03. The average work done by a human heart while it beats once is 0.5 J. Calculate the power used by heart if it beats 72 times in a minute.

Sol. $P = \frac{W \cdot D}{time}$

WD in 1 beat by heart = 0.5 J

WD in 72 beats by heart $= 0.5 \times 72 = 36J$

Time = 1 minute = 60 s

$P = \frac{WD}{t} = \frac{36}{60} = \frac{6}{10} = 0.6W$

Hence, power used by heart is 0.6 W