Assignment 2

1. Draw a sketch of a T-beam. Include the dimensions and materials.

2. Calculate the shear force and bending moment at a specific section of the T-beam.

3. Determine the maximum stress in the T-beam and the location where it occurs.

4. Draw a free body diagram of a bridge support and calculate the forces acting on it.

5. Analyze the stability of the bridge support structure using the principles of statics.

6. Sketch the layout of a transmission tower and label its components.

7. Explain the importance of grounding systems in electrical transmission lines.

8. Design a simple electrical circuit and calculate the current and voltage.

9. Investigate the electrical properties of different materials used in transmission lines.

10. Plan a budget for a renewable energy project and estimate the cost of different components.

11. Model the behavior of a power grid under various conditions.

12. Discuss the role of automation in improving the efficiency of electrical networks.