**Q2.**Monocromatic light of wavelength 6560A falls normally on a grating 2 cm wide. The frist order spectrum is produced at an angle of 16®17’ from the normal. Calculate the total number of lines on the grating.

**Given:-** =6560A=6560 x 10-8cm; width = 2cm ; n=1 ; =16.28®

**Formula:-**

a +b =

Total number of lines= N x width

**Solution:-** (a+b)= = = 2.34 x 10-4 cm

Number of lines per cm = =4273

Total no. of lines = 4273 x 2 = 8547

**Ans:- There will be 8547 lines on the grating.**