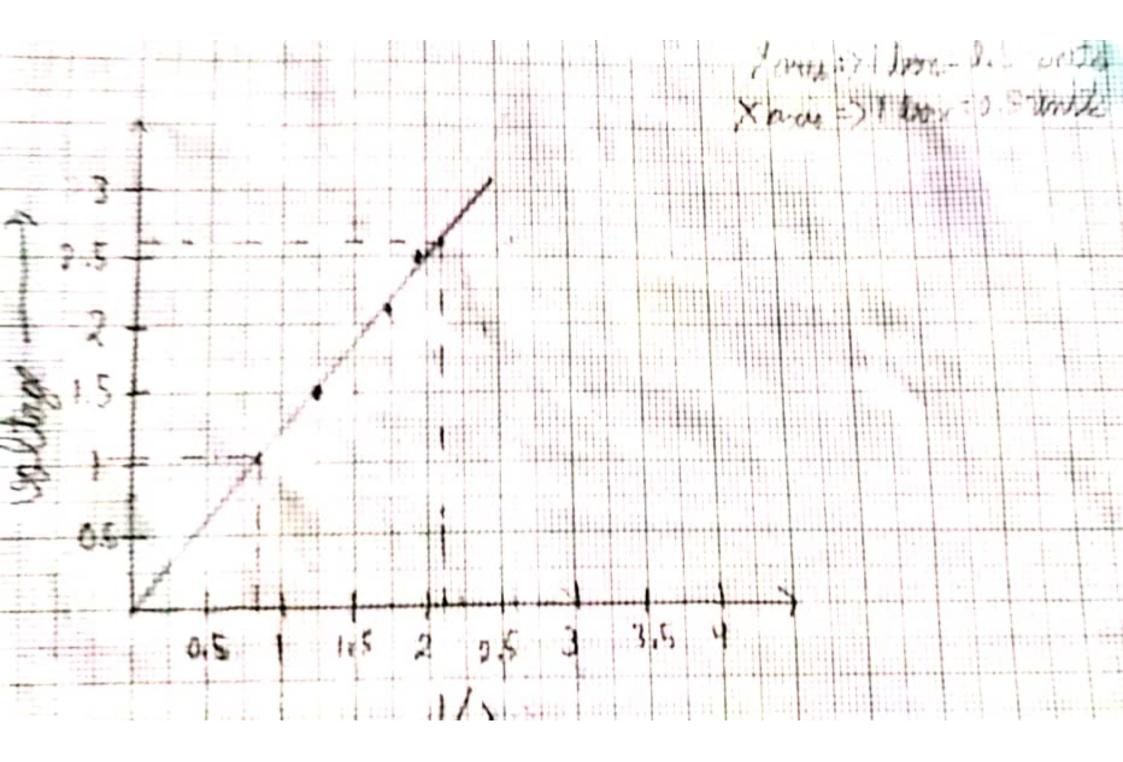
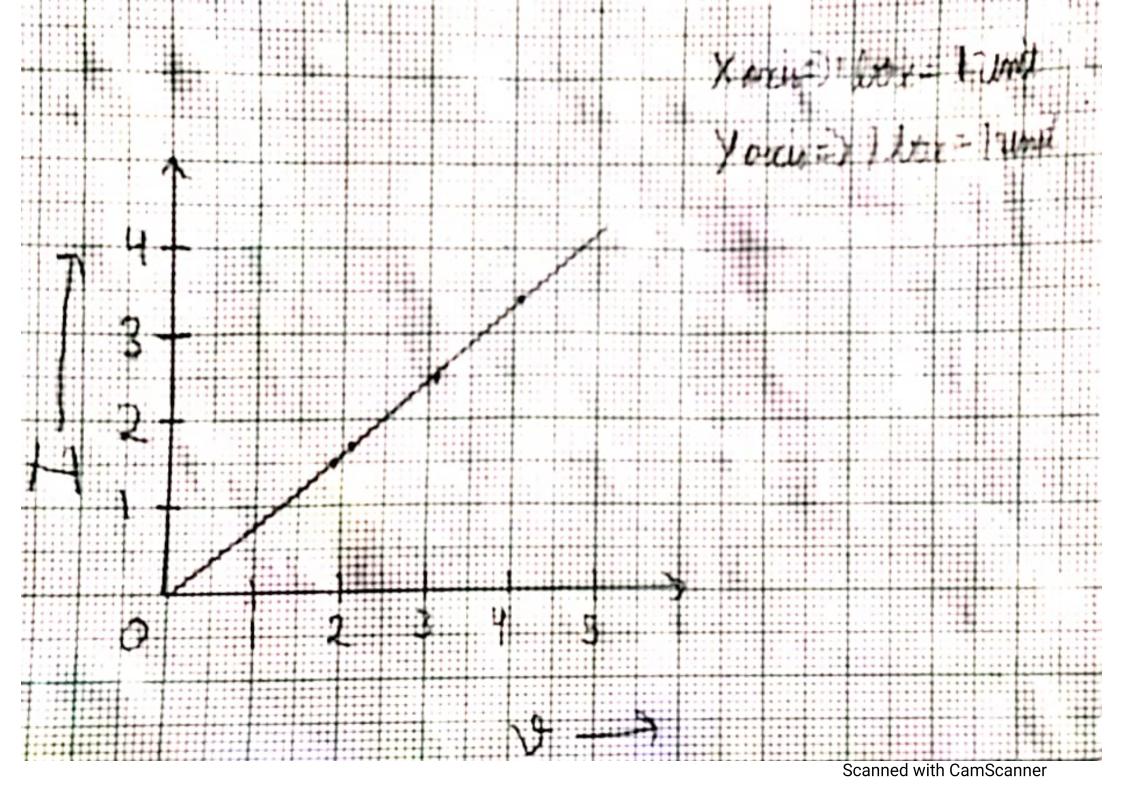
	10.8 T1 =	Page No.:	YOUVA
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	E. J. H. Carling - man larged	hours !	
	Experiment-4	and a single	
		1	
		Comment of the state of	
7	Aim:	0/10 23	
	Determination of plank's Come	trat:	
	plants	51000	
-			
	Apparatus Required:	idell will	
	a rheustat, digital millimeter, and 1k resistor and 1 Herest	1 5	
	a should de la come wa	y hey	
	digital millimeter, c	rigital v	oltmeter
	wardenoth of (FD)	Known	
	wavelength of (FD		
	wavelength of LED.		
	T A A A A A A A A A A A A A A A A A A A		
*	Theory:		1
	O to the second		
. 1	Plank's Compatible	, ,	
	Plank's Constant (h), a physical con	stant w	as
	max planck in 1900. The signific plank's constant is that quants	man tois	ed
	max Planck in 1900. The signific	and of	
	Plank it Constant is that		
	Training and 13 The quants	(small	
	135 22 27 01 000999),	The state of the s	
	Can be determined by frequency	of mudi	tion
	Can be determined by frequency of	7	1.071
	und I was common.		
2)	It describes the behavior of	+ partic	les
	and waves at atomic level as		
	the particle nature of light.		
3)	An LED is a two terminal	Semicond	luchor
	light source. In the unbiase	ed cond	i hon
	I last themica is devalue	20.01	
The second second second	a potential turvier is develop	rea_ Ge	1
	the p-n junction of the CEI	113 reduc	ed
	at a particular voltage to	he heigh	tot
-	herma herma	laus and	,
	potential buries become very		,
	the LED Stants glowing, in t	he fore	nond
	y -		
-	and reference in the control of the		
-	The state of the s		The second secon
		nod with O C	laanne:
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	biased condition electron crossing the
	junction are existed, and when they
	return to their normal state, chogy
1	is enitted. This particular voltage is
	couled the knee voltage.
	The light thingy emitted during forward biasing is given:
Breaks	7 3 9,00
	$f = hc \longrightarrow 0$
	Cohin C -1-1/ of toht
	where, E= velocity of Light
*	h = plank's constant
	2 = wave length of Light.
-	The internal
	If w is the forward voltage applied
-	light (the knee voltage) the enit
*	1 me song g
	given to electrons crossing the junction,
- (4)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
-	E=ev
* <u>-1</u>	alice and the second of the se
	Equating 1 SD we get
-	The public on white with
	The knee voltage U can be measured
- (57)	for CED with different values of &C
- 12	Course length of Light).
	the one modern the Market and the
- 10	V = hc (1) — (3)
<u>``</u>	$\frac{V = hc}{e} \left(\frac{1}{h}\right) $ 3
	HILLET CO. A. C. Speller, The Fly Spouls.
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17-	

