

III BSC SEMESTER-V MODERN PHYSICS PHYSICS PRACTICAL MANUAL (PAPER VI)



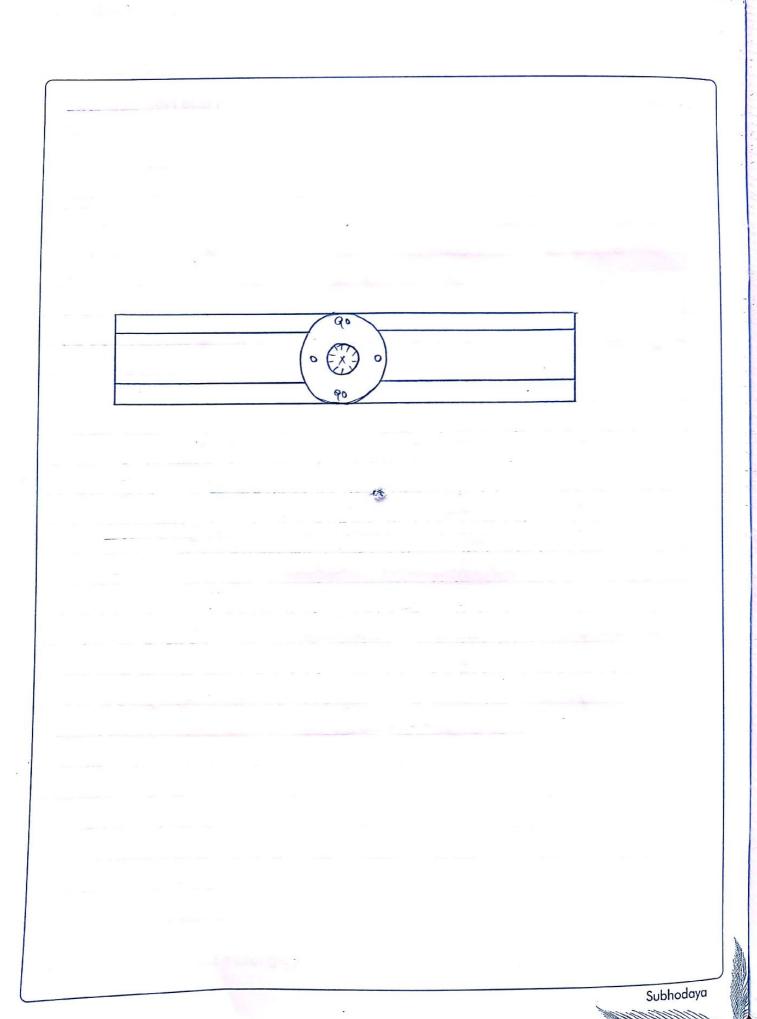
2022-2023

(Old Syllabus)

Department of Physics Sri Y.N.College (A) Narsapur

9ndex

SI.No	Date	Name of the Experiment	Page No.	Marks Awarded	Remarks
	30/12/21	Determination of	1-6		
		M and H			
۵.	33/13/21	De-morgan's	7-9		
		theorem			
٦.	27/12/21	mutual Inductance	10 - 1.9		
	attiat at		- 10.18		
4.	29/12/21	specific chare (e/m)	10000		
		0	13-16		
		Thomson's method			
5.	3/01/22	plank's constant	17-19		
	, ,		0 0		
.6.	5/04/22	Energy gap & a Semi conductor	80-32		-
		•			
,					



		1	M ace	9		1
		(P = 1)	lano	- P.	Juturnini H M and H	
		Tane			922.0	
ŧΛ	100 100 100 100 100 100 100 100 100 100	mean	مداد م این بینند		To hit with and the	un merrie une
	mtex	3 5	Sewase	O L	37	
	PM PB.	magnid on the	Jag.	03	return reitigeraten	i amoronity.
	mûnîc	Land NUTA	Sirect	02	or seme sellent	nognatemat
1	alm o			ે ૦ ં	while a runner.	Aston - gett
	of the aluminium pointex	t en the	Selvente	94	37	Laurment,
	in a		38	63	TO (LOOK) -= HON	- (1
-	aguetion	magnet	Direct	92	residentic Essecut	5 M. Wenu
		and the		ō	The state of the s	- i:
3 8	Wistanie from	the reciber of	the sente of	and and	is multiple side of the second	= - b
	Persta			needle	de la	
		,	<u>2</u>		- 00	

	ate
Expt. No Page N	lo&
Expt. No Page N	110 8)5
$\frac{1}{2} \frac{MH}{MH} = \frac{H\pi}{\Lambda} \frac{\Lambda}{\Lambda} \frac{\Lambda}{\Lambda}$	1
Jetal Tetal	·10
where Timperiod of scillation of the	magnet
Ta = period of excilation of the	magnet
together with the Drass or	ed
T = moment of inertia of the I	
reitator & rise est twole	
$\mathcal{E} = \underline{\mathbf{m}}(\mathbf{a}^{v} + \mathbf{b}^{v}) \qquad \mathcal{E} \qquad \mathcal{E}$	
12	
where, m = mass of the blass seed	and the same
a = length of the Drass seed	A E- NO W
b = Licealth of the liters is	Value of
(the supposed & "Hapmall and aminorate	
Description:	
Deflection magnétometer:	·M
	deflectio
magnétometer comprises a magnétic	empass
box. The magnetic compass box. con	
very small magnetic needle portal on	a sharp
support at the centre & a circular so	are the
circular scale is graduated in dea	
org has laure rugt atri lashilis	
from 0°- 90°. So that the dimetric	
points indicate the same reading.	
plane miserà is fixed aust below the	
which enables to take the readings	
Signature:	

