

Supplementary Exercises – set E - winter set - SOLUTION

Exercise 1

NODE NUMBERING & FREE DEGREES OF FREEDOM (sketch)

n =

STRAIN ENERGY EXPRESSION

EQUILIBRIUM EQUATIONS

DISPLACEMENT VALUES

DEFORMED CONFIGURATION (quoted sketch)

DIAGRAM OF INTERNAL FORCES

Exercise 2

NODE NUMBERING & FREE DEGREES OF FREEDOM (sketch)

m =

DISPLACEMENT FIELD AS A FUNCTION OF FREE DISPLACEMENTS

STRAIN ENERGY EXPRESSION

EQUILIBRIUM EQUATIONS

DISPLACEMENT VALUES

DEFORMED CONFIGURATION (quoted sketch)

STRAIN EXPRESSIONS

STRESS EXPRESSIONS