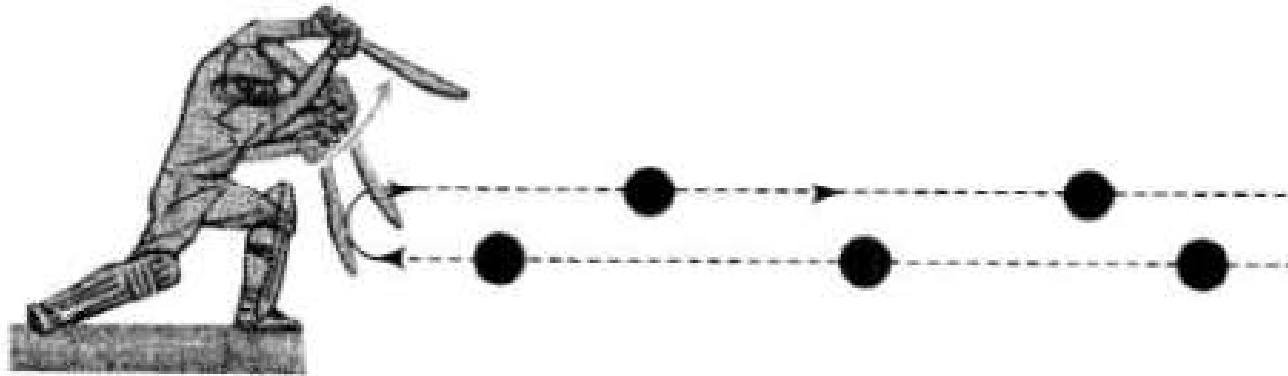


Q 1. A uniformly moving cricket ball is turned back by hitting it with a bat for a very short time interval.

Show the variation of its acceleration with time (Take acceleration in the backward direction as positive).

Sol: Impulsive Force is generated by the bat: If we ignore the effect of gravity just by analyzing the motion of ball in horizontal direction only, then ball moving uniformly will return back with the same speed when a bat hits it.

Acceleration of the ball is zero just before it strikes the bat. When the ball strikes the bat, it gets accelerated due to the applied impulsive force by the bat.



The variation of acceleration with time is shown in the graph.

