

SOLUTIONS TO TUTORIAL EXAMPLES

CHAPTER 10

Question 1

This beam has a pinned support (two restraints) at its left hand end, a roller support (one restraint) at its mid point, and another roller support (one restraint) at its right hand end. So the total number of restraints is $(2 + 1 + 1) = 4$. As 4 is greater than 3, the problem is not solvable and is statically indeterminate (SI).

Question 2

This beam has a fixed support (three restraints) at its left hand end and no support (no restraints) at its right hand end. So the total number of restraints is $(3 + 0) = 3$, therefore the problem is solvable and is statically determinate (SD).

Question 3

This pin-jointed frame beam has a roller support (one restraint) at its left hand end and a pinned support (two restraints) at its right hand end. So the total number of restraints is $(1 + 2) = 3$, therefore, again, the problem is solvable and is statically determinate (SD).