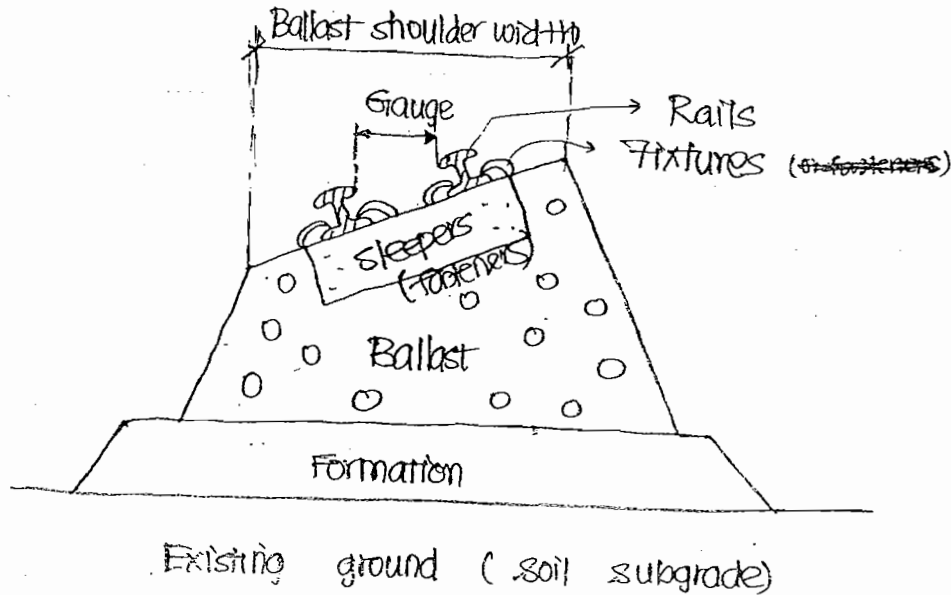


# Railway Engineering

## # Introduction :

### 1. Cross section of a railway track :

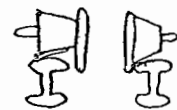


### Important components :

- (i) Formation
- (ii) Ballast
- (iii) sleeper
- (iv) Fixtures
- (v) Rails.

### 2. Gauge :

Distance between inner faces of the two rails (running face) - Running face is the face on which flange of wheel will be there.



1. Broad Gauge (B.G) = 1.676 m

2. Meter Gauge (M.G) = 1.0 m

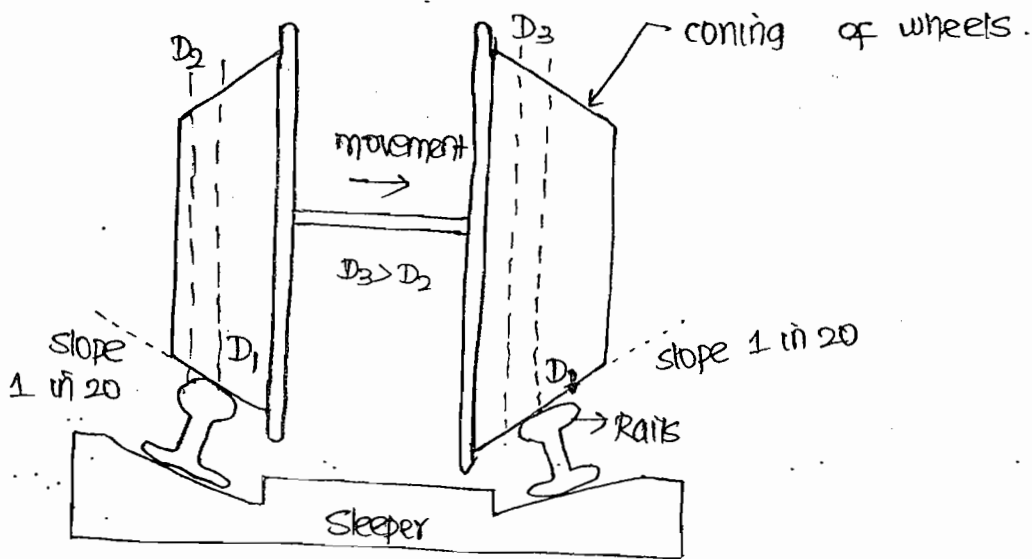
3. Narrow Gauge (N.G) = 0.762 m

4. light gauge (L.G) (Feeder track gauge) =  $0.610 \text{ m}^{1+2}$

5. standard gauge S.G) = 1.435 m (other countries & metro).

### Coning of wheels :

#. The wheels are made cone shaped having different diameter at different cross section. Diameter near flange is more than diameter near other ends. The rails are also laid at a slope of 1 in 20 (same slope of wheel face). This is called coning of wheels.



Purpose : ① on a straight track : to keep the wheel assembly in central position to avoid derailment.

② To reduce wear & tear of wheels as well as rails.

③ on a curved track : Due to centrifugal force, the wheel assembly will move in outward direction, so diameter on outer rail will increase. so the distance travelled in