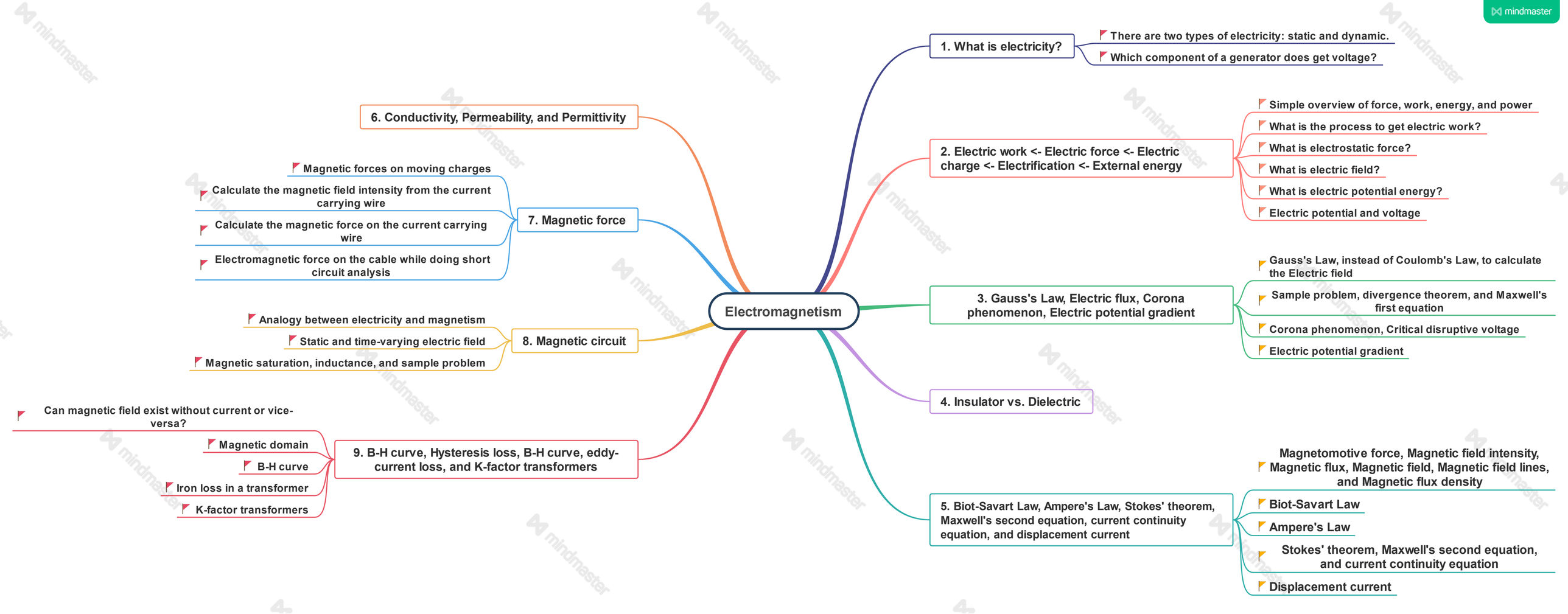
Electromagnetism
1. What is electricity?
There are two types of electricity: static and dynamic.
Which component of a generator does get voltage?
2. Electric work <- Electric force <- Electric charge <- Electrification <- External energy
Simple overview of force, work, energy, and power
What is the process to get electric work?
What is electrostatic force?
What is electric field?
What is electric potential energy?
Electric potential and voltage
3. Gauss's Law, Electric flux, Corona phenomenon, Electric potential gradient
Gauss's Law, instead of Coulomb's Law, to calculate the Electric field
Sample problem, divergence theorem, and Maxwell's first equation
Corona phenomenon, Critical disruptive voltage
Electric potential gradient
4. Insulator vs. Dielectric
5. Biot-Savart Law, Ampere's Law, Stokes' theorem, Maxwell's second equation, current continuity equation, and displacement current
Magnetomotive force, Magnetic field intensity, Magnetic flux, Magnetic field, Magnetic field lines, and Magnetic flux density
Biot-Savart Law
Ampere's Law
Stokes' theorem, Maxwell's second equation, and current continuity equation
Displacement current
6. Conductivity, Permeability, and Permittivity
7. Magnetic force
Magnetic forces on moving charges
Calculate the magnetic field intensity from the current carrying wire
Calculate the magnetic force on the current carrying wire
Electromagnetic force on the cable while doing short circuit analysis
8. Magnetic circuit
Analogy between electricity and magnetism
Static and time-varying electric field
Magnetic saturation, inductance, and sample problem
9. B-H curve, Hysteresis loss, B-H curve, eddy-current loss, and K-factor transformers
Can magnetic field exist without current or vice-versa?
Magnetic domain
B-H curve
Iron loss in a transformer
K-factor transformers