

#Jenny



Finally I get this ebook, thanks for all these I can get now!

#Rio



Cool! I'am really happy

#Markus Jensen



I did not think that this would work, my best friend showed me this website, and it does! I get my most wanted eBook

#Hun Tsu



wtf this great ebook for free?!

#Che Salsa



My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler



so many fake sites. this is the first one which worked! Many thanks

Physics XI Notes

GEOMETRICAL OPTICS - QUESTIONS & ANSWERS

$$M - 1 = \frac{25}{f}$$
$$M = \frac{25}{f} + 1$$

Or

$$M = \frac{d}{f} + 1$$

Q.4: Describe with the help of a ray diagram, the construction and working of compound microscope and hence derive the expression for its magnifying power?

Ans: **DESCRIPTION:**  
A compound microscope is an optical instrument which is used to see small object with very high magnification.

**Construction:**  
A compound microscope consists of two convex lenses, called as objective, which is near to the object and the other is eye-piece, near the eye. The objective has very short focal length  $f_1$  and eye-piece has relatively long focal length  $f_2$ .

**Working:**  
The objective lens forms a real, inverted and magnified image of the object, which is placed beyond its focus on the stage of the microscope. The mirror at the base reflects light on the object. This objective lens produced an inverted, enlarged and real image IQ, which acts as the object for the second lens, i.e. the eye-piece. This image is focused within the focal length of the eye-piece resulting an erect, highly magnified and virtual image IQ'. This image can finally be seen by the eye. The focusing of the final image is achieved by mounting the eye-piece in a tube that can be adjusted up and down with the help of geared wheel. The following ray diagram shows the path of rays through the microscope.

**Derivation For The Expression Of Magnifying Power:**  
In order to derive the expression for the magnifying power of microscope, consider a small object OP, which is placed at a distance 'p' just beyond the focus of the objective lens  $L_1$  whose real, inverted and magnified image IQ is formed at a distance 'q' from the objective lens  $L_1$ . The magnifying power of the microscope is given by

$$M = \frac{\beta}{\alpha} \quad \dots (i)$$

practicalcentre.blogspot.com Page 12

[Download PDF version of :](#)  
**Optics Questions And Answers**