

TEACHING LEARNING MATERIAL



BRANCH: MECHANICAL ENGINEERING

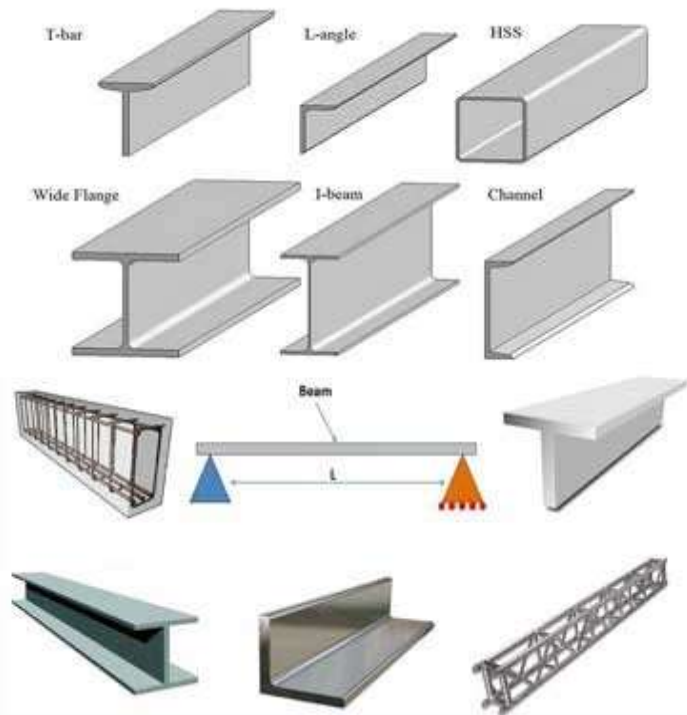
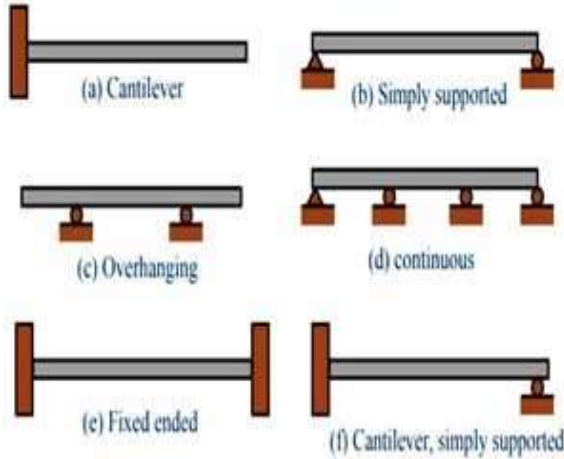
SEMESTER: 3RD SEMESTER

