

- 17** A turbine at a hydroelectric power station is situated at a vertical distance of 30 m below the level of the surface of a large lake. The water passes through the turbine at a rate of  $340\text{ m}^3$  per minute.

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

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