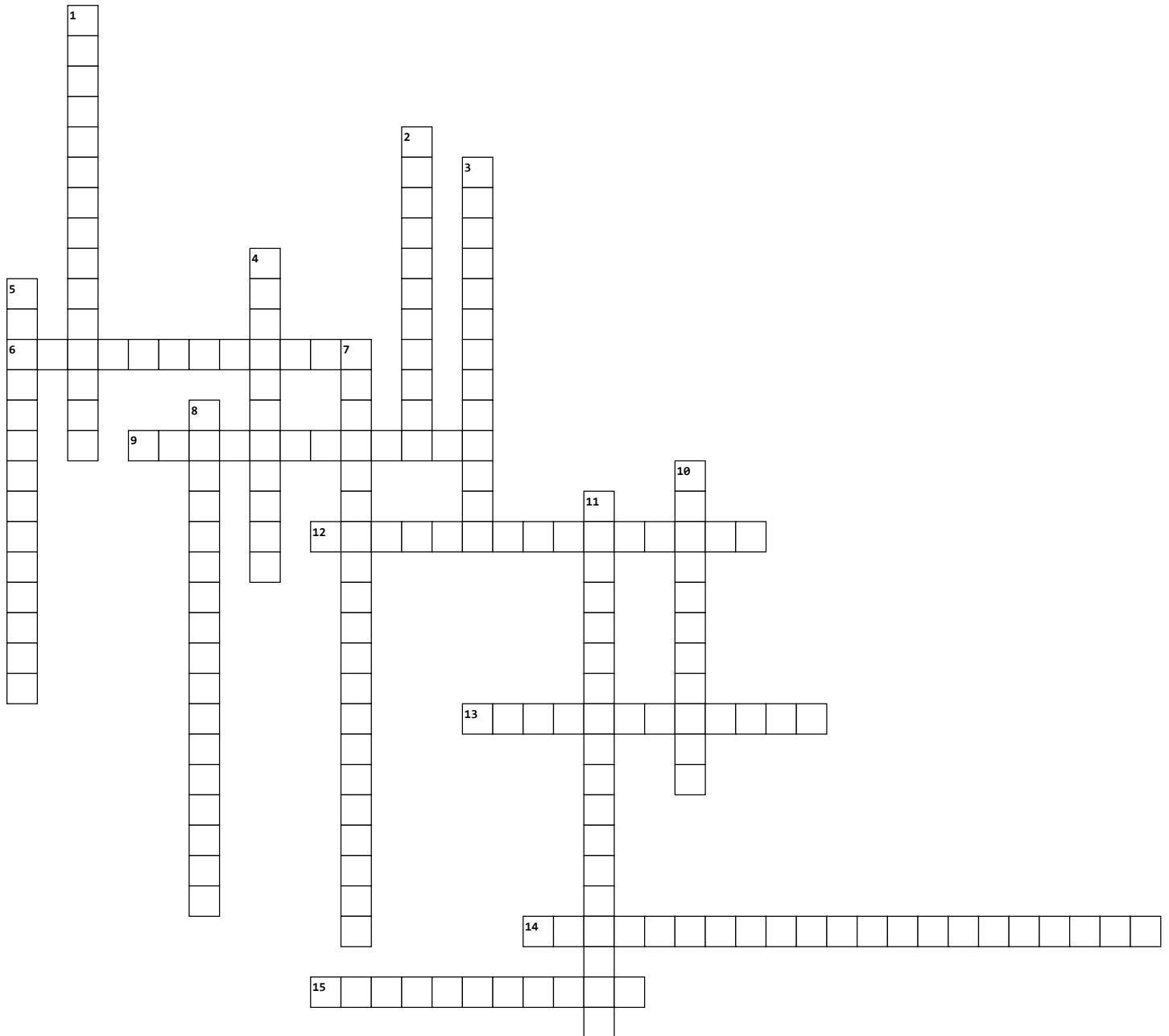


# 23AST201-Mechanics of Solids for Aerospace-Unit-5



## Across

- 6.** The component of stress perpendicular to a surface, affecting axial loads.
- 9.** A mathematical representation of the deformation of a material in multiple directions.
- 12.** Quantities derived from the stress tensor that remain unchanged under coordinate transformations.
- 13.** A mathematical representation of the internal forces acting on a material in multiple directions.
- 14.** A measure of the stress concentration at the tip of a crack, used in fracture mechanics.

## Down

- 1.** Stress resulting from twisting forces applied to a structural element.
- 2.** The component of stress parallel to a surface, causing sliding between layers.
- 3.** The stress experienced by a material due to bending forces, varying linearly across the cross-section.
- 4.** A graphical method used to determine principal stresses and maximum shear stresses.
- 5.** A scalar stress value used in ductile material failure theories, representing combined stress states.

**15.** Stress experienced along the length of a member, either tensile or compressive.

**7.** The process of converting stresses from one coordinate system to another to simplify analysis.

**8.** The maximum and minimum normal stresses at a point, occurring on orthogonal planes.

**10.** A condition where stresses are applied in two dimensions, typically in thin plates.

**11.** The greatest shear stress experienced at a point, used in failure criteria.