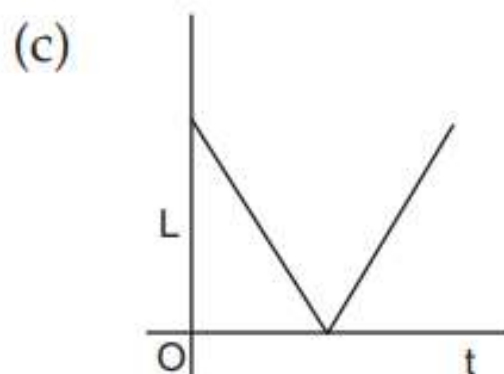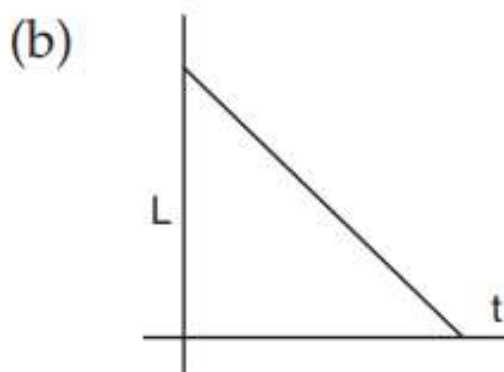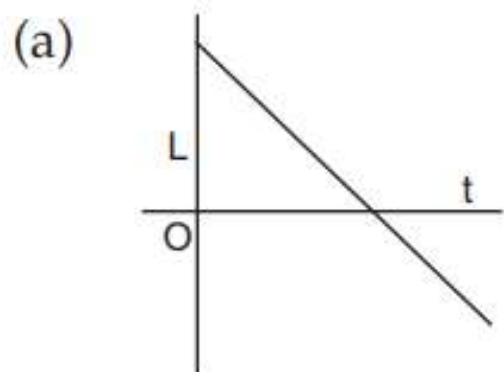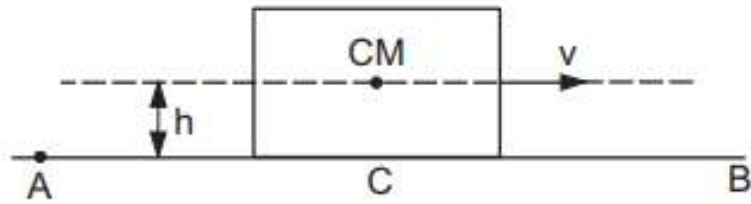A block slides on a rough horizontal ground from point A to point B. Point C is midway between A and B. The coefficient of friction between the block and the ground is constant. Its angular momentum L about C is plotted against time t. Which of the following curves is correct ?

(a)

(b)

(c)

(d)
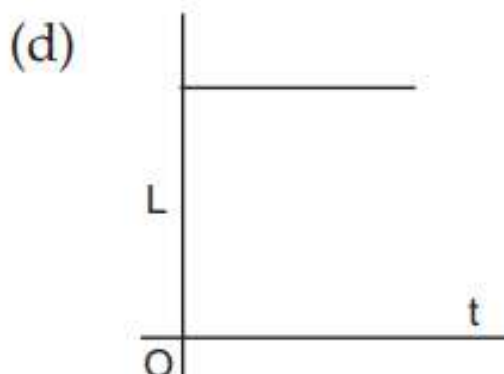
At any position of the block, its angular momentum L about C is equal to its linear momentum (p) × the height of its centre of mass (h) above C. As its velocity v decreases linearly with time, L will also decrease linearly with time.