The oldermine the bleadth (b) of the blass soon (b);

5·no	M. 5. R (a) cm	٧ · c (ŋ)	b=nxL·c	Total suading (9+b)cm
c. p. f	0.7.3	median.	0.03	1:32
2	Luft 3 mil	4 Ajdran	: 401.0 hum	1631
3	1.3	3	(10.03 m	- 1· 33
	in.	C // 10 3x	ent io Alone	. = M exercis

amerage (b) = 1.3 20

TO determine the length of the brass sed(a):

					herounter !
		MSR	metsiller	with war	Total
	Sino	(9)	(n)	p=uxr.c	reading
	100	con him	ana a-	olivanyos	(9+b)cm
	5 130	666 6	in stary	141 0. 615 PL	6,65
	rout	-0 10 101	SAJ MANTE	u supretur -	· hains faces
	2	w Big w	با طرخدا،	0.07.	1 6.67 Tuppe
	مصد	eexyen-	Mil hely	they is a	riculius and
	3	6.6	wood will	is fight o	will by to be will
	Mile	Mill Till	mio L(التوليات المالية المالية	000 °0 0000
Ä	MILLY	19 10 1 41 31	abor in	The sail sky	other Literous

amorage (9) = 6.67

Little pergrations, it was at themse much

Expt.	No.			
The second second second second	The state of the s	-1		

pointer with out Ever's due to paxallage. The needle the aluminium painter and the wice-Lax are exorted in a circular brass bot with a glass tap to protect the realle from the do lights to our, 2. vibration magnetometer: It consists of a troop section about religionation whole be Surface is made of glass sur openings. 5, 1 52 are perouided at the top of the box, which are fitted with glass, by means of which the oscillation can be selen along cyi ti bot-noitrat a slut class larithmilfixed vertically at the middle of the top Sur-- frace of the book. a light brass strip is suspe-- nded by means of an umspan stit thread from the bottom head, It as shown in fig. the tollier head can be extated to adjust it set into the obcillations. Pascedure: bemoreg et at ii tremisegres with · ethe parts in enieu (H/M) to what inimitatelo at (1) deflection magnétometer: place of the deflection magnetemeter on the

Signature :____

JT.	e Gyr Sgp i	
magningung	ed spro	which will the state of the sta
tion of	Tourie	a gross dep in popular se one a grant se one a gran
معلیه ع	meon (t)	below sathern whose dissertion of the situation of the is the state of the is the interpretation of the same in the graph.
100 mg	tel 20 magni	Live Julianie of the standard
the values	orten me	action that be properly on the ord of the state of the st
dutermine	torial &	hangina :
200 OT	Sing mad	Bulon Bulon Coming on a company of the company of t

Date_	
The state of the s	

Expt. No.	Page No. 1.
EXPL. INO.	Page No. 4
* (1) Leannam soil & diago	and and to some properties and

war table and sumage all magnets and magnetic material from the helpity of the nagnetemeter & Set the deflection magnetemeter in the A position for this twen the depletion magnetemeter in such a way that the areas of the magnetometer are oriented in east - west ourcettion i.e., the asis of the magnetometer are of roll bono retries muinimula ent or to the magnetic needle. Rotate the magnetic com--pass box until the Ends of the aluminilum pointer enous 0-0 on both Sides of the circular scale. place the given magnet on the Easter ours & the magnetometer at a distance of from the centre of the magnetic needle 50 that the akial line of the maginal pass through the sentre of the magnetic reedle note the deplections of & of against the ends of the aluminium painter on the circular scale keeping the magened of the same distance. Repeat the experiment by placing the magnet at other distances say (20, 22, 24)cm rede the deflections in the table find the mean value of M/H using formula 2. To aletermine the time period T, 1 To using the vibration magnetomater.

(Signature :_____

To detormine the length of the magnet (1);

100	110	A A A STATE OF THE A STATE OF THE ASSETS OF	110 5113	mall Edil	111111111111111111
اللالا	5.00	(Q)	الله الله	b=nxL·c	total suading (a+b)cm
ð	ىرىنى بىلنىد	Tide :	Janes	5 10.03,010	unatangwa gw7.73m vo
مال	المنتشات	nedury o	· 25. 3	is the weigh	of music
0.34	3	Dr. Z. Zure	139 Howin	1000 4000	ent. 74 warrag
- (X)	W.	magnetic	with stax	ia express	umbring ma
_ CV	3	in Tutini	1: 96 Now	5 3040 Give	w 7076 May
T/C	لللدار	ع دلایا بدنا	eta Gidu	do ma o o a	puriting Brid
5.00					الم

