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Assessments with weight.

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|-----------------------------|----|
| •) Assessments (3) | 10 |
| •) Quizzes (3) | 10 |
| •) Sessional / MT exams (1) | 25 |
| •) Project Lab (1) | 20 |
| •) Final term Exam (1) | 35 |

Textbooks :-

Engineering Mechanics by R.C. Hibbeler
(2nd Part)

Fundamental of Physics by David
Halliday Robert Resnick

(1) For Electrostatics :-

4th Fundamental of Physics by
edition (Halliday Resnick)

Applied Physics -

Electrostatics

Vector and scalar

(2) For Engineer Mechanics :-

Engineering Mechanics 12th edition
by R. C. Hibbeler -

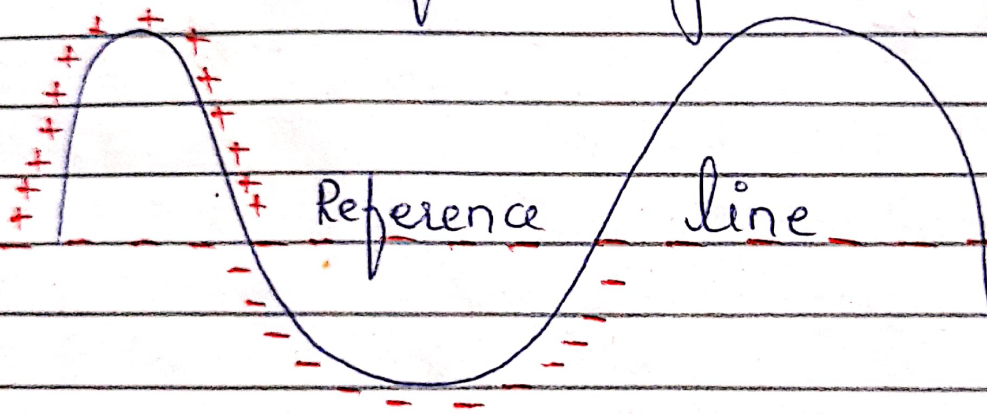
Chapter # 23

(Electric Charge)

Every matter in the universe has some kind of charge.

Electrostatics :- Charges at rest.

➤ Movement of charges produces current



Newton's Law

$$F \propto \frac{m_1 m_2}{r^2}$$

$$F = \frac{G m_1 m_2}{r^2}$$

Coulomb's Law

$$F \propto \frac{q_1 q_2}{r^2}$$

$$F = \frac{k q_1 q_2}{r^2}$$

Similarity :-

- Force F
- Distance r
- $F \propto \frac{1}{r^2}$
- Force can be attractive and repulsive.

Difference :-

- q_1, q_2
- m_1, M_2
- Force can only be attractive.

> Newton's law and Coulomb's law are natural law of Physics that describe the natural force between two charges and masses -

★ The basic value of charge "q"
or elementary value -

$$q = ne$$

$$n = \pm 1, \pm 2, \pm 3, \dots$$

$$q = \pm 1.6 \times 10^{-19} \text{ C}$$