries
9. Discuss about the thermal modeling of the Battery
10. Explain about the Wireless power transfer (WPT) technique for EV charging
11. Explain in detail about Modeling of Batteries
12. Brief about the Design of High gain DC/DC Converter
13. Drive the mathematical expressions of Efficiency calculation for the following motors' Induction Motor, BLDC, PMSM, switched Reluctance Motor and Synchronous Reluctance Motor.
14. Discuss the mathematical expressions involved in the Design of Low voltage high current Inverter drive.