pur the property of a minimum of grant of the samp of the same of

Represent the experiment oby placing the inagency of the strange o

_
me proper
-

Evnt	No	
Expt.	INO	

_	
	place the viblation magnetometer on the cork
	talle. Level the instruments by means of the
	Leveling Sweens. So that the thread from
	the torsion hoper H, line nextically with out
	the inner surface of the cylinder place do
	given magnet alone on the strip so that
	it hangs forcely is the direction of the
	magnet merciolian stake another magnet and
	trought it near the look move the second ma
	-genet on the Strip is set into oscillations.
	take a drass rod of the same direction
	as that of the given magnet and then Place
	it in the strip: pamp along with the magnet
1.	Repeat the above precedure and fund the
10	time period to state observations in the table.
	the moment of inertia Is of the brall and
	can be calculated whing the relation.
	I = m (ar+ br)
	187. 581
	3007.53
	Down to 11 time 1

presontions:

i) The suspension thread in the vibration magnitemeter Should be torsion. 2) deflection Should be noted with out para-

- was b/w the aluminium pointer.

(Signature:_____

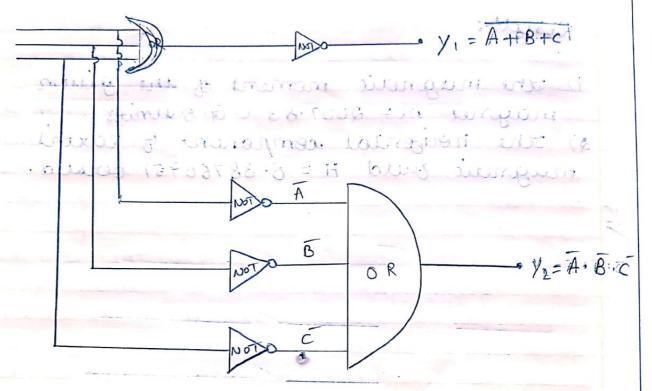
HM / = H

```
calculation:
        1 = 5 X length & magnet
          = 0.4166 X 7.74 = 3.225
         15 5010 140016 vous perga
      100 400 5 100 4006) THE.
1606) Lane same direction
           F 151787.69 = 6173.177
 iak print some Horosom where the suito )
elder of Fifth and colling
                         continue of yourself wind
Vans Len MH = 778, 96 pieruni = 3963, 928
    interported Missign Mr. - Milation
             14031387. 521
           = 2007.83
                                 Paraulion:
            1. Vi Suspendien overcott M. V.
             Not 150/5/37 in since since 150/6/10/10/
```

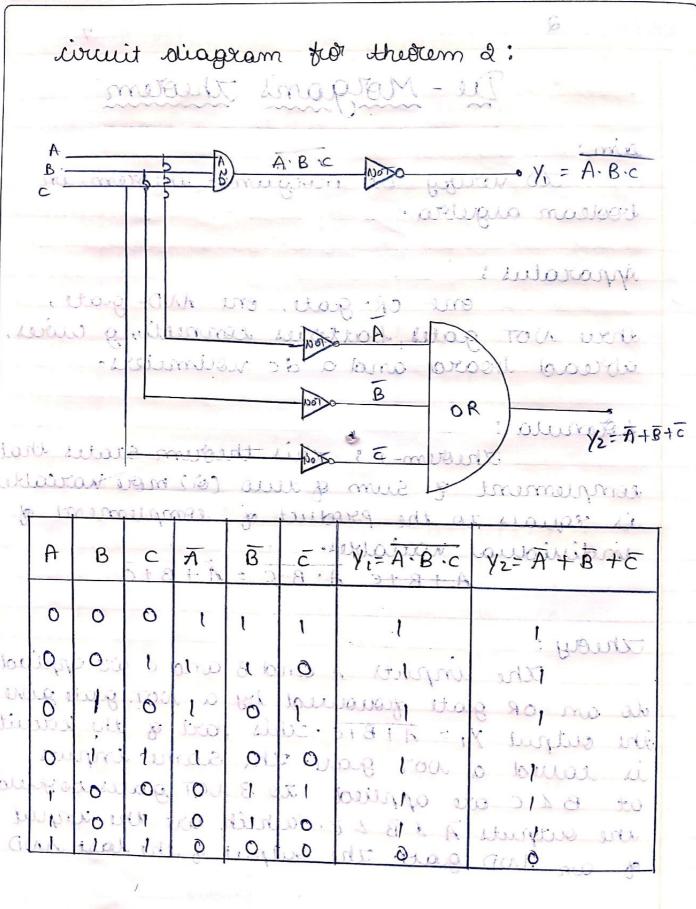
-					Da	ate	
Expt	t. No	Transcript to 6	5	ا دىرەرىدى	Page No	o6_	- 1
	Result:						
	magnet	gnetic nom M = 2007.8:	C. 61	· Sun	its_		Sept.
	2) The ho	rigental com	rone	nt &	ear	thi	
77	magnetic	trierd H = 0	. 387	50951	DUU	sted	•
16		78-2-178-5-739	70-			er.	
				Acres 1	1111		
-					125	-	
			- X			*	
	5 0 K-11	Jratis sign	5	<u>A</u> 8		8	4
+	lean and the second						2.11
1	1		The same of	1	0	-9-	
		0	0	1	-1-	0	- 0-
1	Ċ	0 1 1		0 1	0		
		A TOTAL	6	0 1	1	ì	Ō
	18 a - 18 35 - 4			, 10 (0)	0	0	
		0	0	i Figure		- 0	1
*	- 0	Ö	Ò	0 0	Ţ	Ī	-
				- Signature :	71-4		

