

School of Architecture

D. Y. Patil College of Engineering and Technology, Kasaba Bawada, Kolhapur

Course Name: Basics of Structural Engineering for Architecture – II

Course Code: 231AR119

Class: First Year B.Arch. **Semester:** II

As part of the Structures course, a **Model Making Activity on Centre of Gravity of Plane Shapes** is arranged for First Year B.Arch. students. The activity is aligned with course objectives related to structural concepts and supports **CO 119.3 – Locate the Centre of Gravity for regular and irregular shapes**. Students will prepare cardboard models of different symmetrical and unsymmetrical shapes and determine their balancing point using a support stand. This practical exercise will help students understand balance, stability, symmetry, and the effect of geometry in structural and architectural forms

Activity shall be conducted in groups of **4 to 5 students**.

Material Required

- Cardboard sheets (2 to 3 nos.)
- Cutter / scissors
- Glue / Fevicol
- Scale
- Pencil / marker
- Craft paper for finishing if required
- Pins / skewers
- cardboard for support stand
- Colour craft papers

Shapes with Dimensions

Sr	Shape	Dimensions
1	Rectangle	200 × 120 mm
2	Square	150 × 150 mm
3	Triangle	Base 180 mm, Height 160 mm
4	Circle	Diameter 160 mm
5	Semicircle	Diameter 160 mm
6	Trapezium	Parallel sides 180 mm & 100 mm, Height 140 mm
7	L-Shape (optional)	180 × 180 mm overall

Support Stand Dimensions

Part	Size
Base Board	250 × 200 mm
Vertical Support Height	180 mm
Top Point Support	Pin fixed at top

Procedure

1. Draw and cut shapes in given dimensions.
2. Prepare neat cardboard models.
3. Make support stand.
4. Place each shape on pointed support.
5. Balance shape and mark Centre of Gravity point.

Marking Scheme (25 Marks)

Criteria	Marks
Accuracy of dimensions	5
Neatness & finishing	5
Working stand	5
Correct C.G. marking	5
Group explanation	5