**Q5.**In plane transmission grating the angle of diffraction for the second order principal maxima for the wavelength 5 x 10-5 cm is 35®. Calculate the number of lines/cm on the diffraction grating.

**Given**:- l=5x10-5cm ; =35® ; n=2

**Formula:-** ; = number of lines/cm

**Solution:-** a+b= = = 1.74 x 10-4

Number of lines per cm = = = 5735

**Ans:- The number of lines pre cm is 5735.**