	Mar.					T W T F	s s	,
	Ke.				Date		AVUOY	
1	-							
/	-	Planks			labores !-		13	
_	+	1100	constant = h	<u>C</u>	1			
_	- 2			_ \	£ 2/	Slupe		
_	+	3,74	e known va	lue	e ;	5-35 ×1	28	<u>(s</u>
_	+				_			<u>~</u> ~
_	1/2	MITGINANO	ely, we can	د	orite Egn.	3 as.		
_	+		No.		-			
_	-	1) = 6	9 کی		)', =	halod		
_		C			9	1	4	
	-			A	. 0 % 50	ala		
	28	Observat	ion Table 1:-		3	-		
_		3 × 10 - 01	2210 0 453	- }	in and	نتم		
		Colour	coare length	1	ence voltage	لم	x v	
4	2)	Med LED	650-X 10-1	è	1.59	103	5-5	
_		yellow LED 570 ×10			2-17	123		
1	3	Infrored LE	D 1250 ×10-9	1	1:12 1018.00			
	9	Green (t	-D 510 × 10-9	31 12	2-43	1339.		
1	3	Blue LE	7 476×109	<u>'</u>	2-61	12 16.		
		La <sub>e</sub>	31.01	X 8	- G - + .			
-	×	Observat	ion Tuble	₹ <u>:</u> -	`			
			27.01 x	P. 202.34	1 = 4		721 	
		S. No	vortage (U)	8	Corrent C	I)	i.	المريض. المريض.
	NO. 1	()	1.908	7	1.59.20			
		2)	2. 102 000	R. SF	1 1= 751			- 124.04.
		3)	3.100		2.584			
		4200051	- 51 4: 104 more	fre	3.420	seus le no		ا.
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N.			The second secon	1.7				- have

