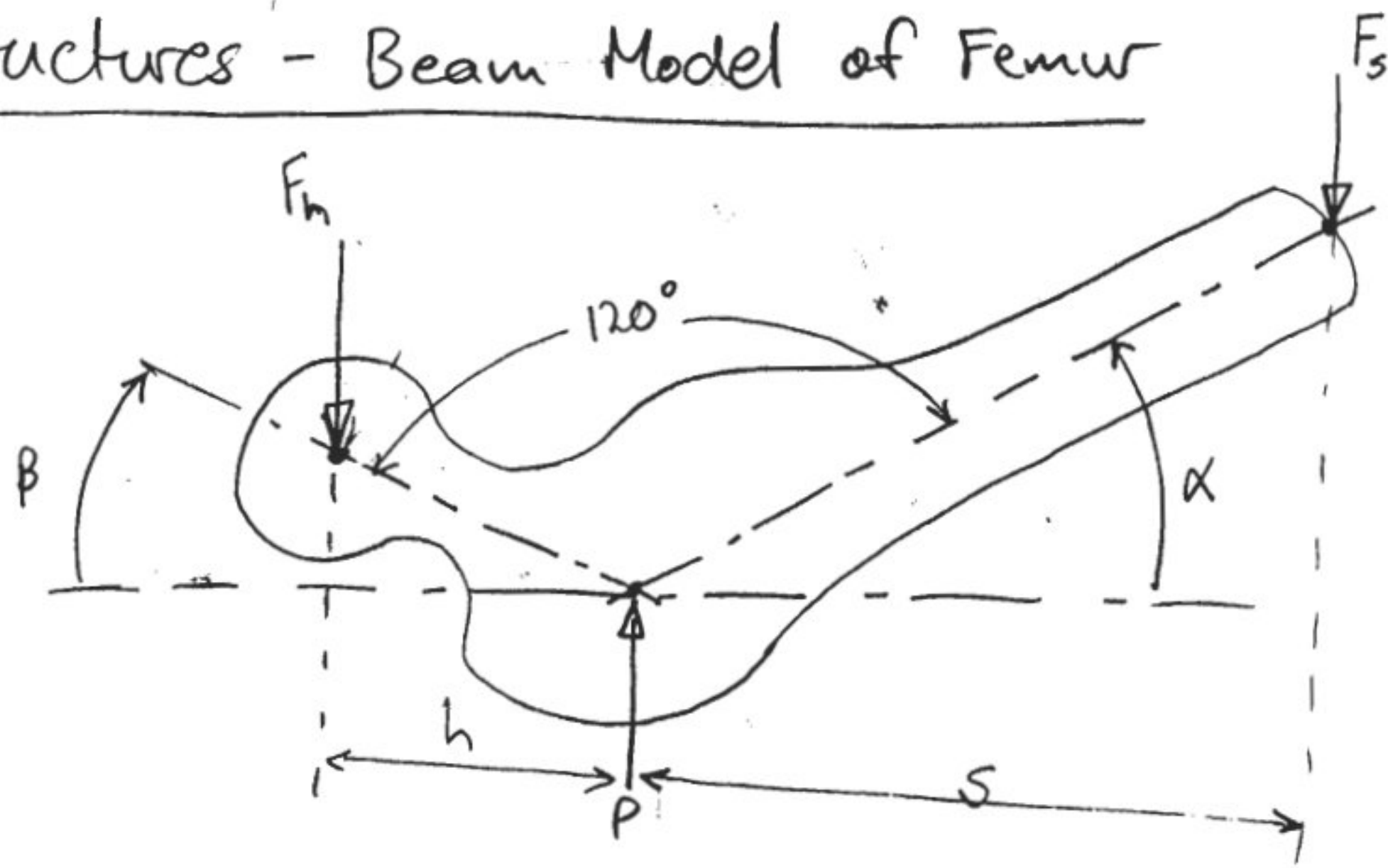


II

Structures - Beam Model of Femur



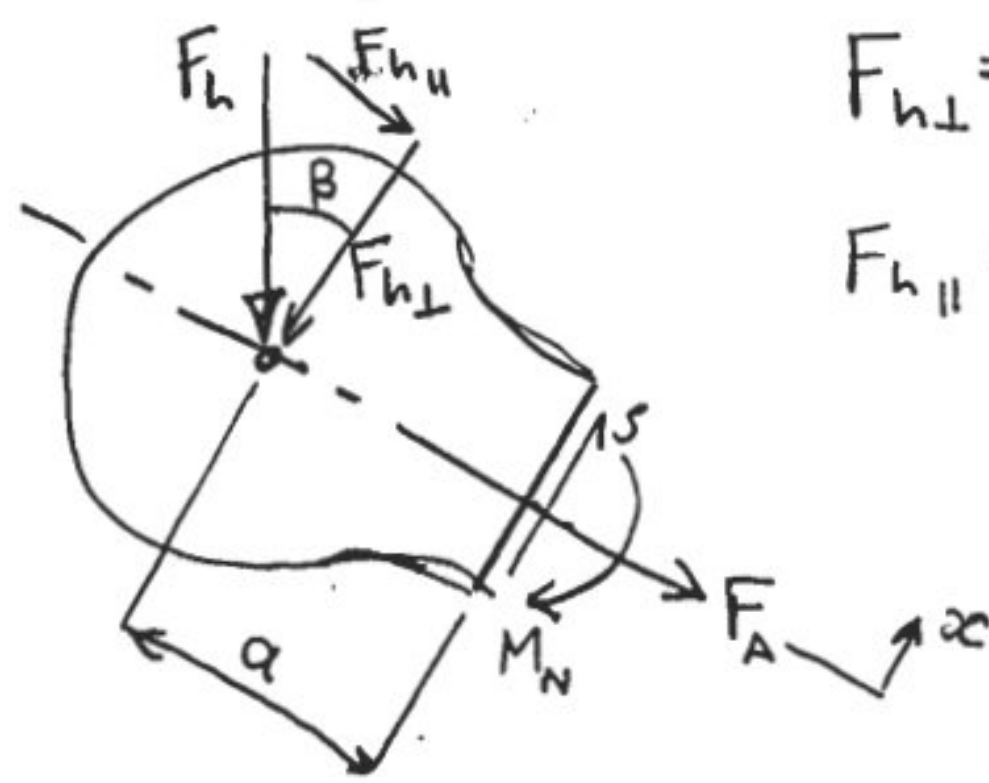
$$+\uparrow \sum F_v = 0 : P - F_h - F_s = 0 \quad (1)$$

$$+\curvearrowleft \sum (M)_P = 0 : (F_h)h - (F_s)s = 0 \quad (2)$$

$$(1) \rightarrow F_h = P - F_s$$

$$\rightarrow (2) \rightarrow F_s = P \left(\frac{h}{s+h} \right)$$

$$\Rightarrow F_h = P \left(\frac{s}{s+h} \right)$$



$$F_{h\perp} = F_h \cos \beta$$

$$F_{h\parallel} = F_h \sin \beta$$

$$+\curvearrowleft \sum M_N = 0 : M_N - (F_{h\perp})a = 0 \Rightarrow M_N = P \left(\frac{as}{s+h} \right) \cos \beta$$

$$+\rightarrow \sum F = 0 : F_A + F_{h\parallel} = 0 \Rightarrow F_A = -P \left(\frac{s}{s+h} \right) \sin \beta$$

Preview from Notesale.co.uk
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