

1. **Complex Stresses.**
 2. **Thick Cylinders.**
 3. **Energy Methods.**
 4. **Statically indeterminate Structures.**
 5. **Torsion of Non-Circular and Thin-Walled Sections:** Rectangular section; Thin-walled open sections; Thin-walled split tube; Other solid (non-tubular) shafts; Thin-walled closed tubes of non-circular sections.
 6. **Struts:** Euler's theory; Rankine-Gordon formula; Struts with eccentric load
 7. **Curved Beams:** Beams with small initial curvature; Beams with large initial curvature; Location of the neutral axis; Stress in hooks.
 8. **Unsymmetrical Bending:** Principal centroidal axes; Graphical methods of locating the principal centroidal axes; Stress determination; Beam deflection.
 9. **Rings, Discs and Cylinders Subjected to Rotation and Thermal Gradients:** Thin rotating rings or cylinders; Rotating solid discs; Rotating disc of uniform strength; Combined rotation and thermal stress in uniform discs and thick cylinders.
 10. **Theories of Elastic Failure:** Maximum principal stress theory; Maximum shear stress theory; Total strain shear stress theory; Distorsion energy theory; Mohr's modified shear stress theory for brittle materials.
11. **Strain Beyond the Elastic Limit.**