Q 04 In a large building, there are 15 bulbs of 40 W, 5 bulbs of 100 W, 5 fans of 80 W and 1 heater of 1 kW. The voltage of electric mains is 220 V. The minimum capacity of the main fuse of the building will be: [2014]

(a) 8 A   (b) 10 A   (c) 12 A   (d) 14 A

(c) Total power consumed by electrical appliances in the building, $P_{total} = 2500W$

Watt = Volt × ampere

$\Rightarrow$ $2500 = V \times I \Rightarrow 2500 = 220 I$

$\Rightarrow$ $I = \dfrac{2500}{220} = 11.36 \approx 12A$

(Minimum capacity of main fuse)