

Distinguish, differentiate, compare and explain what is the Difference between Light and Transmission Electron Microscope. Comparison and Differences.

## **Difference between Light and Transmission Electron Microscope**

1. In Light Microscope LM, optical lenses are generally made of glass with fixed focal lengths. In Transmission Electron Microscope TEM, magnetic lenses are constructed with ferromagnetic materials and winding of copper wire producing a focal length which can be changed by varying the current through the coil.
- 2 Magnification in the Light Microscope is generally changed by switching between different power objective lenses mounted on a rotating turret above the specimen. It can also be changed if oculars (eyepieces) of different power are used. In the Transmission Electron Microscope TEM the magnification (focal length) of the objective remains fixed while the focal length of the projector lens is changed to vary magnification.
- 3 The LM has a small depth of field, thus different focal levels can be seen in the specimen. The large (relative) depth of field in the TEM means that the entire (thin) specimen is in focus simultaneously.