8   A turbine at a hydroelectric power station is situated at a vertical distance 30 m below the level of the surface of a large lake. The water passes through the turbine at a rate of 5.7 m^3 s^{-1}.

The overall efficiency of the turbine and generator system is 90%. The density of water is 1000 kg m^{-3}.

What is the useful power output of the power station?

A   0.15 MW   B   1.5 MW   C   1.7 MW   D   90 MW