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*	Calculations:	
	Planter former to be	-
	Slope = 72-21 = 2.43-2-17	
15)82-	n2-21 (1.96-1.75) X106	
	6 1 10	-
	2) 0.26 × 10-6 = 1-27	100
	0-21	-
	Solpe = he	
	e	-
	Slope x e 2 h	
	Chienropien Table 1:0	24
	where, h = 1.2×10-6 x 5-33×10-20.	
. ·U.	$h = 6.396 \times 10^{-34}$	
	~ 6.626 × 10-34	0
· P.	40160 LED 570 × 10.19 3.17 1230	
~~	From the graph we get,	
	1:0.8 ×1012	12
	Blue LED 420 x10 9 6-61 512 13-2	(3)
	T - 0-8×1012	
	Office and the second	wife.
	1= 1 x 10-12	7
	5 rio 1 Voltage (US) 8:00 mornt (II)	
	A130, A = 1.25 × 10-12	
	17X= 1250 nm 501 8	
	3) 5-100 2-514	
	wavelength of Infrared CGD = (250 nm	
	J	1
·		
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2		

M	T	W	1	- 1	5 5	
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Date:		7		10012		

\* Results: -

Planks Constant = 6.626 × 10-34

wevelength of IRLED= 1250 nm were length of blue LED= 476 nm