Expt. No&	Page No7
De-Mol	gan's Theolem
dim: TO verify De-	morganis-theorem in
boolean algrebra. Apparatus:	
thru NOT gates, ba abread board and	gate, one AND-grate, thries connecting cuires, a de voltmeters.
	This theorem states that
is equals to the po	educt of semplement of ed. A·B·C = A+B+C
theory:	1 1 0 5 0
to an or grate trous the output Y: = A+B+	A and B and c are applied wild by a NOT gate give -c. This part of the wwwit
at B4 c are applied the outputs A 1 B b	ati the same inputs of to 3 NOT gates to field c. which are the input
on AND geating	(Signature:





A	В	C	Ā	B	c	YI=A+B+C	Yz= A·B·C
0	0	0	1 -	-			
0	0	-1	1		0	0	0
0	1	0	1	٥		0	0
0	1	1	1	0	ð	0	0
1	0	0	0	-1		0	0
1	0	1	0	1	0	0	0
ı	1	1	0	0	0	0	



gate is $y_0 = A \cdot B \cdot C \cdot The purpose of the experiment is to show that <math>y_1 = y_0$ for various dominations of $A \land B \land C$ there writing the first statement.

and being at the studies of the substitution of the property o

Procedure:

1) to verify the Statement co.) Set up on a liverable that invest the diagram. Jed different continuitations of high ana your cutty walves of the imput. A A B C measure cutty restricted with a be measured with respect to a common setterence the value of an input may be zero volt walves to a Short investigated and while the high value of an input may be 5 volt spephiol.

Signature :_____

	Date
Expt. No	Page No. 9
by a battery.	A SECTION AND A SECTION AND ASSESSMENT OF THE PARTY OF TH
Presautions:	
1) all the connections Should	he neat and
a) theck the power supply.	
Result:	
It elder thurt ent more a	a low values of
De morgans theorem is	
a) Since Y:= Yo got difference of righ and low walled	et combinations
theorem is virgied.	alemorgans and
(3 8) (12) (3 6) (12) (3 6) (12)	Ka
- Secentally usid	3
= Standard rendember	
- top king -	
(s	ignature:

Expt. No	3	
the second secon		

	Mutual Andrestance
	Mutual Inductance
	dim:
	to determine the coefficient of mutual
	inductance of a pour of each by covery festers
ř	nul method
	Apparatus:
	a poir of coils whose mutual andu-
	- Lance is to be coletermined, an accumula-
	- to, standard condenser, a cell, tap key,
	3- non- inductive viesistance boxes, battastic
	gallanometer, or mouing coil or spot gol-
	- vanemur cuite lamp and scale connecti-
	-ng cuires:
	Athmula:
	M= CR2 (R3+5) henry
	where M= mutual inductance of a pair-of
	coilson - SE
	c = capacitance of the condenser
	Ra, Ra = Resistance
	8 = Resistance & the secondary coil.
	3
	Description:
	investible the trumperace etc
	Signature:

Rehulti thus Evalu inal get dist involuent of the word now values s) since y = 10 yer withing condigrations of high and dow upwert of win inputs La Rig Reiji R3 = Walistanie bales mi B, Or = bollostic gallanometer. = Key (B.G.) lies greamises = 9 5 = Secondary coil = Standard condenser B = Lattery K = tap Key

	01						÷		-12 =
OWNERS	1 1 1	0.09189	inter yan	Lo	०, १४०म३	No.	o. o.	0,0153	UPO.
M=(R, (R, +S)	house	9610.0	0	0.01587	H1810.0	0.04014	19810.01	HS 10.0	6910.0
(Celum)	SOF SOF SOF	1300	Long a cure is a cure in a	100 SOL	1000	32000	00 00 14	0000 00000 000000	800
Restistance /	RZ	00000	prop.	nowin	0	Killi Jub	merce Juica Lari	20 Miles 13.60 10	0.0 U/L
	ã.	90	30	0	P 70 18 10 18 10 10 10 10 10 10 10 10 10 10 10 10 10	0 m	. 0	: 	0 0 0
Wait	S Male	- 8	Jru0}juu m !!: ₩	_	سومل	tuun.	- 100	NUI 8	m m
Ustana blo	M Jame Laus	Les the	tilt &	لندر بنا مردنا	ئىلىنى ئىلىنى	3 = 1 - RU	9. 4	R	L.A

Subhodaya

Data	
Date	
Dutt	

Expt. No	Page No11
LAPE. 1401	

- nation & captillient of mutual inductant of a point of coils is shown in fing. Pland of are aller coils between which the coeptition of the coeptition of the country inductance is to be determined the structure of the sure coils plot are oriented in such a way to get min sinkage thuse. A sell E is commerted in sivil with a tap key K, R, R, R, and R; are non-inductive resistance between the standard condenser.