SUBJECT: STRENGTH OF MATERIAL

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ER. SUNIL KUMAR SABAT

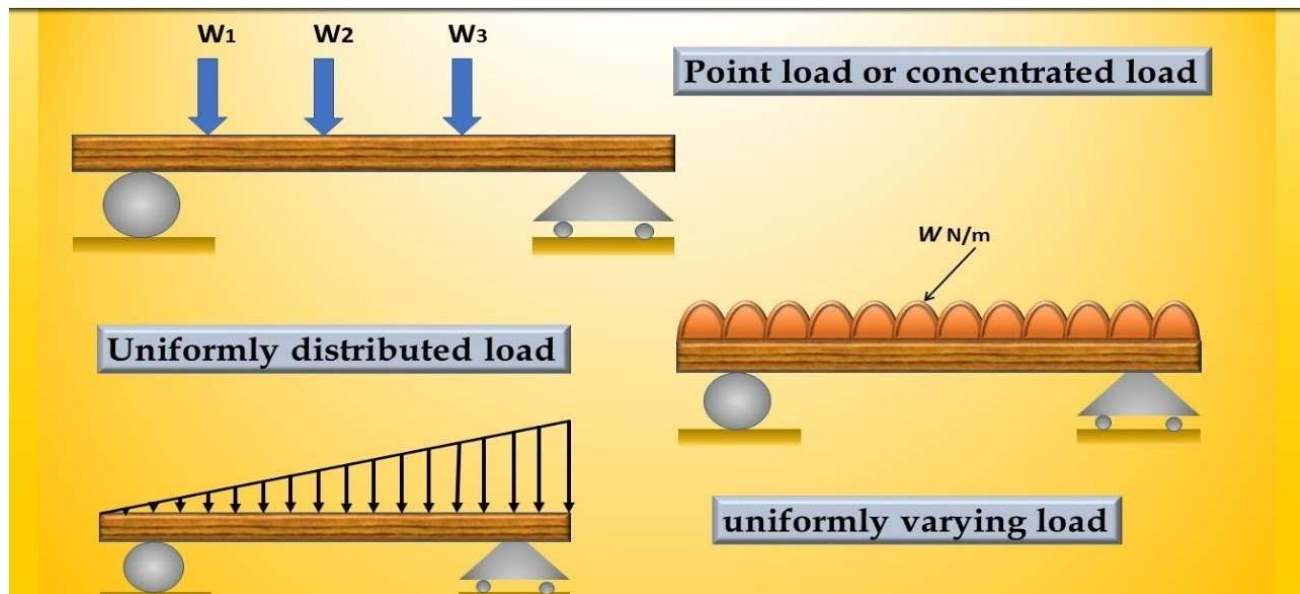
Beam Types

❖ Types of beams- depending on how they are supported.

