Moving bar in a uniform magnetostatic field. A metallic bar (of finite length) moves uniformly with a velocity **v** in a steady uniform magnetic field of flux density **B**. Fig. Q6.6 shows five cases with different positions of the bar and of its velocity vector with respect to the magnetic field lines. There is a nonzero emf induced in the bar ($e_{\text{ind}} \neq 0$) for
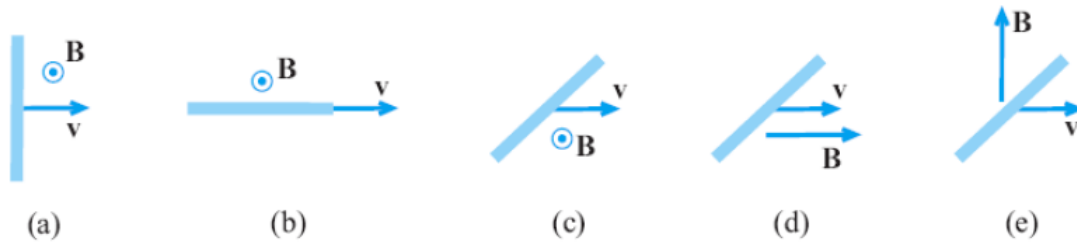

(a)   (b)   (c)   (d)   (e)

Figure Q6.6 Metallic bar moving with a velocity **v** in a magnetic field of flux density **B** – five different mutual positions of the bar and vectors **v** and **B**; for Question 6.18.

(A) case (a) only.
(B) case (b) only.
(C) case (d) only.
(D) cases (a) and (c) only.
(E) cases (b), (c), and (d) only.
(F) none of the cases shown.

Solution: (D)
Answer: (D)