The Tesla Coil

Description:
It is device that uses air as a medium of transmission of electricity and can light up devices several feet away from it. We are going to make a mini version of it.

Working:
The Tesla coil consists of two parts: primary coil and secondary coil, each with its own capacitor. (Capacitors store electrical energy just like batteries.) The two capacitors are connected to the spark gap - the air gap between the two electrodes that generate the spark of electricity.An external source is required to the entire system power adapter.Essentially, the Tesla coil is two open electric circuits connected to the spark gap.
The power source is connected to the primary coil. The primary coil capacitor absorbs charge. The base coil itself must be able to withstand a huge charge and massive surges of current, so the coil is usually made of copper, a good conductor. Ultimately, the capacitor builds up a lot of charge that breaks the air resistance in the spark gap. Then, similar to pressing a soaked sponge, the current flows out of the capacitor down the primary coil and creates a magnetic field.
A huge amount of energy makes the magnetic field collapse rapidly and generates an electrical current in the secondary coil. The voltage through the air creates sparks in the spark gap. The energy steps back and forth between the coils several hundred times per second and accumulates in secondary coils and capacitor. Eventually, the charge in the secondary capacitor gets so high that it breaks free in an spectacular burst of power supply.

Comfort:
It can provide wireless electricity to every where which can reduce a lot of labour and material cost.

- Anmol Tripathi