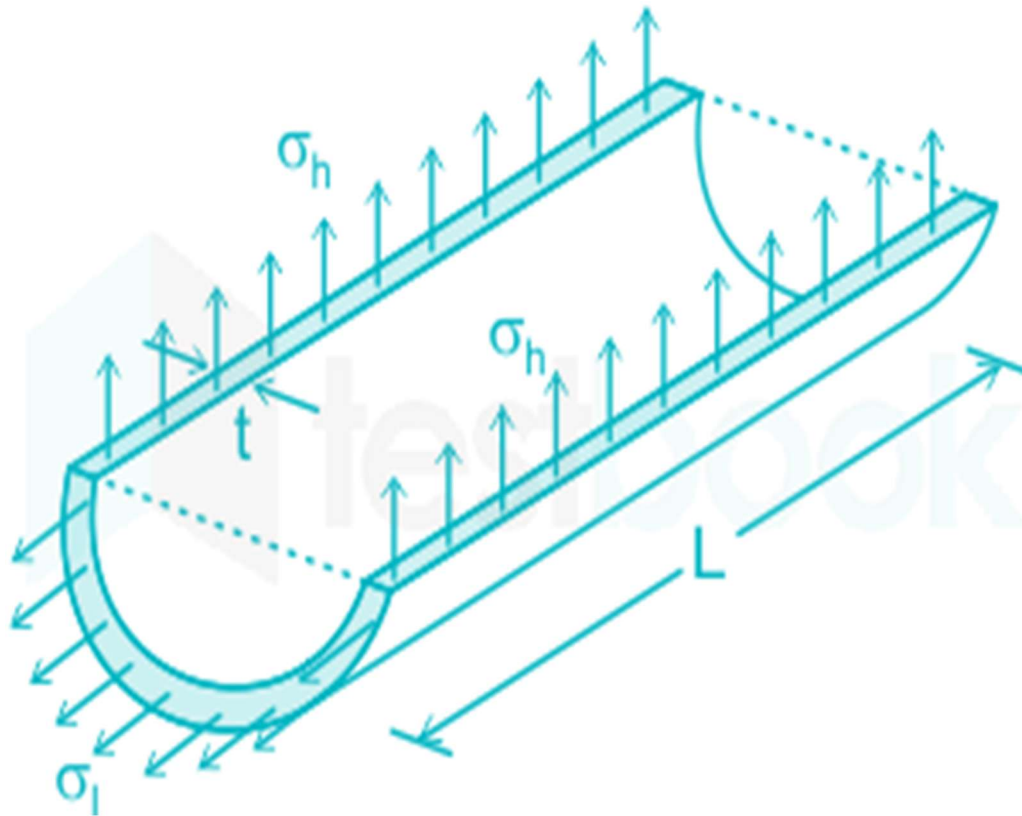


TYPES OF BEAM

Types of Loading

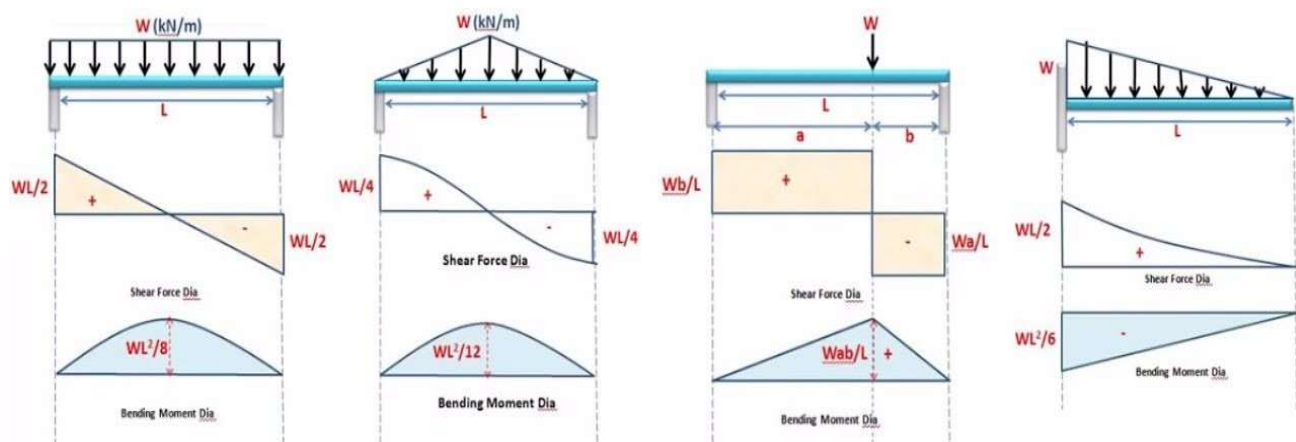


TYPES OF LOADS ACTING ON BEAM



THIN CYLINDRICAL SHELL(FAILURE)

Bending Moment and Shear Force Diagram For Various types of loading Condition



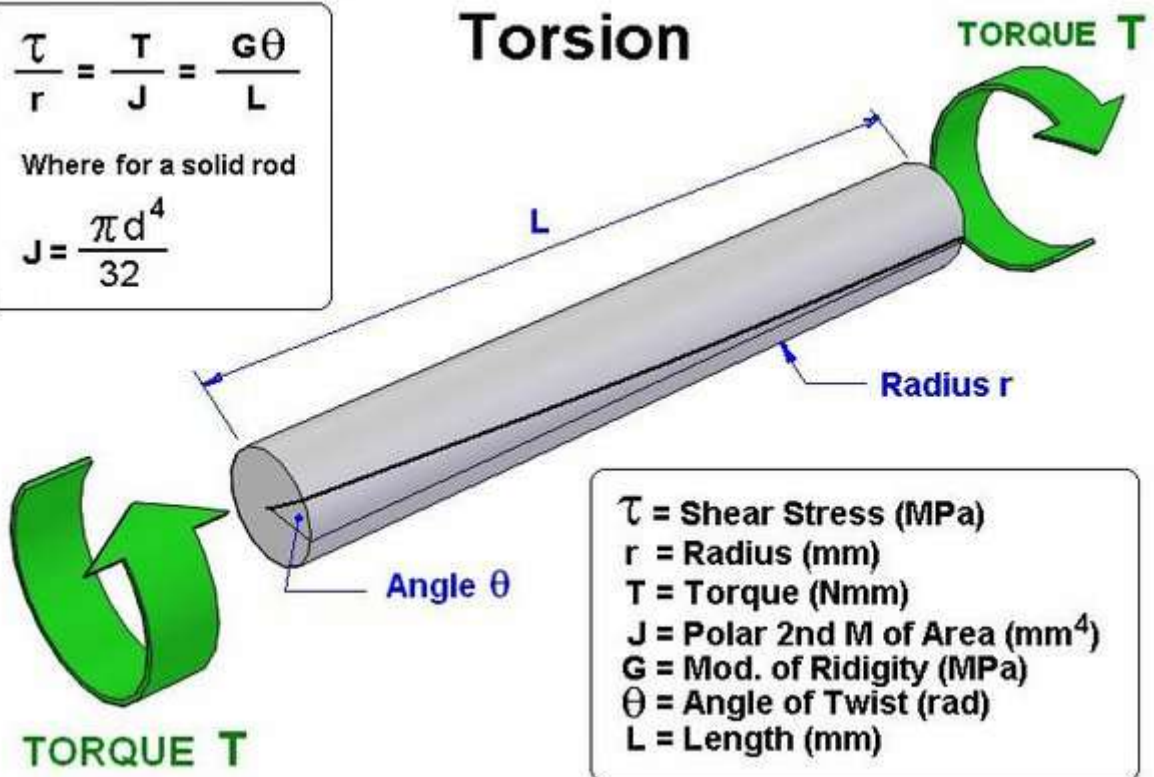
SFD & BMD OF BEAMS

Torsion

$$\frac{\tau}{r} = \frac{T}{J} = \frac{G\theta}{L}$$

Where for a solid rod

$$J = \frac{\pi d^4}{32}$$



SHAFT SUBJECTED TO TORSION