A bountie gallo moments (B, a) with a key Key K, connected shown in fig.

PSIECEOLUTE: (ST) & OIX 8:0 = M = 8 = T

make the commections as showing in fig. R. R2 & R3 ore three rom-inductive resistance how so pand 5 are thus coils be which the medual inductance is to be alternamed connected to the terminal of the left top key the negative learning of the best top key K. connect the B or in alries the tap key K. is used to made and break the current in the main current comment the stonator condenser. I parallel to the rom-inductive resistance box R2 through the B or traductive resistance to the parallel to the R2 through the B or traductive.

Signature :_____

```
calculation:
et o T=1 = M = CRa (R3+5)
(1300+8.25)
un mus will 3910,00 = which du copy
  T= 2 = M = GRa (R3+5)
Marine 100 6 19 = (0:09175) 100 - burning
T=3 = M = (0.3 × 10-6)(30)-(11 50 + 8.25)
pod a down in the = or odudd in the in which
 at 1. 9 - 1 = M = CR2 (R3+6)
10-6 (50) (1050 +8-25)
 A deminist & all 1000 15 (1) . It is in a ray
       T= 2 = M = 0.3 × 10-6 (60) (1000 + 8.25)
               = 0.0184
       T=3 = M = 0.3 x10-6 (70) (950 + 8:25)
music 16108000 = whom as selection
at 4000 = 10=1 MI=ACRAICRO (CRO ) (9 14 191)
    = 0.3 ×10-6 (50) (900 +8.25)
  by a which shy in 81000 sinductions. is
  T= 2 = M = 0.3 x 10-6 (60) (8 50 + 8 2 5)
    is the more oiroloques at the one
   T=3 = M=00,3 x10-6 (70) (800 +8-25)
   901-11. 11100=0:0169 11 11th purner . 11
  hi is used its made and break the in
one in the main which i commet the Sta-
- independ complyment of paradic do the liter-
induction but is strongh the Ba
          topse sancing in whereas
```

	Date
Expt. No.	Page No12
To check the balancing c	endition of the
1) first treak the circuit A	BF at the point
the B-GC by pressing the	tap key k,
2) break the circuit BED and note the direction of	alexiletion un
the B. Go by passing the	of the sundary
bla the due toil team be	e colourated wing
Presontions:	1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	÷ & & & &
1) Betwee toking the observations againstmeny to the B.G.	
producions the both sources (constructions are in the sources or	ge through B. Or
	52. 5

Result:

at 0 (M2) = 0.08189 henry

at 1.2 (M2) = 0.18043 henry

at 4 (M2) = 0.0153 henry

R

Signature :_

Expt. No	Page No13
Specific Electron -	Thomsen's method
~~~~~	
aim:	the state of the s
imretela at	ne the value of Spelific.
charge (e/m) of au	n Electron by thomson's
Apparatus:	2/2/200
eathe	de day tube with its power
Supply unit (in	which hostmeter is futted
	deflection voltage), pair &
es, itangan rod	mparis book, a cuboden stano
to place the le	our magnets on its alle
arms with CR, d	tale in the middle
est p noitricolals.	itule:
It contil	to of three basic component
i) electron gum: c	which produces, accelerates
and focules - em	citted electrons unto a
narrow beam	
	em: achieh deplects the
mark mortsey	either electrically (or)
magnetically	
iii) flouralient scr	un: upon which beam o
guiltens impling	to produce a visible spot
	Signature :

	Carlor and the S									
	# # # # # # # # # # # # # # # # # # #	neu V	610.0	10.0	61.0.	69.0	69.0	1.34	. 1	11.
<u> </u>	# = #c +ano	, NO.	9041.0	0:3813	0.437	6.77	0,833	1.189	time Juni	
H=0.38	Tene	ri.9	0.37	77.0	1.15	e .0 &	61.8	3.077	11 11 11 11 11 11 11 11 11 11 11 11 11	1 (3
ندر	mean	eliet ap <del>iberi</del>	000	2.98	2 3 5 C	63.75	63.	Uga.	10.00 U B	S.
WY.	deflection in magneti	2 03 04	19 22 22	38638	77 17	6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	00000 00000	69	a - ë t - w	ردو <u>ن</u> مد
		10 10 02	2	38 38	200	1 69	17 17 3	87.97.60		
وراتي		magnita	م خ م ستردوس	N SON	5 6	7,91	5,82		المادة	<u>(i</u>
3 8	Ager-	2 - b	, O	ිණ් ට්රෝ./.	note 10	100 m	ned Unod	iou	LUYA	QQ
	18 18 18 18 18 18 18 18 18 18 18 18 18 1	fring (A)	7.0	9	0.3	1.0	6.0	9.0	thing	RU
100	Political Electron Deam	smittal	(O) d	<b>0</b> ,3/1	(60) (84)	Jon.	ماه ن	mbn	ng w	Y.C.
	applued Potentio			hu. Fe	ا ولا ع 10 فع	ŠI· Ø . ∞ -	01	8-1	ta	

& (01/2) sevante rificus Elizabet : marchiol3 some mother water of speci Fidd(M) -111+ wanter compain the traduction wash who with cre along -iA the middle C-realthede positioned A,, Az - diaphtagmis assu woods 12 Pr. Pr. mutal Polates deputition igrues: arrich ougues un European Ergin Europains (B) - magnituden. in) fragrations screen: upon which down of sultiens impelings is persolues a visible speet.

Date_		
Dalt_		

Expt.	No.	 		

-	formula:
	e = 1xy x107 c.m. u/9m
	m 174 d
	where, 1= length of the obfletting plates
	L = distance of the screen from the
	centre of the plates
	d = separation b/w the plates
	H = horizontal components of the
	Earth's magnetic field
	V = deflecting voitage applied do
	the plately doing !-
	y = aleflection of the Spot on the
	screen under the magnetic
	gield 7:0x 10.0x 81x 1
	e/m = specific charige of the electron.
	0 = V
	Parendure:
	-> Draw the north south line using
_	a compass reduce also deals the east- west
	line place the CRT fitted on the screen.
	-> adjust the brightness and fears controls
	50 as to get a sharp bright point and in
	the middle of the society note the snitial
	position of the spot on the scale futted on
	the section & willing the second of the section of
	2.0 X P 3.0 X F 1 X 1 M
	Signature :
	Signature.

