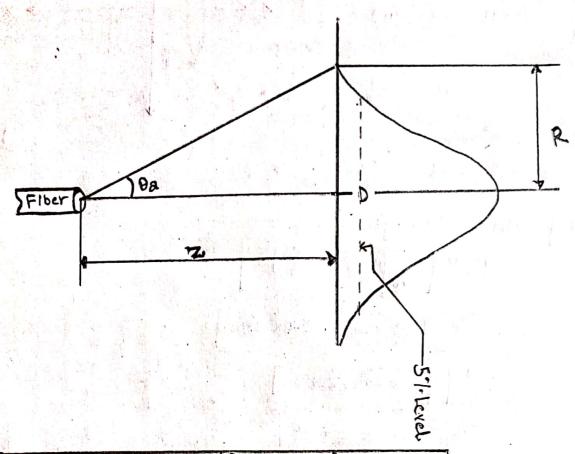
To be for	Date: - 2021/03/25 PHY 1701 (Engineering Physics) Lab Manual and Records
	Pag: -20 BDS0405
	OPTICAL FIBER CHARACTERIZATION
	Apparatus Available:
	The specialities were surrect the families (A. S. Sant
	Diode Lager . Com (156.0)
	Optical filer
	Laser-tiber Couplar
	Optical will
Carlotte Carlotte	Pinhole photo defector
	Power supply for loser a
	Detector autput measurement unit.
	SID:
	To determine the numerical aperture of given multimos optical box
	프로프트 크리 어느는 사람들은 아니는 아이들은 아이들은 이 사람들이 되었다. 그런 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은
	Theory:
	Theory:- A mutti-mode optical fiber will only propagate light that enters the
	A mutti-mode optical fiber will only propagate light that enter the
	A mutti-mode optical fiber will only propagate light that enter the fiber within a cortain cone, known as the acceptance cone of the
Seq. 100	A mutti-mode optical fiber will only propagate light that enter the
	A mutti-mode optical fiber will only propagate light that enter the fiber within a cortain cone, known as the acceptance cone of the fiber. The half-angle of this cone is alled the acceptance angles ba.
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	A mutti-mode optical fiber will only propagate light that enter the fiber within a cortain cone, known as the acceptance cone of the fiber. The half-angle of this cone is called the acceptance angles θ_a . Acceptance angle $\theta_a = ten^{-1}(P/Z)$.
	A mutti-mode aptical fiber will only propagate light that enter the fiber within a cortain cone, known as the acceptance cone of the fiber. The half-angle of this cone is called the acceptance angle, the Acceptance angle to a ten (P1z). Where, Die the diameter of far field intensity at 5% intensity bud
	A mutti-mode optical fiber will only propagate light that enter the fiber within a cortain cone, known as the acceptance cone of the fiber. The half-angle of this cone is called the acceptance angle Da. Acceptance angle Oa = ten (P1z). Where, Die the diameter of fair field intensity at 5% intensity bud of the maximum attainable intensity and z is the distance between
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	A mutti-made optical fiber will only propagate light that enter the fibor within a cortain cone, known as the acceptance cone of the fiber. The half-angle of this cone is called the acceptance angle Da. Acceptance angle Da = ten (P1z). Where, Dis the diameter of fax field intensity at 5% intensity bud of the maximum attainable intensity and z is the distance between the detector and the fiber output end.
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Z	Micrometer readings (mm)	Detector 0/p current	D
	21.10	0.01	En to
	2590	0.01	100
	20.70	0.04	
	20.50	2.4	HA SA SA
	20.30	12-5	
	20.10	29.1	
1 mm	19.90	55.5	A.a.mm
	19.70	94.1	19 mm
	19.50	127-4	
	19.30	138.0	
	19.10	113-4	
	1890	64.4	
	18-70	622.8	
7 T - 158 A	18.50	5.1	
	18.30	1.0	(1 − 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1 − 1
	18.10	0.02	
	17-90	0.01	

Calculation: -

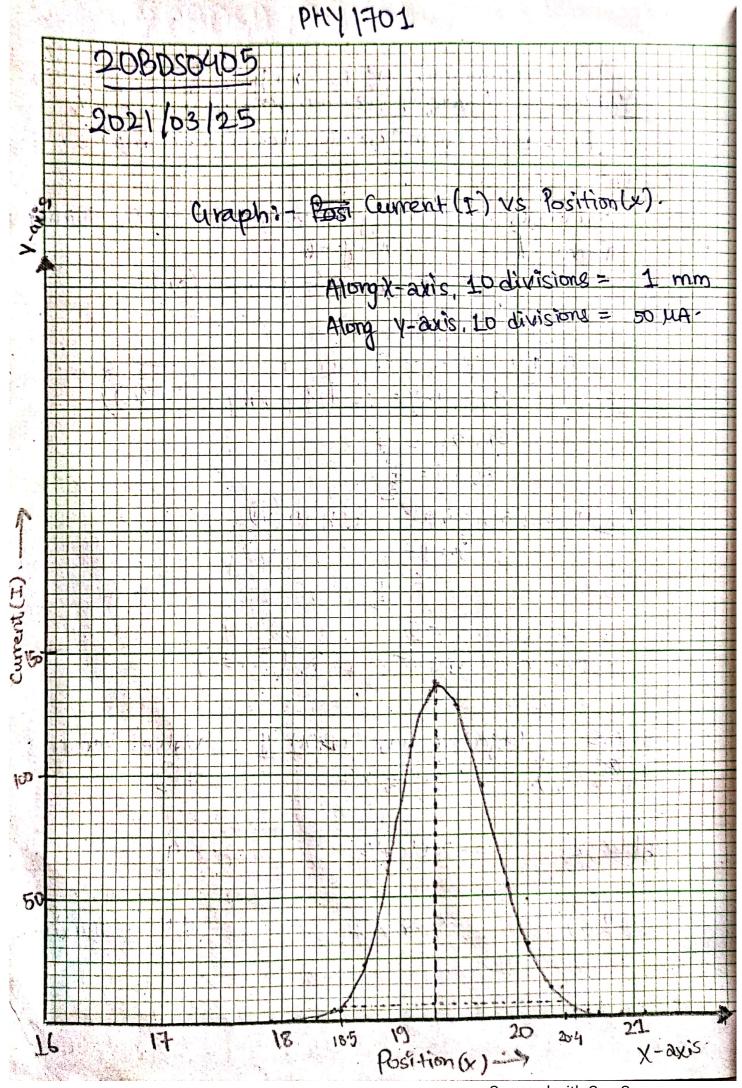
$$R = \frac{D}{2} = \frac{1.9 \, \text{mm}}{2}$$
$$= 0.95 \, \text{mm}$$

$$\theta_a = \tan^{-1}(\frac{P}{2})$$

= $\tan^{-1}(\frac{0.95}{1})$
= 43.53°

$$=sin(\theta_a)$$

= 0.683



Scanned with CamScanner

	Date:- 2021/03/25 PHY 1701 (Engineering Physics): Leb Manual and Revolution Physics): Leg No:-20BDS0405 Date Page
	Result:-
	Numerical Aperture (NA) of the given multimode optical
	fiber is 0.689 (The given
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