Speed of the Bob at the bottom of the swing

Solution:

The correct answer is d.)

Since all the initial stored PE is converted into KE at the bottom of the swing (Conservation of Energy), we have:

$$\left(\frac{1}{2}\right)mv^2 = mgr \Longrightarrow v^2 = 2gr$$

$$\Rightarrow v = \sqrt{2gr}$$