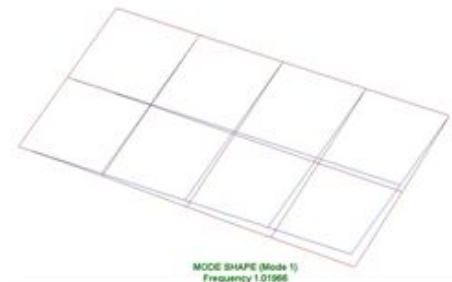
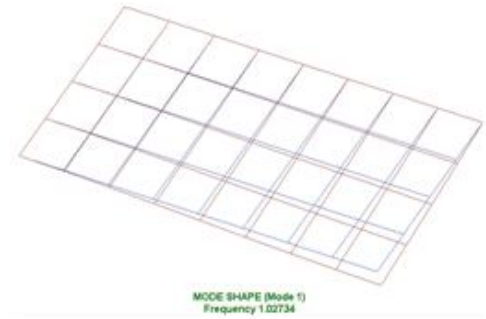
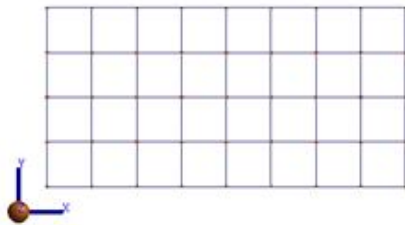
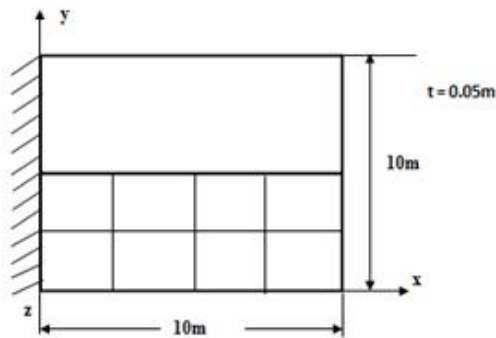


## Free vibration analysis of thin square cantilever plate: anti-symmetric modes



<b>Boundary condition :</b>	$U_x = U_y = R_z = 0$ at all nodes		
	$U_z = R_y = R_x = 0$ along $y$ -axis and $R_x = 0$ along $y = 5\text{ m}$		
<b>Material property :</b>	$E = 200\text{ GPa}$ , $\nu = 0.3$ , Specific gravity = 8		
<b>Element type :</b>	Thin shell element, thickness = 0.05 m		
<b>Mesh type</b>	<b>Case 1</b>	: 4 Node: 8x4	
	<b>Case 2</b>	: 8 Node: 4x2	
<b>Finite element statistics</b>		Number of elements	Number of nodes
	<b>Case 1</b>	: 32	45
	<b>Case 2</b>	: 8	37
			Degree of freedom
			112
			88

Mode	4 Node			8 Node		
	NAFEMS	FEAST <sup>SMT</sup>	NASTRAN <sup>®</sup>	NAFEMS	FEAST <sup>SMT</sup>	NASTRAN <sup>®</sup>
1	1.03	1.02	1.00	1.02	1.02	1.01
2	3.39	3.83	3.57	3.71	3.71	3.59
3	8.31	8.34	7.09	7.77	7.84	7.03
4	9.42	9.39	8.05	8.48	8.72	8.13
5	11.73	11.94	9.94	11.19	11.39	10.15
6	17.82	18.17	14.22	15.76	16.89	14.21