

$$M = \sqrt{n^2 - n^2}$$

$$M = n \sqrt{2}$$

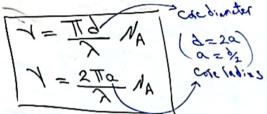
N, : replactive index of cole

N2: (clastile: index of clabding

relocity of light

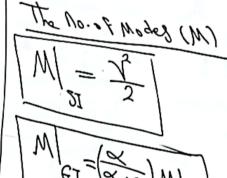
3x 10 misec) I relocity inthe medium

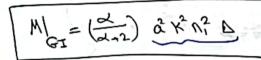
The (4) number the normalized Preguency



note

(M2) radis 12: Ho about algrice ma





swar no. (lalle)

The Fractional Power wested in children

Gou Constar (50/125) SI 10-61 11=1.48 a=25 1m N2= 1.465 1=1320 nm 10.0 = D a) NA = 105-05 = [0.51 y=0.81 hw  $Q_{\text{max}} = 5i\bar{n}'(N_{\text{A}}) = [12.13]$ dere = 13 in Code of (SI) Fiber  $d = \frac{1}{11} \frac{1}{11} = \frac{2.405 \times 1320 \times 13}{11 \times 0.21}$ 2.4,5 (SM)

No.E \_2.405 9=10 hw 1=1-3 mm N=1.55 a) NA = 11/20 = 10.51 a) N2= 1-5468 b)  $V = \frac{2\pi\alpha}{\lambda} \cdot N_A = [39.27]$ (b) D=0.266%. c) M= 12 = [77] c) Omex = 5.712 1 02 = Jn2-1/2 = 1.5488 No.8

N=1.55 N=1.57

2=50 ym

N=0.81m

a) 
$$N_A = \sqrt{N_i^2 - N_i^2} = [0.35]$$

b) 
$$\mathcal{O}_{max} = 5 \cdot \overline{n}'(M_k) = \overline{20.487}$$

c) 
$$V = IId$$
  $N_{\Lambda} = [68.72]$ 

9) 
$$W/^{21} = \frac{5}{\lambda_5} = [539]$$

$$W_{1}^{C1} = \frac{31}{35} W_{1}^{21} = 1180$$

y=1300 UW

GI -> graded: ndex (X=1)

d=504m

11=1.48

1/2=1.46

(a) M/\s\_r c

P) M/GI, Poldd: N)

NA=J12-12=0.24

7 = Thd . NA = Trosunio = 29

M/= 1/2 = 1/20)