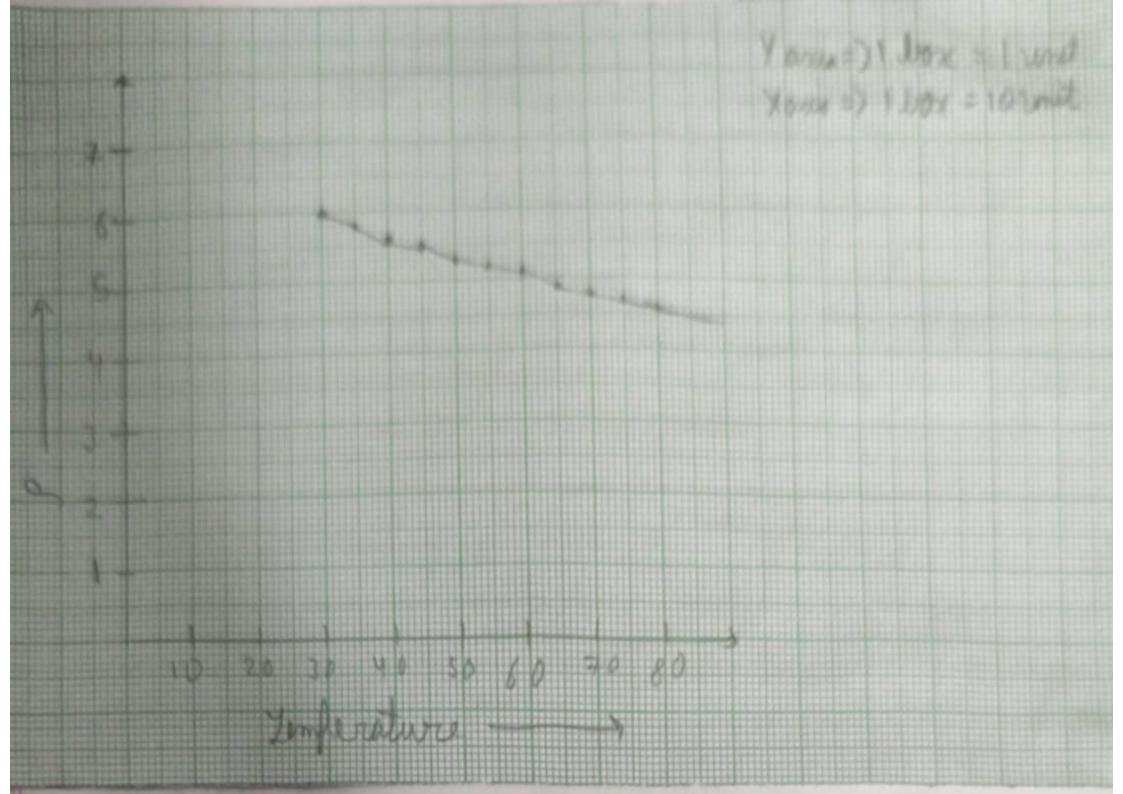
	Page No.
	Experiment-7
	P 11
(thm)	- 10 determine the resishing of
11/1	· To determine the resistivity of Semiconductor by Four prote method.
- 1W 31	1 - 3 - 1 - 3 - 1 - 1 - 1 - 1 - 1 - 1 -
Appar	ahus: probe arrangment, sample, own ad 0-200 constant current
Regu	rd 0-2°C constant current
Section	generator, our power.
	Lold it is dedonis in value to
Theon	:- At a constant temp. the
	resistance, Rof a conductor is
	& to its length I and inversity a
NAN.	to its area of cross section A.
	the terminal level her in 181
8.11	R= PLA - O
	A was made hand
	where Pis resistivity of conductor
	and its unit is ohm meter A
00	Suniconductor has electrical conductivity
11/16	intermediate in magnitude blue that
	of a conductor & insulator Seni
	Conductor differ from mental in their
	characterstics property of decreasing
10	electrical resilivity with increasing
list.	temperature.
	(a) - (a) - (b) - (b) - (b) - (c) -

