

### **Sealed Quotations Invited**

Reputed vendors/dealers/stockists/suppliers are requested to submit sealed quotations for a list of Instruments within 10 days from publication of this advertisement in newspaper along with their credentials. For details information please see Annexure 1.

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## Annexure 1

### List of Instruments

<u>Sl. No.</u>	<u>Particulars</u>	<u>Quantity</u>
<b>1.</b>	<b>Determination of Young's Modulus (Y) of the material of a beam by the method Flexure (Bending Beam):</b>	
	<i>Apparatus required:-</i>	
a.	Flexure Beam Apparatus with steel bar, knife edge, weight hanger	Two Sets
b.	Vertical Reading Microscope with tele- microscopic attachment	Two
c.	Twelve pieces slotted Weights, 500 gm	Two Sets
d.	Meter Scale (wooden)	Two
e.	Slide Callipers (Brass) (IME Type)	Four
f.	Screw Gauge (Stainless steel)	Four
g.	Extra Brass Bar for Flexure Beam	Two
<b>2.</b>	<b>Determination of 'g' by Kater's pendulum:</b>	
	<i>Apparatus required:-</i>	
a.	Kater's Pendulum, Tripod Stand type (Stainless steel)	Two
b.	Telescope with adjustable stand	Two
c.	Digital Stop watch, Racer make	Two
d.	Cathetometer, 1 meter long	Two
e.	Kater's Pendulum, wall type	Two
<b>3.</b>	<b>Verification of Stoke's Law and hence to determine the Co-efficient of viscosity of a highly viscous liquid by using Stoke's Law:</b>	
	<i>Apparatus required:-</i>	
a.	Stoke's Law Apparatus (Borosil glass tube) with metal stand	Two Sets
b.	Steel Ball set (Four different sizes)	Two Boxes
c.	Liquid Castor oil, (White)	5 Kg
d.	Digital Stop watch, Racer make	Two
e.	Travelling Microscope (Vertical & Horizontal)	Two
<b>4.</b>	<b>Determination of Surface Tension of a liquid at different temp. by Jaeger's Method:</b>	
	<i>Apparatus Required:-</i>	
a.	Jaeger's Apparatus	Two Sets
b.	Sp. Gr. Bottle (Borosil)	Four
c.	Travelling Microscope, (Vertical & Horizontal)	One
d.	Thermometer, (110× 1/10 <sup>th</sup> ).	Four
e.	Beaker, 250 ml (Borosil)	Four
f.	Digital Stop watch, Racer make	Two
g.	Spirit Lamp	Four
h.	Stand	Two
<b>5.</b>	<b>Determination of the co-efficient of Viscosity of a liquid by its flow through a capillary tube</b>	
	<i>Apparatus required:-</i>	
a.	Viscosity apparatus with water reservoir	Two Sets
b.	Metre Scale, (wooden)	Four
c.	Travelling Microscope, (Vertical & Horizontal) s.s scale	one
d.	Beaker, 250 ml (Borosil)	Six
e.	Digital Balance, (Capacity 500 gm, sensitivity 5 mg)	Two
f.	Thermometer, (110× 1/10 <sup>th</sup> ).	Four

- |    |                                      |           |
|----|--------------------------------------|-----------|
| g. | Digital Stop watch, Racer make       | Two       |
| h. | Cathetometer, 1 metre long           | One       |
| i. | Rubber coil                          | Two       |
| j. | Mercury                              | 1 Kg      |
| k. | Measuring Cylinder, 100 ml (Borosil) | Four      |
| l. | Physical Balance (Double Door)       | Two Sets  |
| m. | Weight Box (200 gm)                  | Two Boxes |

**6. To determine the Thermal Conductivity of a bad conductivity by Lee's & Chorlton's Method:**

***Apparatus required:-***

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|----|--|-------------|
| a. | Lee's & Chorlton's Apparatus                             | Two sets    |
| b. | Electric heater  | Two         |
| c. | Travelling Microscope, (Vertical & Horizontal) s.s scale | One         |
| d. | Copper Boiler 2 liters                                   | Two sets    |
| e. | Thermometer, 110× 1/10th.                                | Four Pieces |
| f. | Meter scale, (wooden)                                    | Two         |
| g. | Digital Balance, (Capacity 300 gm, sensitivity 10 mg)    | Two sets    |
| h. | Digital Balance, (Capacity 3 Kg, sensitivity 100 mg)     | Two sets    |
| i. | Pressure tube, (Rubber)                                  | 2 m         |
| j. | Slide Callipers (Brass)                                  | Two         |

**7. Determination of Surface tension of a liquid by the capillary-tube method and to verify Jurin's Law:**

***Apparatus required:-***

- |    |  |          |
|----|--|----------|
| a. | Surface Tension by capillary rise apparatus,             | Two sets |
| b. | Spirit Level   | Four     |
| c. | Travelling Microscope, (Vertical & Horizontal) s.s scale | One      |
| d. | Sp.Gr.Bottle (Borosil)                                   | Four     |
| e. | Capillary tube   | 100 pcs. |
| f. | Copper sulphate  |          |

500 gm

**8. To determine the co-efficient of linear expansion of the material of a rod by Optical Lever:**

***Apparatus required:-***

- |    |                                 |          |
|----|---------------------------------|----------|
| a. | Pullinger's Apparatus           | Two sets |
| b. | Optical Lever, brass body       | Two      |
| c. | Copper Boiler 2 liters          | Two sets |
| d. | Thermometer, 110× 1/10th.       | Four     |
| e. | Meter scale, (wooden)           | Two      |
| f. | Pressure tube, (Rubber)         | 2 m      |
| g. | Telescope with adjustable stand | One      |

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|----|--|-----|
| 9. | P- N junction semiconductor diode Full set (for V-I Characteristics) | Two |
|----|--|-----|

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|-----|---------------------|------|
| 10. | Spherometer (Brass) | Four |
|-----|---------------------|------|