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Subject: Physics

Subject Code: 102001213

Class: 2-CE-1

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*	Experiment -4
programmed A - 1	Signal Space States 1995 - 12 Signal
and the	Objective: Determination of Young's Medulus of classicity of the given sample material by bending.
10 m 10 m	of the given sample material by bending
1000 C	the state of the s
	Equipments
	needed: Sample Stand, Weights of Songm, Samples
	CIm, Aluminum, Brass), DC Adaptor, Weight
	Holder, Spherometer stand with Buzzer.
•	and bromation account boat handle arms that had
278.0	Procedure:
9 AV	Mout the setup by fixing two long round rods with U-tube brackets, tight the sample (iron) on sample stands & place it horizontally.
	U-tube brackets, tight the sample (iron) on sample
	stands & place it horizontally.
TO US	
2.	Tight the weight holder at the contex of sample with help of screw & place the spherometer stand, beyond the centre of sample.
1,4	with help of screw & place the spherometer stand,
	beyond the centre of sample.
9	Note: Sphetometer leg must be in contact by votating the circular Scale with the center of the sample.
	the circulage Scale with the centers of the sample.
	C gly I mot you x
3.	Connect buzzers with adaptor & connect patch cond with behavior terminal provided on the p. Sample for buzzers connection.
	with banana terminal provided on the & Sample for
	buzzero connection.
	C 11 (0 2 11 0 + P. 1 1 0 11 1
4	Switch Or the supply too adaptor. Burrow blave because
	Suitch 'Or" the supply for adaptor. Burer blaus because at this spherometer leg is in contact with sample. Note the main scale (M.S) reading & Circular Scale (C.S)
	The main scale (M.S) stading & liverlap Scale (C.S)
	i.e., no. of divisions *0.01 mm (least count) reading in observation table 1 8 find total reading M.S.+ C.S=T,
vision	viscolation toble 1 & that total stading M.S.+ C.S=T,
Territorative construction of the	

* Technical Specifications:

5	ample 1:	Sample	Brass	Sample 3: Aluminium				
Le Br	ngth (1): readth (6): epth (d):	100m 2.5m	Length Breadth	(L):	100 cm	Length Breadth	(D):	100 cm 2.55 cm

Observation Table -1:

Sx.	Load (inkg)	Load	increasing mm)	Displacement cx? in mm	Load	decreasing mm)	Displacement by in mm	Mean of displacement (in)
	1-0	M.S	C5 201 T= MS +(.5			1 11	Yn=Ti-Tnos	d=(x+y)/2
2 3	0 0.5 1.0 1.5	15	0.94 T=19.94 0.09 T=15.59	X ₁ = 485 X ₂ = 6.04	18 13 10	0.40 T=18-10 0.18 T=1318 0.01 T=1001	$Y_1 = 5.22$ $Y_2 = 8.39$ $Y_3 = +7.97$	d = 5.035 d = 7.245

He exploited that is not be much be in contact by soleting

is the sole with the contra of the langer * Observation Table -2:

dust signal

DEED AT DEED	Spinette and the same	ment of the same o		000	AT W	X 55 5 10	4 300.470	-
carple fos	Sø. No.	Load (in Kg)	Mean	of Displ	agy De	cin mm	kg
			J	Cir	mm	L. S. Itayo	(in mm)	5/0
	1	0						
and German		0.5	kg	do =	5.03	5 3 1	40° Ab 3	
ost stamue	3	1.0	Kq	d, =	725	d3	$-d_{z} = 3.71$	50
: Disla	L W	1.5	kg	003 =	8.74	Jala du-	d,=	11.
ertire inte	& CA	Rua Di	0	(10.0)*	51,015	will be	64 .	1
Sec. 12						eldot.	rato, Esu	10.

	This reading is for No load or initial reading.
	Repeat the procedure for innocent of the loads sorgm, 1kg, 1.5kg. 2 note the reading in observation table 1. Fox each increment load, rotate the circular scale so that buzzer blows. Note: In case of Joan Max. load should be 3kg. for Brass 2 Aluminium max. load should be 1.5kg.
	Repeat the procedure for decrement of the loads from max. boad; 8 note reading of M.S. & C.S.in table 1. Note: Before you remove load from stand, rotate the spherometer fully anticlockurise.
	Take the mean of displacements individually d=(x,ty)
8.	In Observation table 2, insert all the values of Individual Mean of displacements de, de, de, de Find the depression of sample for paraticulars amount of weight difference (for eg. 1kg). Take the mean of depression S.
9.	Put all the readings in given Bornula & calculate the '4' Young's modulus of elasticity.

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* Calculation: -

$$= \frac{1 \times 9.8 \times (1)^3}{4 \times 2.6 \times 10^{-2} \times (5 \times 10^{-3})^2 \times 3.71 \times 10^{-3}}$$

$$= 9.8 \times 10^{2} \times 10^{9} \times 10^{3}$$

$$4 \times 2.6 \times 125 \times 3.71$$

	Spherometer:
	Main Scale: 10-0-10mm,
	Circular Acale: 100 divisions
	least Court = Value of smallest die on M.S _ 0.01 mm
	Total no. of die on C.S
	Formula used:
0	Y= mal3 Nlm2
	4= mgl3 Nlm2 4bd38
	Precoutions:
•	After performing the experiment, remove all the
	weights from the weight holder.
•	weights from the weight holder. Surteh off the supply after taking each reading from spherometers.
	toom spherometers.
	For Iron max bad is 3kg. for Brass & Aluminium
•	max. load is 1.5 kg.
	On Ha
	Results:-
	The Young's Modulus for Aluminium is = 2-3×1011 N/m
	The bungs 1000mus 100 110minion 15 - 2-5x10 141"
	Conclusion:-
	CONCLIDENT
	We can conclude that how we can find the value of
	Young's Mobiles of elasticity and also It down as on
	We can conclude that how we can find the value of Young's Mobiles of clasticity and also It depends on material to material.
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