

3. A circular elastic plate with stiffness  $D$  and Poisson ratio  $\nu$  (Figure Q.3) is subjected to a constant load  $q$ . The plate is completely fixed at one end and is supported by cables at the other. The cables can be assumed as rigid with continuous distribution.
- (a) Determine the displacement field as a function of the loading and further integration constants. [12]
- (b) Write down all boundary conditions necessary to determine all unknown constants and fields (do not solve for them explicitly). [8]

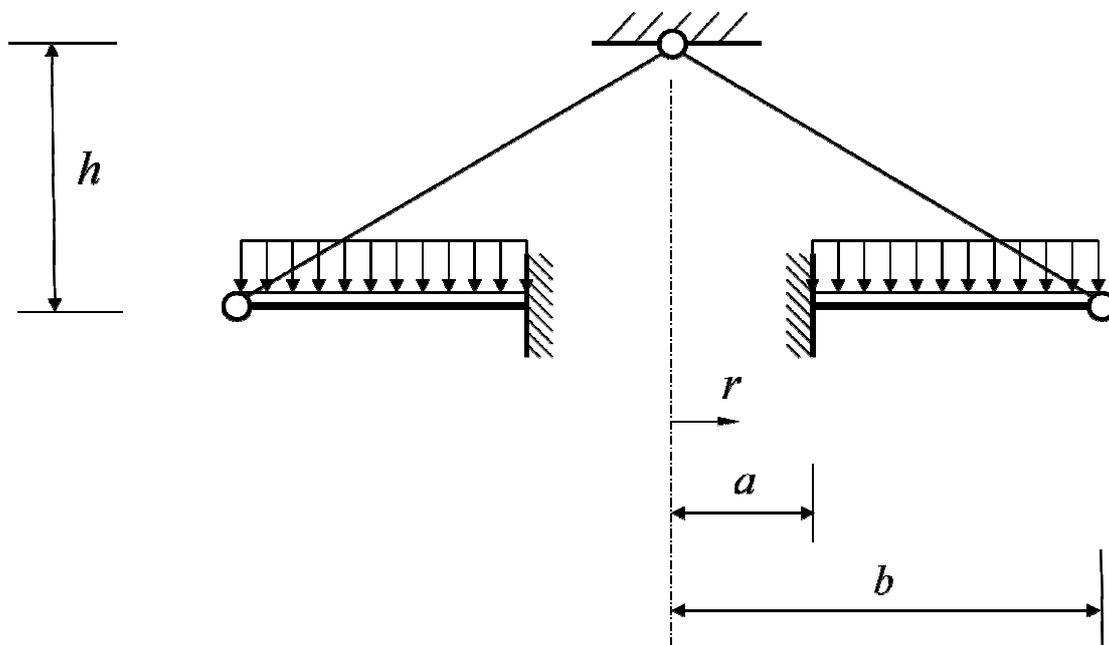


Figure Q.3