Q. 1   A simply supported uniform beam has suddenly applied to it the load distribution shown below in Fig. 1, where the time variation is a step function. Indicate what modes are absent and write the down the generalized force in the present modes.

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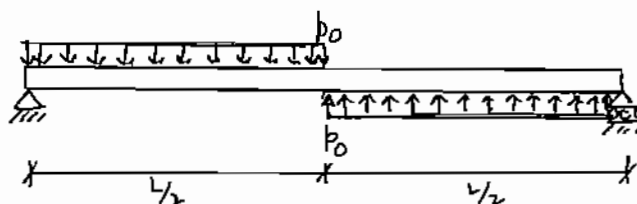
Q. 2   Find the natural frequencies and mode shapes of the structure given below. Also find the mass normalized mode shapes.   15
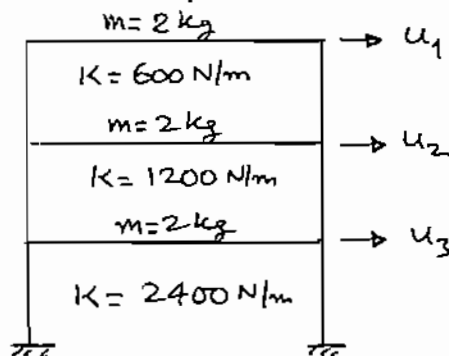
Q. 3   Determine the natural frequencies and corresponding mode shapes of an uniform Euler beam model having length L with simply supported ends under transverse vibration (numerical values of first three frequencies are to be given). Choose suitable notations for properties.

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