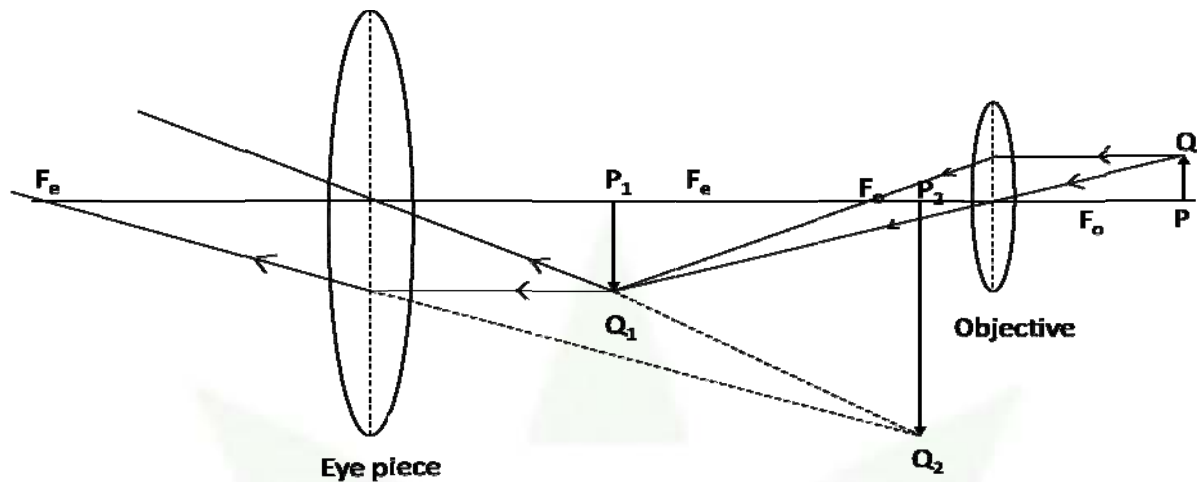




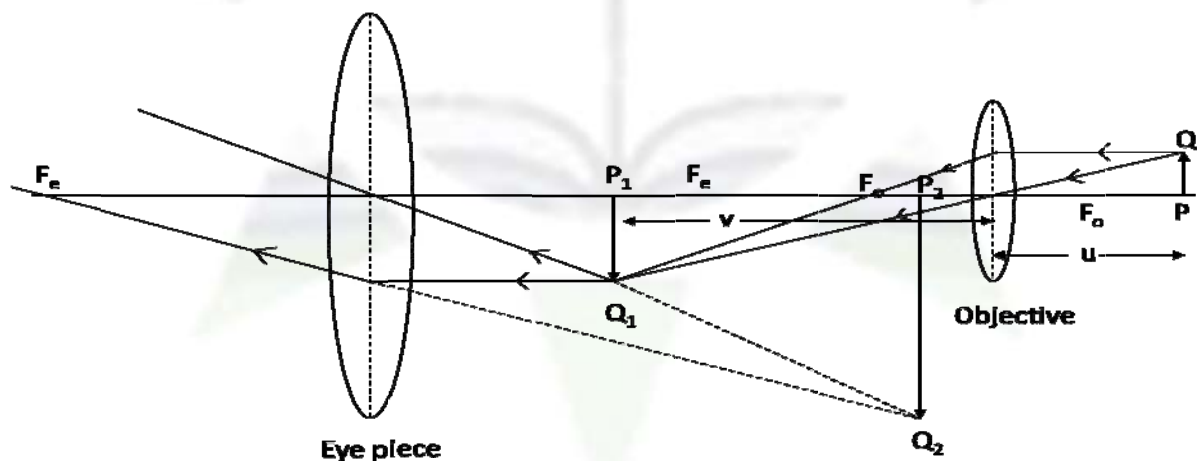
Compound Microscope

Compound Microscope:



It consists of objective and eye piece. The objective is a convex lens of small aperture and small focal length. The aperture of the eye piece lens is slightly greater and the focal length is also small.

Ray diagram: PQ is an object kept in front of objective ($f_o < u < 2f_o$), P_1Q_1 is the image formed by objective this image serves as object for eye piece, since P_1Q_1 lies between the focus and optical center of eye piece hence an extended image P_2Q_2 is formed by eye piece. Thus P_2Q_2 is the final image of PQ produced by the compound microscope.



Magnifying power of compound microscope:

$$M = M_o \times M_e$$

For normal vision

$$M_n = \frac{v}{u} \frac{D}{f_e}$$

For distinct vision

$$M_d = \frac{v}{u} \left(1 + \frac{D}{f_e} \right)$$