Sanjay Ghodawat University, Kolhapur

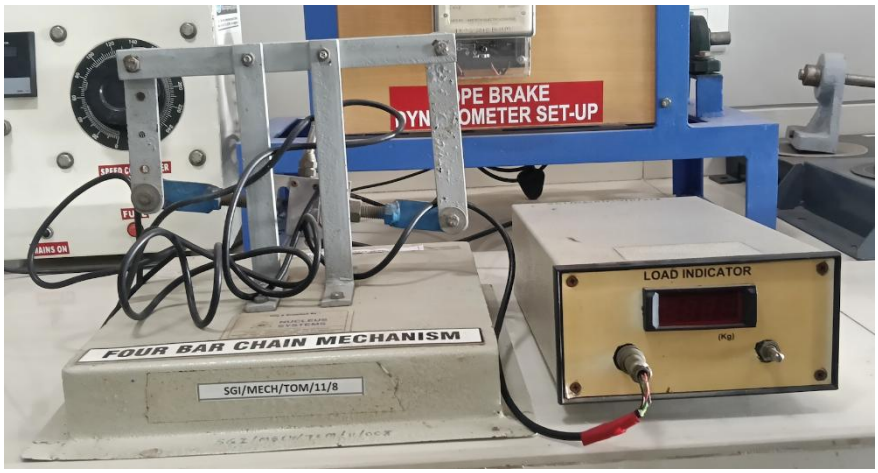
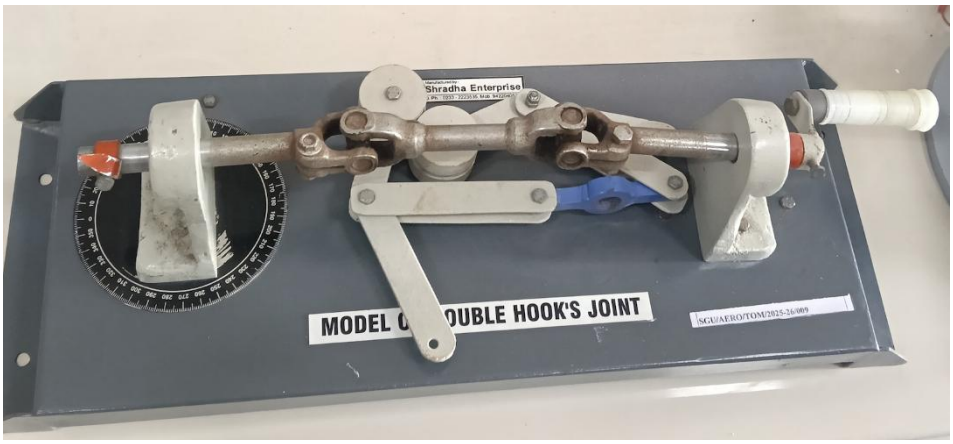
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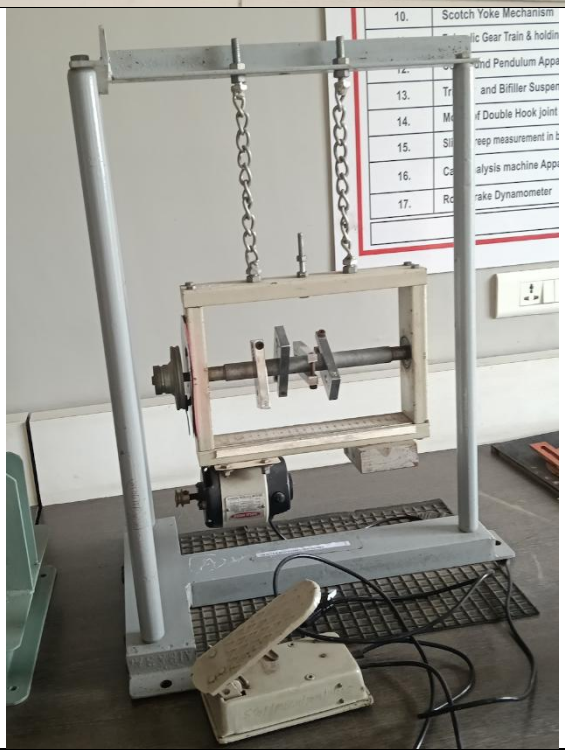
DEPARTMENT OF AEROSPACE ENGINEERING