```
calculation;
                      \frac{Q}{m} = \frac{V \times V \times 10^7}{924 \text{ M}}
        L= 10 mm = 1cm " 11 L m
   uli and 1=130 =13cm ornautus.
      at pringle OX 810: OX EJX Lyping to
                                     = 1. 6194 x 10 Dig - week
     1, X13 X0.07 X0.2 ( ) 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1000 ; 1
   - merchale = 1: 758 X 10 ms internet = m/5
             V = 6
                            \frac{e}{m} = \frac{6 \times 0.3 \times 10^7}{10^7}
                                                                                                                                             Pacecedura:
     - Dian the Reaxerxity wing
   LENGTER MECH MONE SLIP MONTON HOSTINGE
              wine place the car fitted and acres & V
anyon on bright 101x 120x 80=11 2 rentres
me type the get a 210x pg. ox (E) xII ; sur is
Bu rundle & the Forks HES note the Saited
   Polition of the spec on the seals follows on
                           \frac{e}{m} = \frac{10 \times 0.5 \times 10^7}{1 \times 13 \times 0.69 \times 0.5} = 1.114 \times 10^{3}
```

Data	
Date_	Water and the second
Duto_	

Exnt.	No		
LAPE.	140		

Service of the Material Action Trate Of
-> mon apply a suitable deflection matage
so that the eurnious spot is deflection
nortage sio that the colletermination spot
is deflected by about 0.50 to =0.1 cm.
-> place the bar nagnet symmetrically
en the Rither Side of the cot along the
orms of the according Stand on which
the duly is ditted such that their oppo
- site plate kace other and their common
axis is exactly at right angles of the
axis of the CRT adjust the polarity as well
a the distance of the magnet.
cutien the adjustment is perfect
not the distance of the maginet on the
side neaver to the C.R.T let the distance
le r, and r.
-> place the magnets exactly in the poli-
- 1ton r., rz, rs 1 ru. cutich gives angle
О, Ог Оз , Он
-> lake more sets of observations by
changing the value of v and hence
that the electric field.
and the second bases
Devera time !
Presantière:
i) the magnets should be placed at the
i) and magnite square
Signature :

g with as trained immi Februtt : fixon 1cn5 mastria : M stopping potentia 44 da frequency ->

Subhodaya

Expt. No. ____5 Page No. 17 Plank's constant A cre light sur wellington To determine the values of Plank's constant (h) by using storping potential & different fulters. AU O SIX DIEGO SAIN DETE MERRIN Appaxatus: The photo electric rell powersupply, source of light fitters : summer h = e(V2-V1)/1/2 J-5PC cuhexe, C= electric charge = 1.6 x 10-19 columbs C = spilled of light = 3 x 10 10 cm/sec V, = stopping potential of corresponding to cualle colournes with falter-I(v) V2 = stopping potential a cooresponding to make length with fulter - I (V) 1, = - arable length of fillers - 1(m) 12 = cualle length of fritters - 11 cm) Description: ex-

Signature :_____

		*		
Sino		cualung)	Jacquerry	Stopping
I - Open the	fulter	lenight	of incident	potential
Professional	grand bridge and the	λcm	light VHZ	Vo (in volus)
	,	MON NO.	MILLIONIUM.	au
LOW	nu Red que	6443 X 10-8	4565 × 10-14	00259.00
T STATE			walling and	uppila p
2	green	5735 x 10-8	5.2310 x 10-14	0.463
				specially.
3.1	where is	49 45 × 10 8		1 1
		JANE ELL	in a series	·

from ula:

n = ecv3 - 471, 12 t sec ec1, -12)

Linus ...

C = sinteric sharge = 1.6 x 10 glumbs

V, - stopping petential of circuspenaling

