

Second Term Grade 7

Physics Notes

Book 3 Unit 7 “Electricity and Energy”

Solutions to assignment 1

Question : Page 99 Q3 (a),(b),(c)

Ans) a) given that,

$$\text{Power} = 2 \text{ kW}$$

$$\text{Time taken} = 4 \text{ hours}$$

$$\text{Energy consumed} = \text{power} \times \text{time taken}$$

$$= 2\text{kW} \times 4\text{hours}$$

$$= 8 \text{ kWh}$$

1 kWh costs Rs 10. So,

$$\text{Cost of 8 kWh} = 8\text{kWh} \times 10$$

$$= 80 \text{ Rs.}$$

b) given that,

$$\text{Power} = 100 \text{ W}$$

$$1 \text{ kW} = 1000 \text{ W}$$

$$100 \text{ W} = 0.1 \text{ kW}$$

Time taken = 5 hours

$$\begin{aligned}\text{Energy consumed} &= \text{power} \times \text{time taken} \\ &= 0.1 \text{ kW} \times 5 \text{ hours} \\ &= 0.5 \text{ kWh}\end{aligned}$$

1 kWh costs Rs 10. So,

$$\begin{aligned}\text{Cost of 0.5 kWh} &= 0.5 \text{ kWh} \times 10 \\ &= 5 \text{ Rs.}\end{aligned}$$

c) given that,

$$\text{Power} = 1 \text{ W}$$

$$1 \text{ kW} = 1000 \text{ W}$$

$$1 \text{ W} = 0.001 \text{ kW}$$

Time taken = 4 hours

$$\begin{aligned}\text{Energy consumed} &= \text{power} \times \text{time taken} \\ &= 0.001 \text{ kW} \times 4 \text{ hours} \\ &= 0.004 \text{ kWh}\end{aligned}$$

1 kWh costs Rs 10. So,

$$\begin{aligned}\text{Cost of 0.004 kWh} &= 0.004 \text{ kWh} \times 10 \\ &= \text{Rs.0.04}\end{aligned}$$

Solution of Multiple Choice Question (page no:104)

Ans)

- i. d
- ii. a
- iii. b
- iv. b
- v. b

