Module 1 Unit 1

THIN FILM INTERFERENCE – FORMULA SHEET

Parameter	Formula	
1. Interference conditions		
a) Rarer-denser-rarer **OR** Denser-rarer-denser	Maxima	Minima
Reflected light:	$2\mu t\cos r = \left(n - \frac{1}{2}\right)\lambda$	$2\mu t\cos r = n\lambda$
Transmitted light:	$2\mu t\cos r = n\lambda$	$2\mu t\cos r = \left(n - \frac{1}{2}\right)\lambda$
b) Rarer-intermediate-denser	Maxima	Minima
Reflected light (only):	$2\mu t\cos r = n\lambda$	$2\mu t\cos r = \left(n - \frac{1}{2}\right)\lambda$
2. Anti-reflecting film **OR** Highly transmitting film	$t = \frac{\lambda}{4\mu_f}$	
3. Anti-transmitting film **OR** Highly reflecting film	$t = \frac{\lambda}{2\mu_f}$	

Formulae Sheet Prepared by Dr. Suren, KJSCE, Sion, Mumbai