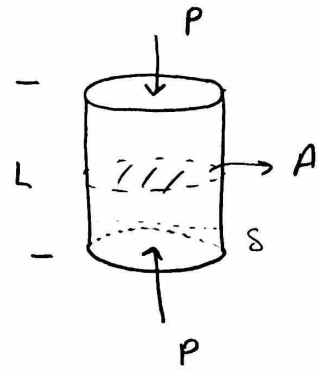
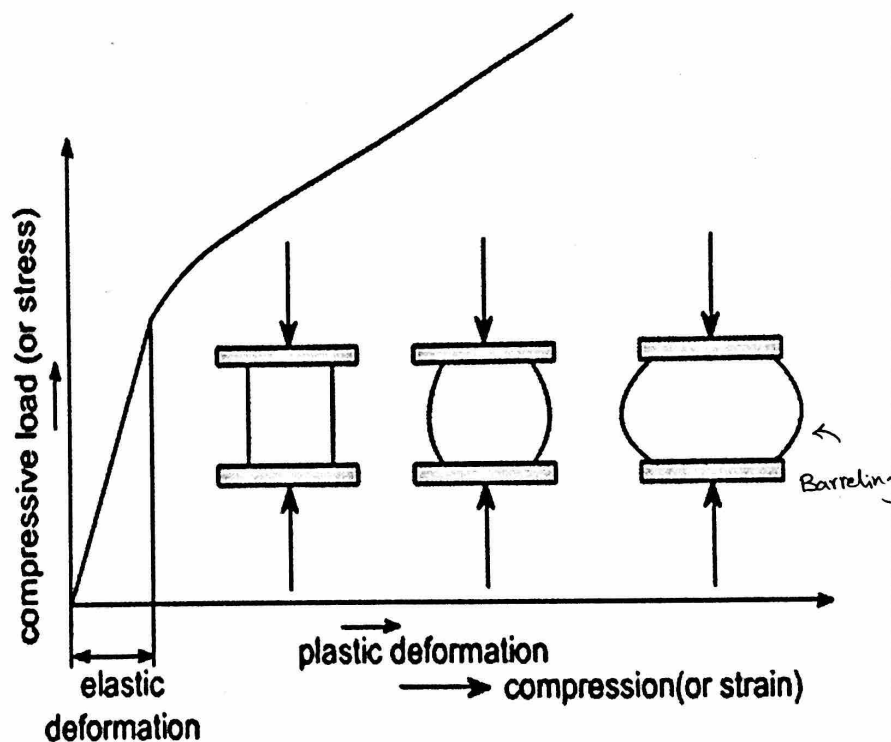
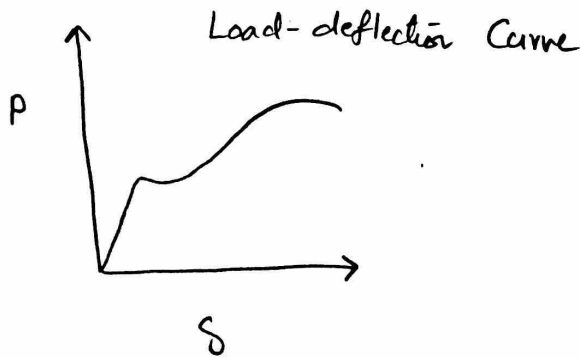


* Compression test

P: Force
 A: area
 L: Length



Increase force (P)
 \Rightarrow increase δ



divide $\frac{P}{A} \Rightarrow \sigma$

divide $\frac{\delta}{L} \Rightarrow \epsilon$

Stress - Strain Curve

Two types of materials

- \rightarrow Ductile
- \rightarrow Brittle

Failure mode in Ductile material \Rightarrow Flattening

" " in Brittle " \Rightarrow Fracture

* Differences between tensile and compression tests

Tensile → Necking
Compression → Barreling } Ductile material

Tensile → Fracture
Compression → flattening (no fracture) } Ductile material

* In compression tests, larger forces are required to cause deflection

* what will we do in the lab?

- compression test → P, δ data $\xrightarrow{\text{transform}}$ σ-ε data

- plot σ-ε curve

- Find

- ① σ_y
- ② σ_p
- ③ σ_{UTS}
- ④ U_R, U_T
- ⑤ E