

Q 16

Time taken by a 836 W heater to heat one litre of water from 10°C to 40°C is

- (a) 150 s (b) 100 s (c) 50 s (d) 200 s
- [2004]

$$(a) \quad \Delta Q = mC_p \times \Delta T$$

$$= 1 \times 4180 \times (40 - 10) = 4180 \times 30$$

($\therefore \Delta Q =$ heat supplied in time t for heating 1L water from 10°C to 40°C)

$$\text{also } \Delta Q = 836 \times t \Rightarrow t = \frac{4180 \times 30}{836} = 150 \text{ s}$$