Reasearch Paper ⇒ II

(I) Calculate Module on the basis of beam strength

(II) Torque transmitted

$$M_t = 60 \times 10^6 \frac{KW}{2\pi N}$$

(III) tangential forces on each gear

$$P_t = \frac{2M_t}{D}$$

(IV) Velocity of each gear

$$\frac{\pi dn \times}{60 \times 10^3}$$ n ⇒ no. of rotation of pinion

(V) Calculating deformation factor (C)

(VI) Calculating Dynamic load

$$c = \frac{0.111}{\frac{1}{E_p} + \frac{1}{E_g}}$$ for 20° → elasticity

$$P_d = \frac{21v(Ceb + P_t)}{21v + \sqrt{Ceb + P_t}}$$ e → error

(VIII) Calculate Peff.

$$C_s P_t + P_d$$

(VIII) Compare Peff and beam strength
if Peff < beam strength design is safe

Sp 0326158