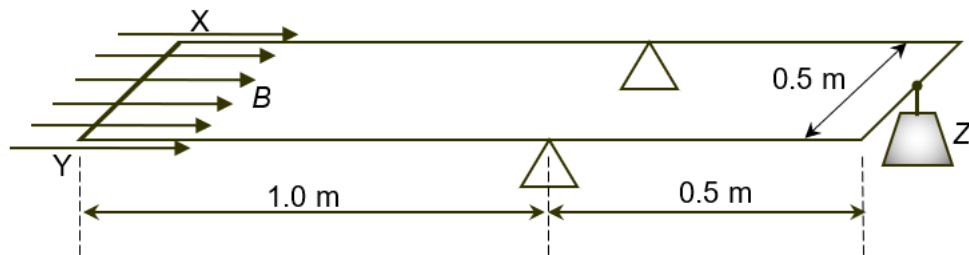


- 23** A 1.5 m by 0.5 m light and rigid rectangular conducting frame is pivoted along its longer sides with a weight Z hung on one shorter side as shown. A uniform horizontal magnetic field B of flux density 0.050 T is applied at right-angles to the section XY of the frame.



When a current passes through the section XY of the frame, which combination of the magnitude and direction of current flowing in section XY , and the weight Z makes the frame horizontal?

	magnitude of current in section XY	direction of current in section XY	Z / N
A	1.96 A	from X to Y	0.049
B	1.96 A	from Y to X	0.098
C	3.92 A	from X to Y	0.196
D	3.92 A	from Y to X	0.098

- 24** Two ions P and Q pass through a velocity selector, un-deviated. Ion P has 2 times the charge