

ADEBAYO QUOUS OLADANJE

MEE 382

16/ENG06/003

MECHANICAL ENGINEERING

$$10m_1 - 2m_2 + m_3 = 9$$

$$-2m_1 + 10m_2 - 2m_3 = 12$$

$$-2m_1 - 5m_2 + 10m_3 = 18$$

M₀ [000]

From eqn 1

$$10m_1 - 2m_2 + m_3 = 9$$

$$m_1 = \frac{9 + 2m_2 - m_3}{10} = 0.9 + 0.2m_2 - 0.1m_3$$

From eqn 2

$$-2m_1 + 10m_2 - 2m_3 = 12$$

$$m_2 = \frac{12 + 2m_1 + 2m_3}{10} = 1.2 + 0.2m_1 + 0.2m_3$$

From eqn 3

$$-2m_1 - 5m_2 + 10m_3 = 18$$

$$m_3 = \frac{18 + 2m_1 + 5m_2}{10} = 1.8 + 0.2m_1 + 0.5m_2$$

$$m_1 = 0, m_2 = 0, m_3 = 0$$

$$m_1 = 0.9 + 0.2[0] - 0.1[0] = 0.9$$

$$m_2 = 1.2 + 0.2[0] + 0.2[0] = 1.2$$

$$m_3 = 1.8 + 0.2[0] + 0.5[0] = 1.8$$

$$m_1^2 = 0.9 + 0.2[1.2] - 0.1[1.8] = 0.96$$

$$m_2^2 = 1.2 + 0.2[0.9] + 0.2[1.8] = 1.74$$

$$m_3^2 = 1.8 + 0.2[0.9] + 0.5[1.2] = 2.58$$

$$m_1 = 0.96, m_2 = 1.74, m_3 = 2.58$$

$$m_1^3 = 0.9 + 0.2[1.74] - 0.1[2.58] = 0.9$$

$$m_2^3 = 1.2 + 0.2[0.96] + 0.2[2.58] = 1.96$$

$$m_3^3 = 1.8 + 0.2[0.96] + 0.5[1.74] = 2.862$$

$$M_1 = 0.91, M_2 = 1.908, M_3 = 2.862$$

$$M_1^1 = 0.9 + 0.2 [1.908] - 0.1 [2.862] = 0.9934$$

$$M_2^1 = 1.2 + 0.2 [0.99 + 0.2 [2.862]] = 1.9704$$

$$M_3^1 = 1.8 + 0.2 [0.99] + 0.2 [1.968] = 2.3796$$

$$M_1 = 0.9954, M_2 = 1.9704, M_3 = 2.3794$$

$$M_1^2 = 0.9 + 0.2 [1.9704] - 0.1 [2.3796] = 1.05612$$

$$M_2^2 = 1.2 + 0.2 [0.9954] + 0.2 [2.3796] = 1.875$$

$$M_3^2 = 1.8 + 0.2 [1.05612] + 0.5 [1.875] = 2.94572$$

$$M^6 = 1.05612, M_2 = 1.885, M_3 = 2.8842$$

$$M_1^6 = 0.9 + 0.2 [1.885] - 0.1 [2.98428] = 0.976572$$

$$M_2^6 = 1.2 + 0.2 [1.05612] + 0.2 [2.98428] = 2.0281$$

$$M_3^6 = 1.8 + 0.2 [1.05612] + 0.5 [1.8775] = 2.94572$$

$$M_1 = 0.976572, M_2 = 2.0281, M_3 = 2.94572$$

$$M_1^2 = 0.9 + 0.2 [2.0281] - 0.1 [2.94572] = 1.026748$$

$$M_2^2 = 1.2 + 0.2 [0.926572] + 0.2 [2.94572] = 1.950584$$

$$M_3^2 = 1.8 + 0.2 [0.976572] + 0.5 [2.0281] = 2.979364$$

$$M_1 = 1.026748, M_2 = 1.950584, M_3 = 2.979364$$

$$M_1^5 = 0.9 + 0.2 [1.950584] - 0.2 [2.979364] = 0.99075$$

$$M_2^5 = 1.2 + 0.2 [1.02674] + 0.2 [2.979364] = 2.028224$$

$$M_3^5 = 1.8 + 0.2 [1.026748] + 0.5 [1.950584] = 2.975878$$