Q6. A grating has 620 ruling/mm and is 0.5 mm wide. What is the smallest wavelength interval that can be resolved in the third order at λ =481mm?

Given:- N = 620 x 0.5=310 ; λ =481x10^{-9}m ; m=3

Formula:- $\frac{\lambda}{d\lambda} = mN$

Solution:- d λ = $\frac{\lambda}{mN}$ = $\frac{481 \times 10^{-9}}{3 \times 310}$ = 0.5172 x 10^{-9} m

dλ = 0.5172 A°

Ans:- The smallest wavelength interval is 0.5172 A°