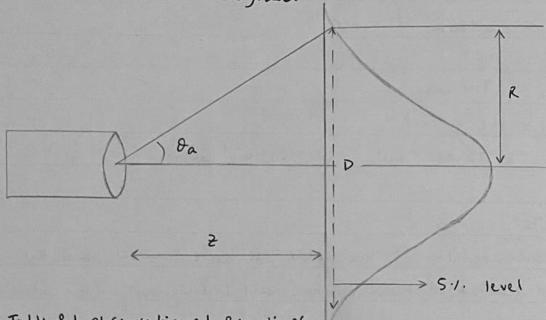
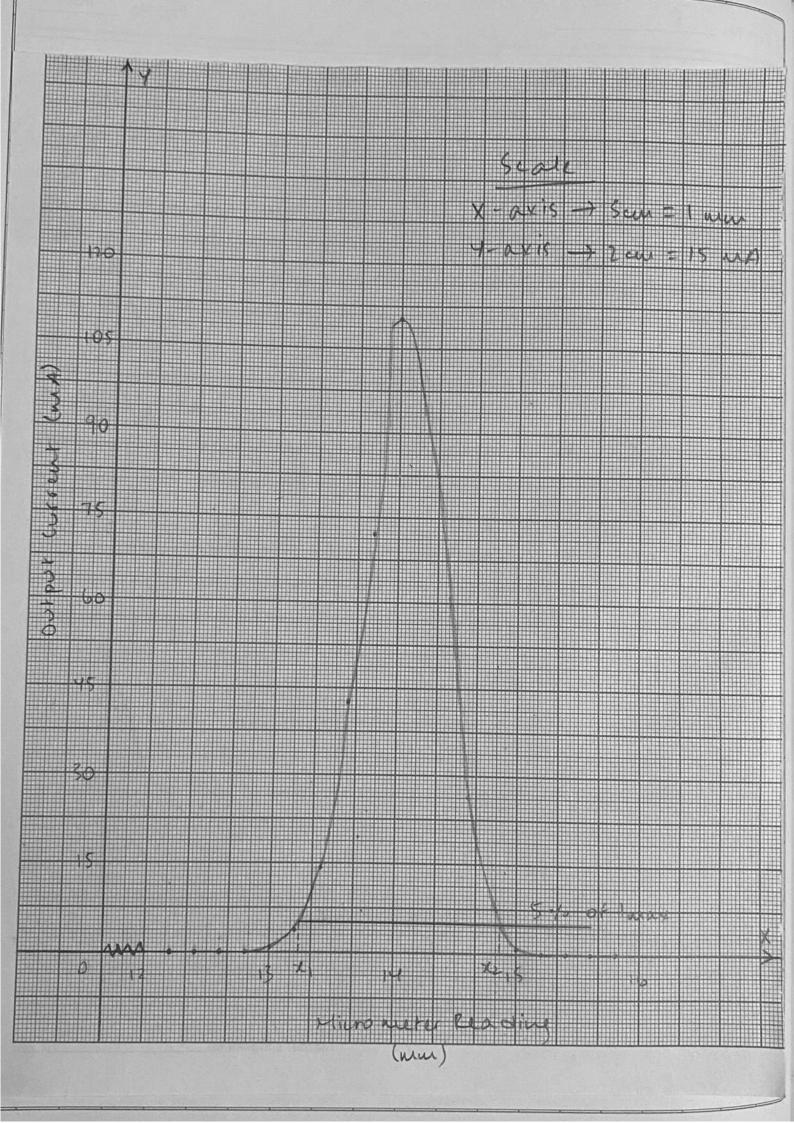
Fig 8.1. Ray and current level diagram



Micrometer Reading lun	w) output current (mA)
12. 2	0.1
12.4	0.1
12.6	0.2
12.8	0.3
13	0.9
J.2	3.7
13.4	14.5
13.6	42. 5
13.8	72.2
B 14	110.6
14.2	96.5
14.4	71.6
14.6	26.5
14.8	5
15	0.8
15.2	0.3
15.4	0.5
15.6	0.1
15.8	٥.١

Optical fibre characterisation Apparatus Available: Diode laser, optical fibre, Laser-Fiber complex, Optical rail, pinhole ghoto detector, power supply for laser and detector output acacurament unit. Stodent learning objectives: To determine the numerical aperature of a given multimo de optical fiber. Theory: A multi-mode optical fiber will only propagate light that enters the fiber within a certain cone, known as the acceptance cone of the fiber. The fibre millione, and of the acceptance cone of the fiber. The half-angle of this come is called the acceptance angle, fa. Da = tan-1 R, where D is the diameter of the extractional intensity at 5 11 intensity level of the maximum attainable intensity and ± is the distance between the detector and the fiber output end. NA = sin Da Calculations: Max = 110 b 51. of linax = 5.53	Expt. No	Page No
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pinhole shoto detector, power supply for laser and detector autport areasurement unit. Student learning objectives: To determine the numerical aperature of a given multimode optical filter. Theory: A multi-mode optical filter will only propagate light that enters the filter within a certain cone, known as the acceptance cone of the filter. The half-angle of this cone is called the acceptance angle, &a. \$\frac{\partial}{a} = \tan^{-1} R\$, where D is the diameter of the 2 tar field intensity at 5% intensity level of the maximum attainable intensity and \$\frac{\partial}{a}\$ is the distance between the detector and the filter output end. \$\text{NA} = \text{Sin Pa}\$ Calculations: \text{Max} = 110.6	Diode laser, optical fibre, Laser - Fiber	coupler, optical rail,
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and the fiber output end. NA = Sin Da Lalwlations: Imax = 110. 6 5.1. of Imax = 5.53		
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Imax = 110. 6 5.1. of lmax = 5.53	NA = Sin Da	
Imax = 110. 6 5.1. of lmax = 5.53		
5.1. of max = 5.53	calulations:	
	Imax = 110.6	
	5.1. of huax = 5.53	
		eacher's Signature

Date_



Expt. No	Page No. 21
×1 = 13.25	
X2 = 14.87	
D = X2 - X1 = 1.64	
R = D/2 = 0.82	
Da = tan - 1 R/2 = 39.35	
102 - 1041 -12 - 51.33	
Result:	
Numerical Aperature of the given multimode op	stical tiles
is 0.634.	TICAL TIPA
	4
Teacher's S	ignature

Date _____