C1= 1.5 X 10-3 X 4 = 6 X 10-3 Kgmol/m3

C2= 1.5 X 10-3 X 1= 1.5 X 10-3 Kgmol/m3

Considering the plane wall condition

we have,

R = L/DA = 0.0005/8.7 X 10-8 X1

Mole flux = (6 X 10-3 - 1.5 X 10-3)/0.0005/8.7 X 10-8 X 1 = 7.83 X 10-7Kgmol/m2s

Mass flux = 2 X 7.83 x 10-7 Kg/m2s = 1.566 X 10-6 Kg/m2s