

7 Given that the mass of Earth is  $5.97 \times 10^{24}$  kg, what is the speed of a satellite in a geostationary orbit about Earth?

A  $1.66 \times 10^3$  m s<sup>-1</sup>

B  $3.07 \times 10^3$  m s<sup>-1</sup>

C  $2.00 \times 10^7$  m s<sup>-1</sup>

D  $4.22 \times 10^7$  m s<sup>-1</sup>