Le coass interior of the original of the coass

Le coass stopping petential of security and original

Le cause stoppin to the first - I (v)

Li - cause stoppin of firther - I (v)

Li - cause stoppin of firther - I (v)

Li - cause stoppin of firther - I (v)

Li - cause stoppin of firther - I (v)

susciplion:

the digit is inclosed on the

	Date
xpt. No	Page No. 18
exe enerties, electrons are	
the metal is knows as	by the actions
The photo eletric cen con	

Theory: - 35-01 x 83 - 3053987 = according to einstein Clight & prequercy v consists a a stream of photons each of renorgy half when a photon of forequincy importing kinetic energy to the electron it is the energy spent to extracting the electron from the emither to which it is foound and 1/2 or - is the kindic energy acquired by the electron, then hV = co + 1/2 mv

Shown in above tug. Mr is the potential

measured by a vacuum tube nortineter

dividus. The potential applied between Cd A

The circuit is connected as

Signature :_

of a quarte but is according as it to be

used want willie no struck this years.

Expt. No.

Proedure:

calculation:

wine while the way little will a suited. one making ccva-vi) itules or linger un mun is more color of color mital.

were smustern of comment day the actions = 1. 6 x10-19 (0.637-0.463) (5855735 x10-8) LEEL P & WHILE PP P FIX 10-8) Journa of any 100 03 X 10 10 (573 5 4 49 45) X 10 8

= 7895305.68 X 10-35 : 600000

5 tigits millia 370 4102 grandis Frequence of  $V_{\xi-01}$  where  $V_{\xi}$  is some a three following  $V_{\xi}$  is some a three follows: ic be every it is the energy spent to extracting the villian trem in eniwith the winds it is followed who is - is the printing antique of it ine electron inten

hv = co 1 /2 mv

Parioun : Electrical in commended as shown in above fully Mr is the following divious : its petential applied between ce of measured by a vacuum tube valuerely

	Date
Expt	. No Page No
	viva light forom a pourrous source of
	light is condensed by a condenser
	send incident on the photo metal the
	value of the potential difference is noted
	Entelle betoeger li tremixentes ents
	- surber of ontical fulters and the coast
	-pending values of the Stopping talquency
	and coursending stopping potential.
	h= mxe j.s, h= plank constant
	Prelautions:
	•
	1) the stopping voltage should decrease
	a cually lingth increases.
	a) The experimental should be performed
1	with at least three filters.
	The state of the s
	Resut:
	tom graph.
d	calculated value of planks constant is
	h = 3.33/35261 x10-34 J/sec (Papelical)
	h = 3.7848 × 10-34 J/sec (graph)
K	The same of the sa
	THE RESERVE OF THE PROPERTY OF THE PARTY OF

(Signature:_____

Expt. No6	Page No. 20
Energy	ulgaprid Ingertin to
2 - 31801 1-801 Sem	ri conductor
Aim:	t°C 7=++273(K) Is CALA
nvertelo OT	nine the energy band
gap & this semi	puralictor material taken
in the form	8-20 P-nsituation redicate.
4.915 11685	2.80 ERE CL
	238 338
	aux supply semi conductor
disoli, thermemet	y; heating orangement
to heat other she	of That - meter, micro -
	enmetting ouites.
	P. 01 818 10.9
formula:	of the Straight line ev
By - Catofic	5.036
where,	En chart with the beginning
	y band gap of the given
	conductor diede.
	e of the straight line plot
	ined to 109, Is 4 103/7
	ase saturation aurunt (MA)
T = alst	dute temperature (°K)
	The second residence of
	(Signature:
	<u></u>

DUNCTURE ... ecto herthango o to Acmains

