FAQ's

1. State hooke's law.

Hookes law states that provided the elastic limit of an elastic material is not exceeded the stress on the wire is directly proportional to the strain of the wire and also in the direction of the applied force.

2. Define Section Modulus.

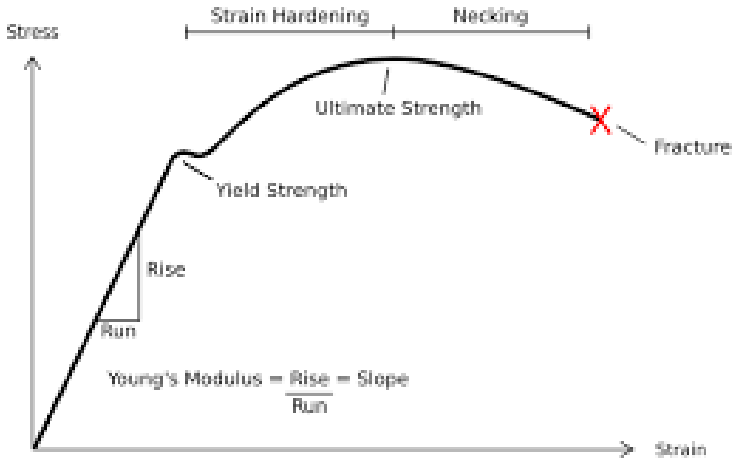
It is defined as the ratio of moment of inertia of the section (I) about its centroidal axis to the distance of extreme fiber from the centre of gravity (y_{max})

$$Z = I / y_{max}$$

3. What do you mean by Elastic Limit of an object?

When a body is subjected to external force it undergoes deformation. The molecules of the body offer resistance to deformation. If the external force is removed the body will come back to its original position. This is possible if the force/stress causing the deformation is within certain limit. This limit is known as elastic limit.

4. Draw the stress strain relationship for mild steel mentioning the salient points.



5. What is the formula for calculating Radius of Gyration of a section?

Radius of Gyration, $k = \sqrt{(I/A)}$
Where,

I = Moment of Inertia of the section
A = Area of the section