Date. -

- MARINE	AND TANKE
	According to band theory the
beech.	eningy levels of Semiconductor can
	be grouped into two bands, valance
City	band & the Conduction band.
34	Variation 1 Brill April 6 29 - 0 5 8440 109
180	In the presence of an external electric
45	field it is electrons in valance bund
\$ 50	that can move freely thereby
584	responsible for the electrical
6.0	Conducing of Semiconductor
- 4	To case of introsic Semiconductor
17	the fermic level lies in blu
Y.	conduction band minimum & valurie
	band maximum.
red	When Pis resistantly of condu
Calcult	Since, Conduction band les above
, d	1 2 1 1 1 1 1 2 1 2 1 2 2 2 2 2 2 2 2 2
	this formic level at 00 when no
LAST	ther formic level at 0, when no thermal excitation are available so
HAN Y	thurmal excitation are avilable bo
ELAY.	conduction is not possible atok.
Har	conduction is not possible atok. As temperature increase the occupany
Har	conduction is not possible atok. As temperature increase the occupary of conductor band goes up,
Har	conduction is not possible atok. As temperature increase the occupary of conductor band goes up,
Har	conduction is not possible atok. As temperature increase the occupany
Har	conduction is not possible atok. As temperature increase the occupary of conductor band goes up,
Har	thurson excitation are avoilable bo conduction is not possible atok. As temperature increase the occupany of Conductor band goes up, thursby resulting in decrease of clechical resistanty of Semiconductor

	Date. ————————————————————————————————————	
als U	f (w/s) is a devision for Computing resistivity which depends on value of w & S.	
11 / A	Poz V x 2x SE 3	
19	Where, v= potential difference I = current S = Secure 11	
10	S= Spacing blu probes.	
tppu	cahions: - 3 (179) 0	
	Remote Sensing areas. Resistance theremeter.	
<u>(4)</u>	Induction handing process. Accurate geometry factor estimation	
(5)	characteristration of fuel cells. bipolar plates.	
20%	Traternia plus propositi Sacrale	

			0.1	(21012)	
Observ	abon To	ble'sienso	18:100	dug mass	
Temp	crahure	Voltage	Current	Resistiwhy	
30	(F)	0.16932	18 6 W	6.0/72	
35		0.1644	6	5.8444	
40	e sacrata	0.1599	67 67 V	5.6819	
45		0.1556	6-7	5.5288	
50	150000	0.1515	5.3 500	5.3843	
55	The state of the s	0.1477	6	5.2479	
60		0.1440	6	5.1189	
6.5		0-1406	6	48.9969	
70		0.1376	Senson	4.8809	
7.5	-	0.1342	066	4.9910	
80		2000-1313	6	4 6665	
de doa	210000		mojo H	o wind	
Calcula	h'anu'-	Dut of o	P. 10 10 10 10 10 10 10 10 10 10 10 10 10	Lancado (a)	
Luita	10.0			hipotopy	
	Diste	blus		s as orzen	
	S th	ickness o	Summer Summer	le was	
411	5 thickness of Sample was 0.05 cm. From Blandard table F(W/s)= 5.8				
				= F(W/4)= 5.89	
		DION CO	id van		
	Po =	V , 27	S = 0.16°	93 ,2x2.14 x0.2	
	Jo = V x 275= 0.1693 x2x3.14 x0.				
	Po= 35-4				
		V 0			



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	P= Po = 35.4 = 6.0172 ohm cm. F(W15) 5.89
	Similarly for all
	for T=80 Po = V x 2xS = 0.1313 x 2x3.14 x0.2 I
e pyth	Po = 27.4 P = Po = 27.4 = 4.6665 ohmcm
Resu	t:- The resistivity of given semiconduc
(%	by your probe method = 5.2853 ohma
	Mote: The resistivity written in result is the mean of resistivites of different temperature.