Practical No. 1: Collect the photographic information of Indian Knowledge System (IKS) given in various units

I. Practical Significance

Indian Knowledge Systems (IKS) will actively engage for spreading the traditional knowledge in the field of Engineering & Technology.

II. Industry / Employer Expected outcomes

Apply the principles of engineering mechanics to analyze, design and automation the prototypes and equipment's of various industries.

III. Course Level Learning Outcome(s)

CO1-Select the suitable machine under given loading condition.
CO2-Analyze the given force system to calculate resultant force.
CO5-Determine the centroid/center of gravity of gravity of the given structural elements of having specific shape and size.

IV. Laboratory Learning Outcome(s)

LLO 1.1 Verify law of machine under the given condition.
LLO 1.2 Verify law of moment of forces.
LLO 1.3 Understand the centroid of structural component.

V. Relevant Affective Domain related Outcome (s)

Follow safety practices.

VI. Relevant Theoretical Background

The Indian Knowledge Systems comprise of Jnan, Vignan, and Jeevan Darshan that have evolved out of experience, observation, experimentation, and rigorous analysis. This tradition of validating and putting into practice has impacted our education, arts, administration, law, justice, health, manufacturing, and commerce.

VII. Required Recourses/Apparatus/Equipment with specifications

Sr. No.	Particulars	Specifications	Quantity	Remarks (If Any)
1				
2				
3				
4				

VIII. Precautions to be followed

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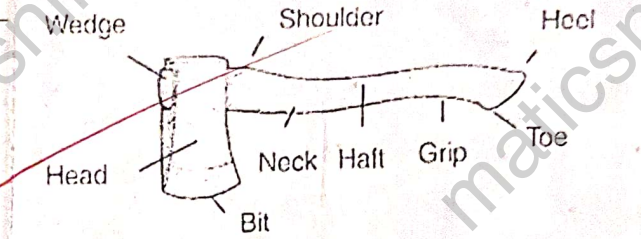
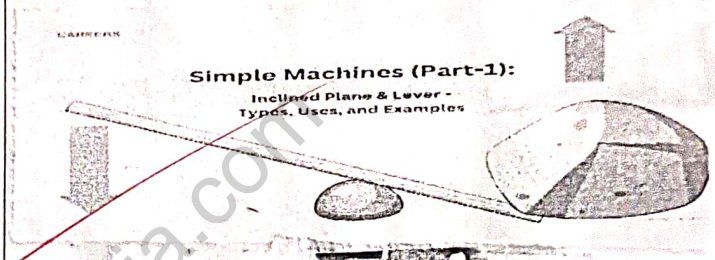
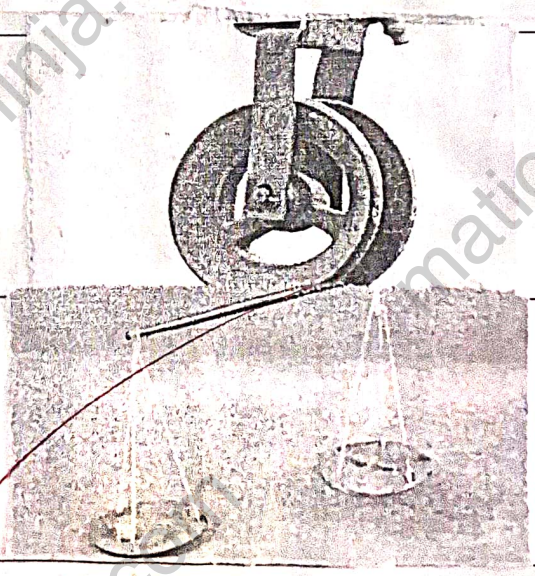
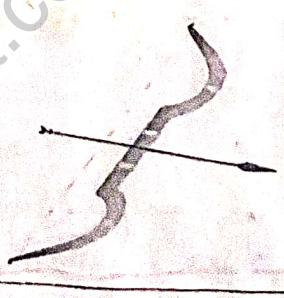
IX. Procedure

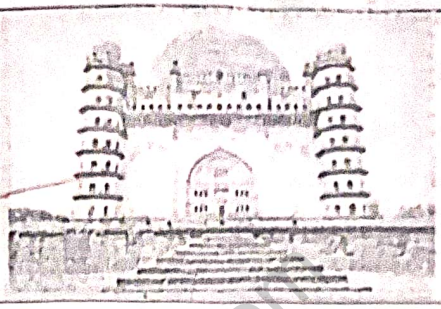
1. Study the IKS system.
2. Identify various IKS given in various units
3. Student will collect the photographic information of given IKS.

X. Observations and Calculations

Identify different IKS in the various units and collect its photographic information.

XI. Observations Table

Sr. No.	Unit Name/Instrument Name	
1	**Unit - I Simple Lifting Machine** Hand axe as wedge	
2	**Unit - I Simple Lifting Machine** Lever in battle, Inclined Plane for loading	
3	**Unit - I Simple Lifting Machine** Pulleys to lift water in irrigation	
4	**Unit - II Analysis of Forces** Weighing scale in Mohenjodaro, Harappa	
5	**Unit - V Centroid and Centre of Gravity** Archery arrowheads in Ramayana	

6	**Unit - V Centroid and Centre of Gravity** Arch in archaeological structures such as Mahal, GolGumbaz	

XII. Results

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XIII. Interpretation of results

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XIV. Conclusions and Recommendations

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XV. Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO. Write answers of minimum three questions.

1. What is IKS?
2. Explain Hand axe as wedge.
3. Discuss about Pulleys to lift water in irrigation.
4. Explain weighing scale in Mohenjodaro, Harappa.
5. Describe arch in archaeological structures such as Mahal, GolGumbaz

Space for answers

Q. 1 ⟶ ?

Ans:- Indian knowledge systems (IKS) is a collection of knowledge that has evolved over time through observation, experimentation, and analysis.

Q. 2 ⟶ ?

Ans:- A hand axe is a wedge because it has a bifacial edge or Wedge, that was formed by chipping stone.

Q. 3 ⟶ ?

Ans:- Pulleys are used to lift water for irrigation by changing the direction of force and reducing the amount of force needed.