

CHAPTER – 6

Data Analysis

6.1 Data accumulation

To determine the current requirement and speed data were taken in various load condition. At first data was taken in no load condition and gradually the load is increased to full load condition. For measuring current we used both analog and digital multimeter. The results are given in the following tables and graphs.

Table-6.1 : Current vs Load

Serial	Load (kg)	Current (amp)
1	50	2.2
2	60	2.6
3	70	2.9
4	80	3.1
5	90	3.3
6	100	3.5

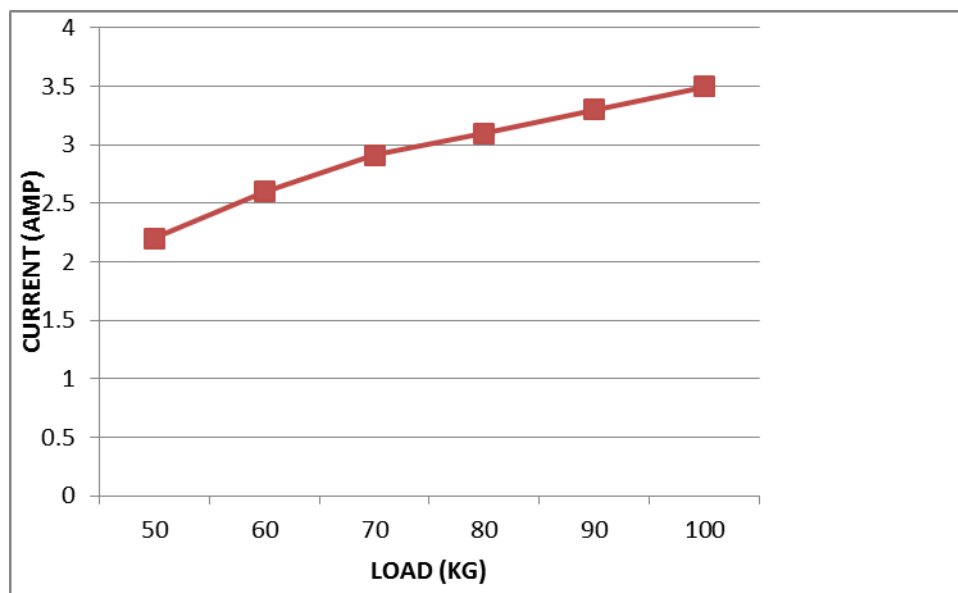


Figure 6.1 : Current vs Load graph

Table-6.2 : Speed vs Load

Serial	Load (kg)	Speed (km/hr)
1	50	13
2	60	12.2
3	70	11.5
4	80	10.9
5	90	10.4
6	100	10

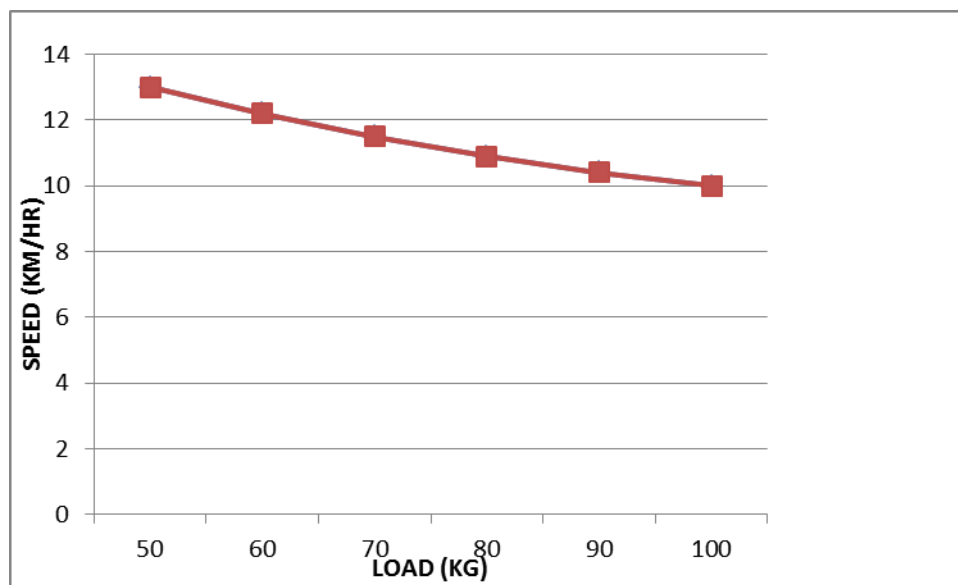


Figure 6.2 : Speed vs Load graph

6.2 RPM Calculation

$$\text{Radius} = 7.5 \text{ inch} = 0.0254 \times 7.5 \text{ m} = 0.01905 \text{ m}$$

$$C = \text{Circumference} = 2 \times 3.1416 \times 0.01905 = 1.1969496$$

$$\text{Speed} = 10 \text{ km/hr} = 166.66 \text{ m / min}$$

$$\text{RPM} = 166.66 / 1.1969496 = 139.237 \approx 140$$

6.3 Result

- a. This wheel chair with full charge can run upto 10 hrs at a go with full load.
- b. It's speed is 10km/hr with full load.
- c. With full load and in full charged condition this wheel chair travel 100 km.