Fundamentals of Structural Analysis

The crossword grid contains the following filled answers:

- **1 Down:** Displacement
- **2 Down:** Superposition
- **3 Down:** Castigliano's
- **4 Across:** Clapeyron's
- **5 Across:** Torsion,
- **5 Down:** Tiglian,
- **6 Down:** Unit, What
- **7 Down:** Moment,
- **8 Across:** Joule,
- **9 Across:** Roller,
- **10 Across:** Linearly,
- **11 Across:** Truss,
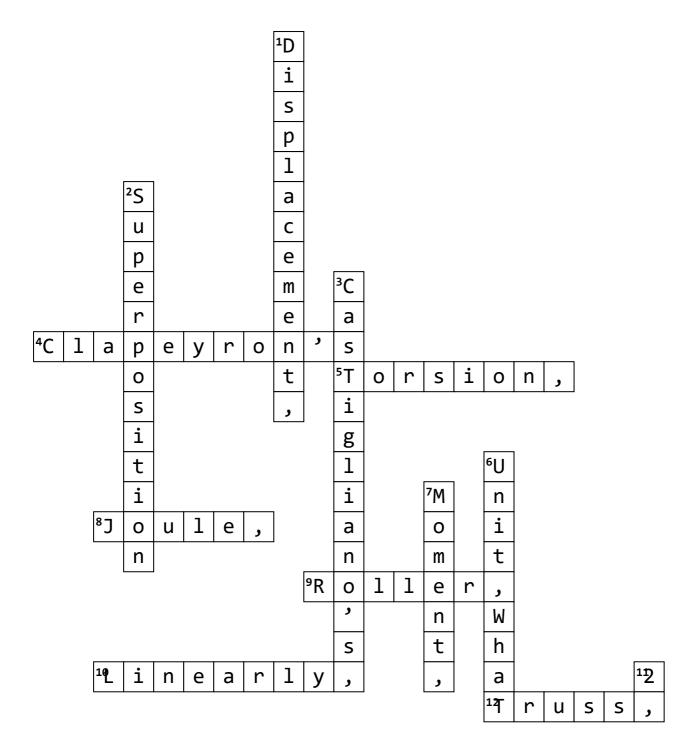
Across

4. What method allows the analysis of indeterminate beams using three consecutive moments?

5. In which type of loading is strain energy stored due to twisting?

8. What is the unit of strain energy?

9. support What type of support does a propped cantilever beam have at its free end?

10. What is the main assumption in applying the principle of superposition?

Down

1. Castigliano's first theorem is used to determine what quantity in a structure?

2. What principle allows for linear addition of effects in structural systems?

3. Which method uses partial derivatives of strain energy with respect to force or moment?

6. method is used to calculate deflection using strain energy and virtual loads?

7. What method uses an iterative procedure to balance moments at beam joints?

12. Which structural element is composed of pin-jointed members?

11. What is the degree of static indeterminacy of a fixed-fixed beam?