THEORY OF MACHINES LABORATORY

S. No.	Equipment Name	Description	Equipment Photo
1	**Cam Analyser Machine**	**Overall Dimensions:** 1200 × 500 × 900 mm **Cam Speed Range:** 20–300 RPM (variable) **Cam Types:** Radial and offset cams **Follower Types:** Knife edge, roller, flat-faced **Drive:** Variable-speed electric motor (0.25 HP)	
2	Compound Pendulum Apparatus	**Frame Dimensions:** 800 × 400 × 1200 mm **Pendulum Length:** 300–900 mm (adjustable) **Time Period Range:** 1–3 s **Mass of Pendulum:** 2–5 kg **Measurement:** Knife-edge support with scale **Application:** Determination of radius of gyration	

3	Four-Bar Chain Mechanism	**Base Dimensions:** 800 × 400 mm **Link Length Range:** 100–300 mm **Speed Range:** 20–150 RPM **Drive:** Hand-operated / motorized **Material:** Mild steel / aluminum links	
4	Model Double Hook Joint	**Overall Dimensions:** 600 × 300 × 400 mm **Shaft Length:** 250–350 mm **Operating Speed:** 50–300 RPM **Maximum Shaft Angle:** 30°–45° **Drive:** Hand / motor-driven	
5	Universal Joint Apparatus	**Base Dimensions:** 700 × 350 mm **Shaft Length:** 300 mm **Speed Range:** 50–500 RPM **Maximum Shaft Angle:** Up to 45° **Drive:** Variable-speed motor	

6	Motorized Gyroscope	**Overall Dimensions:** 700 × 400 × 600 mm **Rotor Diameter:** 150–200 mm **Rotor Speed:** 3000–6000 RPM **Precession Speed:** Variable (controlled by weights) **Motor Power:** 0.5 HP Power Supply: 230 V AC	
7	Rope Brake Dynamometer Setup	**Overall Dimensions:** 800 × 400 × 600 mm **Brake Drum Diameter:** 200–300 mm **Speed Range:** 300–1500 RPM **Load Capacity:** Up to 10 kg **Power Measurement Range:** Up to 5 kW **Cooling:** Natural / water cooled (optional)	

8	Scotch Yoke Mechanism	**Base Dimensions:** 700 × 400 mm **Stroke Length:** 100–200 mm **Speed Range:** 30–200 RPM **Drive:** Motor / hand crank **Application:** Conversion of rotary to reciprocating motion	
9	Dynamic Balancing Machine	**Overall Dimensions:** 1200 × 600 × 900 mm **Rotor Weight Capacity:** 5–20 kg **Rotor Speed:** 500–3000 RPM **Measurement:** Vibration amplitude / phase angle **Drive:** Variable-speed motor	

10	Double Hooke's Joint Apparatus	**Overall Base Dimensions:** **Length:** 800–1000 mm **Width:** 250–350 mm **Height:** 200–300 mm **Shaft Details:** Input and Output **Shaft Length:** 250–300 mm **Intermediate Shaft Length:** 180–250 mm **Shaft Diameter:** 15–20 mm	
11	Bifilar and Trifilar Apparatus	**Frame Dimensions:** 800 × 500 × 1200 mm **Wire Length:** 500–1000 mm **Disc Diameter:** 200–300 mm **Load Capacity:** 5–10 kg **Time Period Range:** 1–4 s	

12	Scotch Yoke Mechanism	**Base Plate Dimensions:** **Length:** 700–900 mm **Width:** 350–450 mm **Thickness:** 15–20 mm **Rotating Disc (Crank) Diameter:** 200–300 mm **Slider / Yoke Length:** 250–350 mm **Guide Slot Length:** 200–300 mm **Stroke Length (Demonstration):** 100–150 mm	
13	Slip and Creep Measurement Apparatus	**Overall Dimensions:** 900 × 400 × 600 mm **Pulley Diameter:** 150–250 mm **Speed Range:** 200–1500 RPM **Drive:** Electric motor **Measurement:** Speed difference between driver & driven pulleys	

14	Universal Governor Apparatus	**Base Dimensions:** 900 × 500 mm **Speed Range:** 100–500 RPM **Governor Types:** Watt, Porter, Proell **Lift of Sleeve:** 20–50 mm **Drive:** Variable-speed motor	