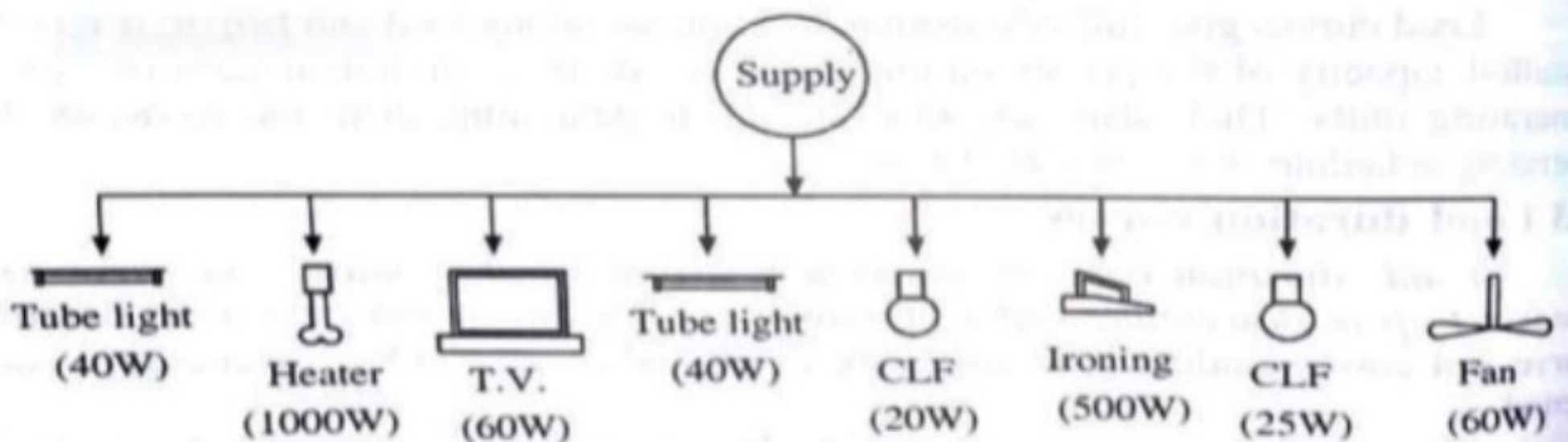


## What is Economics Of Power Generation?

- ▶ **Definition of Economics of Power Generation:** The art of determining the per unit (i.e. one kWh) cost of production of Electrical Energy is known as **Economics of Power Generation**.
- ▶ While designing and building a power station, efforts should be made to achieve overall economy so that the per unit cost of production is as low as possible.
- ▶ This will enable the electric supply company to sell electrical energy at a profit and ensure reliable service.

1

## Example Of Connected Load :



*Fig. 7.4 Load in a consumer's premises*

Total load connected in the consumer's premises:  
 $= 40 + 1000 + 60 + 40 + 20 + 500 + 25 + 60 = 1745 \text{ W}$

2



- ▶ **3. Cold Reserve:** It is defined as the reserve generating capacity which is available for service but is not in operation.
- ▶ **4. Hot Reserve:** It is defined as the reserve generating capacity which is available in operation but is not in service.
- ▶ **5. Spinning Reserve:** It is defines as the generating capacity which is connected to bus and is ready to take load.

3

## Demand:



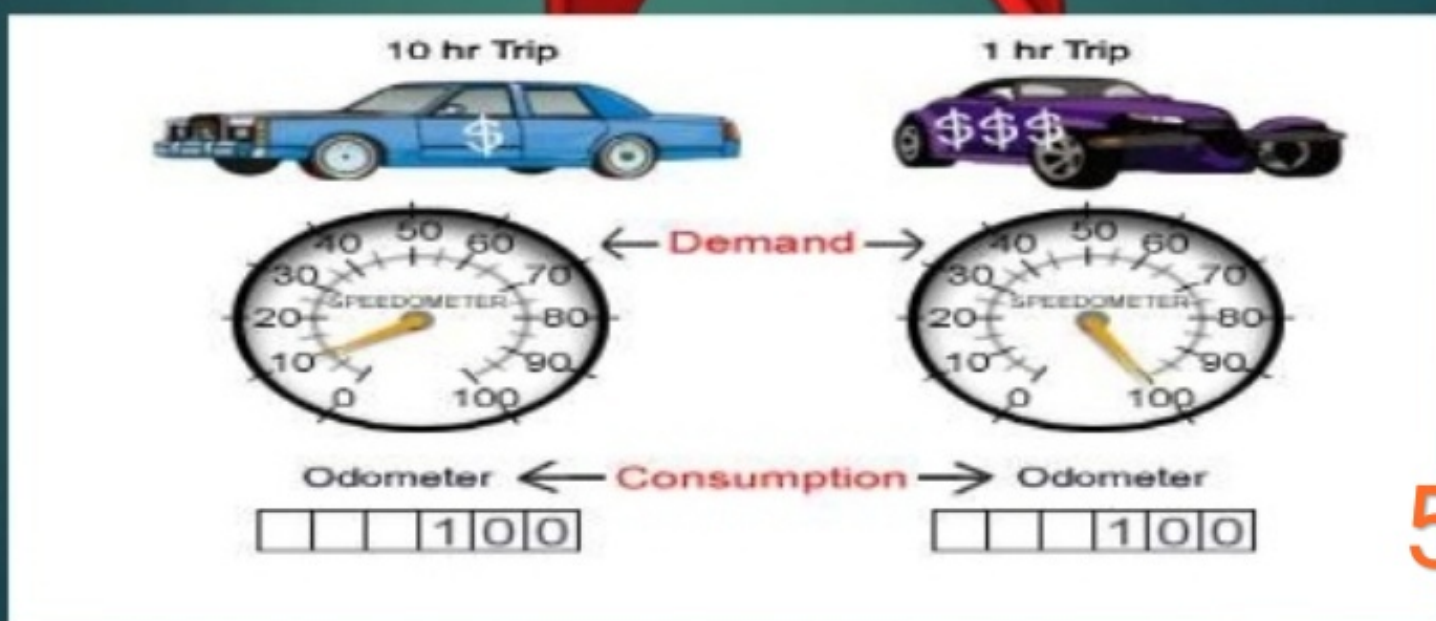
The demand of an installation or system is the load that drawn from the source of supply at the receiving terminals averaged over a suitable and specified interval of time. Demand is expressed in kilowatts (kW) or other suitable units.



# Example:

DEMAND

CONSUMPTION



5



## Maximum Demand Or Peak Load And Demand Factor:

- ▶ It is the greatest demand of load on the Power Station during a giving period is known as Maximum Demand.  
(OR)
- ▶ It is the maximum load which a consumer uses at any time. It can be less than or equal to connected load.
- ▶ **Demand Factor:** It is defined as the ratio of maximum demand to connected load.

$$\text{Demand Factor} = \frac{\text{Maximum Demand}}{\text{Connected Load}}$$

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