Lukhdhirji Engineering College, Morbi

Department of Mechanical Engineering

Assignment 4- Torsion: (CO1)

Subject: Fundamental of Machine Design (3141907) Semester: 4th

Year : 2022-23

1. Discuss torsion in solid shaft and hollow shaft.
2. Write the assumptions for the shear stress due to torsion.
3. Derive torsion equation with usual notations.
4. A shaft transmits 75 kW power at 120 rpm. Determine the diameter of shaft if allowable shear stress is 50 N/mm^2. The twist in the shaft shall not exceed 1.5° in 5 m length. Take G = 85 kN/mm^2.