> heating element he stepping retarge sinorul dec should . If y little Keeret : hipm graget colludated value 56/10/g ==

at different temperature

					The same of the sa
	Temp	water	coolint (	C103/T	109 10 Is
	t°c	T=++273(k)	Is (MA)	(K-1)	: muh
	iomoss.	gywid to	Je Arominos	i <i>ulo.</i> 0,x	
14	ac 80im	1430363011	Jo 96:9 in	्वे ४८३ व	1.9860
TK	01.075 mg	1000348 a	65-7	્ર	1.817
-	70	343	48.5	2.915	1.685
-	85	338	37.0	2.9580	1.568
25	11060· i	au 333 Upp	ે ઢે&ઃ િં	3:003	1.456
	11.55 Jul	003280 mi	neter 18 in	3:048	1:340
	= 50 W	. કેર્યું કેપ્	2117. 20016	35095	011 235
	45	ng 81811.	ULIBATE.	301446	:11:013030
-	40	313	10.9	3.194	1.0374
					Lumign
THE CANADA	المنتدر و	1. Straign	in & rie	12 = 1	71
-			0.0		
1			1		Lukus.

Les - reverse de proposition 2 = 27 - representation de proposition de printer de proposition de printer de pr

Subhodaya

D .		
Date_	No.	- 1
		-

Expt. No.

Page No. 21

Rescription:
The Experimental arrangement
- word is thick is provided
ded with sociates at its much. The socket
are used to insert the thermometer and
the semi-conductor deale in the oil
bath at shown in juig a healing element
is fusion inside the oil bath by connec-
ting to the AC main supply. The
between the adjusted exercises leavested
by means of the nort meter and the source
saturation euront com le measured with
the help of a priva ammeter.
THE PARTY AND TH
Paracolure:
connect the two terminals of
ent at loub returbross - imez merite ent
DC power supply and micrometer in
such alley that the disce is reversed
briased Immerse the diède in the oil bath.
to start is get in retemporared. get treams
the same level as that the the solicite.
Switch on the op Dc power Suply
and agjust the surerse drias kartage do
till 5 not. Switch on Ac main supply
then the thermometer of oir both gradually
Signature :

	Date
Expt. No	Page No. <u>২</u> ২
increase.	
Goraph:	3/- ~~ ×
drow a graph and	th 10/1 bild-
asis and logio Is on y	as shown in
tug. from the graph, time	of the Stone of the
Straght who the energy	band grap &
the quien some-conductor	can be colli-
relief by gap of the given	somi conducter
can le calculated by subs	tituling the
house of stone in our	eg, // ,
presentione	Noc
	- the chartel la
immersed at the same	netor snows we
oil bath.	
a) The longitude and the	e current should
be noted simultaneously.	
Result: She energy barrol ge	ap of the given
Semi conductor material is	
Eg = 2-4 0.47656 ev	
Te .	
Sign	nature :

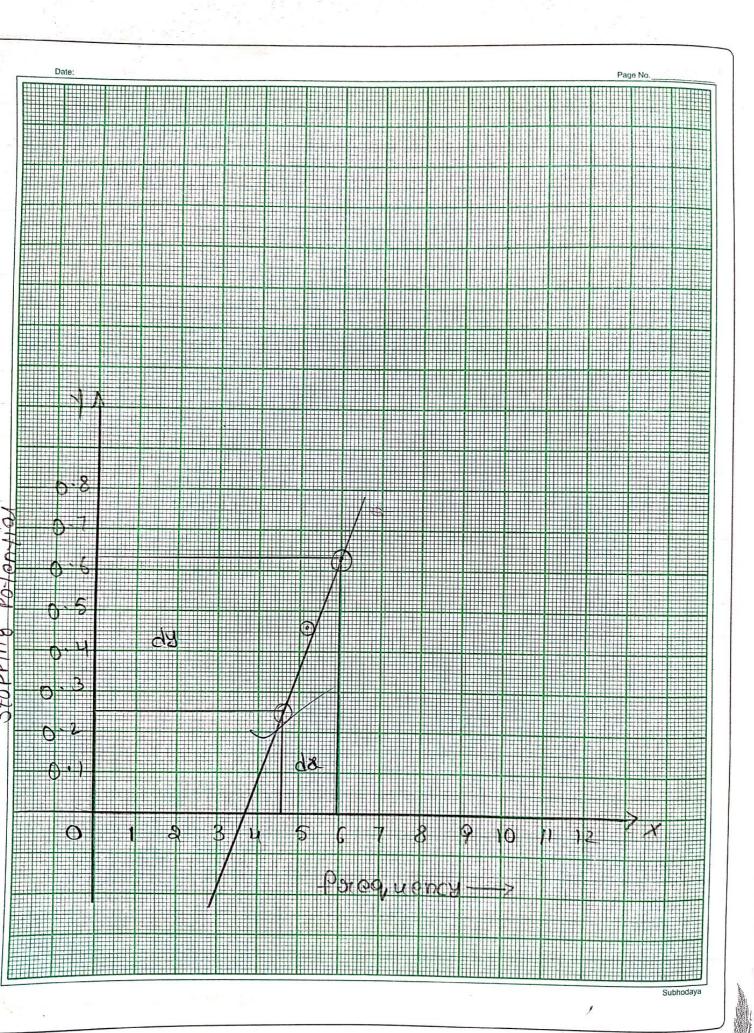
## Plank's constant

Date_3/01/22

Expt.	No	

ot. No		Page No	
	tacquercy of in-	sterping poten-	
	-cident light	- tial vo	
	4.6	0.25	
	5. 2	0.46	
	G · O	0.63	- d -
Scale			
	on x-adis 10	m = 1.41mit	
	en y-axis ic		
	011 (= 0000)		
101111	latièn :	20 5 20	
calculation: $m = \frac{dy}{dx} = \frac{0.16}{5.2 - 5.9}$ $= \frac{0.16}{0.7}$ $= 0.285 \times 10^{-14}$		1.	
		· ·	
		, lar .	
		85 X 10-14	1 - 1
	$h = me$ $= 0.2285 \times 10^{-14} \times 1.6 \times 10^{-19}$ $= 3.7848 \times 10^{-34}$		-19
	3.10	40 10	15
			7
	· ·		
	,	-	
	1		
	A section of		

Signature :__



### Envoy gap of a Semi conductor

Date 5/01/22

Expt. No	Page No
103/7	109 75
(K-1)	10 - 0
80 2.83	1.98
7,5 2.87	1.81
70 2-91	1.68
65 2.95	1.56
Go 3.00	1.45
55 3.04	1.34
50 3.09	1.43
45 3.14	1.13
40 3.19	1.03
Scale;	
and was able to	1 mit on = 00.1 write
en V-adeis	1cm = 61.1 Limits
Slen = AB	
BC	
= 0.6	
0 25	
= 2.4	
	(Signature :

