Subject - Structural Mechanics

Assignment Question

Chapter-1

1. Define the terms force, Moment, Support condition, Centere of gravity & Moment of Inertia?
2. Explain the C.G and M.I of a rectangular Section?

Chapter-2

1. Draw the stress - strain diagram of a steel rod?
2. Write the relationship between the elastic constants?
3. What is hooke's Law.?
4. What is poisson's ratio?
5. Explain the term Rigidity, Elasticity and plasticity?

Chapter-3

1. What is Limit of Proportionality?
2. What is yield stress and ultimate stress?
3. Deformation of Prismatic bar due to uniaxial load explain?
4. Deformation of prismatic bar due to Self weight explain?

Chapter-4

1. What is Theory of simple bending?
2. Write the assumption of bending?
3. What is Moment of Resistance?

Chapter-5

1. What do you mean by torsion?
2. Write basic assumption of Pure torsion.
3. Explain about torsion of Solid circular Section
4. What is Polar moment of Inertia.

Chapter-6

1. What is Long column & short column.
2. Write and explain Euler's Theory of Long column?

Chapter-7

1. What are the various types of beam?
2. What are the various types of Load?
3. What are the various types of Reaction.

(4) What is Shear force and Bending moment?

(5) Calculate the Shear force and Bending moment of a cantilever beam in which point load acts in its free end?

Chapter-8

(1) What is slope and deflection in a beam?

(2) ~~Rotation~~ write the Relationship between Slope and deflection?

(3) Slope and deflection of a cantilever beam write any one?

Chapter-9

(1) What is Degree of indeterminacy?

(2) What is trusses?

(3) What is Statical determinate beam?

(4) What do you understand the term degree of redundancy?

(5) What are the Stable & unstable trusses?

(6) What are the advantages of trusses?