20 A transverse wave is passed through a piece of polarising material. The resulting amplitude of the wave is a.

The polarising material is now rotated through angle θ and the amplitude of the wave becomes $a\cos\theta$.

The new intensity of the transmitted wave is proportional to

A $a\cos\theta$.

B $a\cos^2\theta$.

C $a^2\cos\theta$.

D $a^2\cos^2\theta$.