

QUESTION BANK

Faculty of Engineering
Department of Mechanical Engineering

Question 1

- 1. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the angle of twist in degrees.
- 2. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the maximum shear stress in the shaft.
- 3. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the maximum shear strain in the shaft.
- 4. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the maximum shear stress in the shaft.
- 5. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the maximum shear strain in the shaft.



Question 2

- 1. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the angle of twist in degrees.
- 2. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the maximum shear stress in the shaft.
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- 5. A shaft of diameter 50 mm is fixed to a wall at one end and is free at the other end. The shaft is subjected to a torque of 1000 Nm. The length of the shaft is 2 m. The shear modulus of the material is 80 GPa. Calculate the maximum shear strain in the shaft.