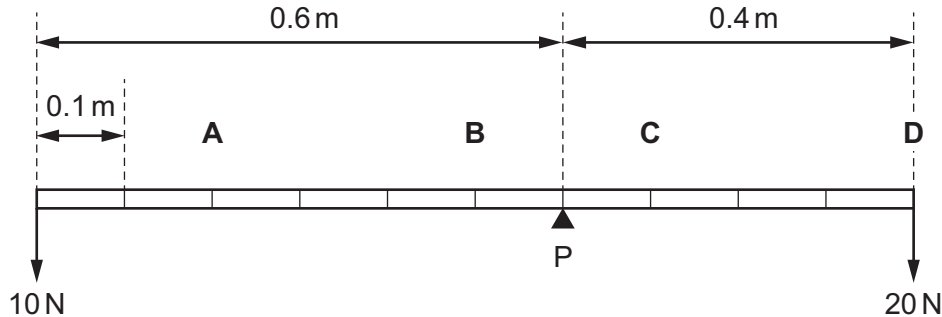


**15** A uniform beam is pivoted at P as shown. Weights of 10 N and 20 N are attached to its ends.

The length of the beam is marked at 0.1 m intervals. The weight of the beam is 100 N.

At which point should a further weight of 20 N be attached to achieve equilibrium?



**16** An electric motor has an input power  $P_{in}$ , useful output power  $P_{out}$ , and efficiency  $\eta$ .