INTRODUCTION

General Observations Codes of Practice and Normalization Basis of Design Ultimate limit states Serviceability limit states Durability Sustainability Materials Material specification Mechanical properties Toughness and through thickness properties Fatigue properties Corrosion resistance Geometric Characteristics and Tolerances

STRUCTURAL ANALYSIS

Structural Modelling, Worked Examples Global Analysis of Steel Structures, Worked Examples Classification of Cross Sections

DESIGN OF MEMBERS

Tension, Worked Examples Laterally Restrained Beams, Worked Examples Torsion, Worked Examples Compression, Worked Examples Laterally Unrestrained Beams, Worked Examples Beam-Columns, Worked Examples

ELASTIC DESIGN OF STEEL STRUCTURES

Simplified Methods of Analysis Amplified sway-moment method Sway-mode buckling length method Worked Example Member Stability of Non-prismatic Members and Components Non-prismatic members Members with intermediate restraints General method Worked Example Design Example 1: Elastic Design of Braced Steel-Framed Building

PLASTIC DESIGN OF STEEL STRUCTURES

General Rules for Plastic Design Plastic limit analysis: method of mechanisms Code requirements for plastic analysis Methods of Analysis Approximate methods for pre-design Computational analysis 2nd order effects Worked Example Member Stability and Buckling Resistance General criteria for the verification of the stability of members with plastic hinges Bracings Verification of the stability of members with plastic hinges Worked Examples Design Example 2: Plastic Design of Industrial Building

REFERENCES