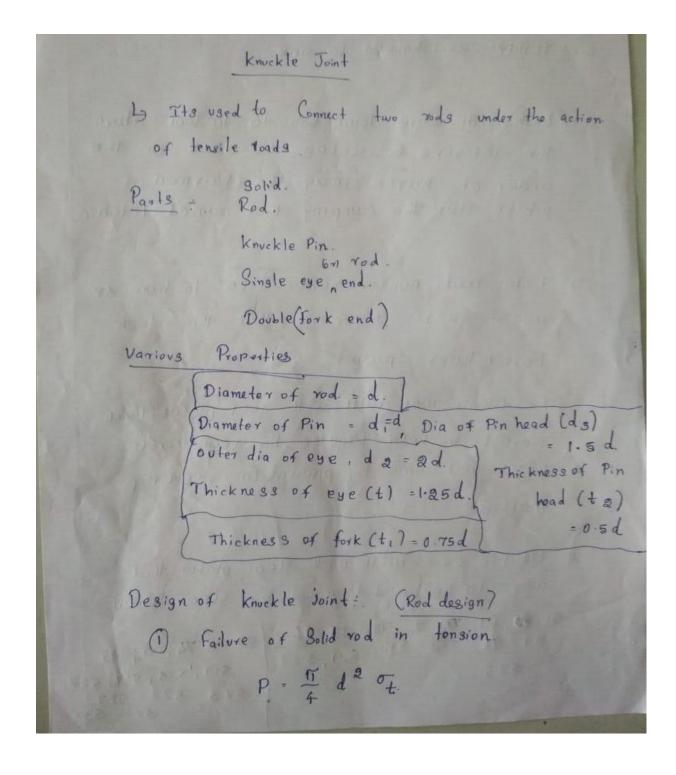


## SNS COLLEGE OF TECHNOLOGY

## (An Autonomous Institution) COIMBATORE-35

## **DEPARTMENT OF MECHANICAL ENGINEERING**



## Knuckle pin design

Failure of knuckle Pin by double shear.

Failure of knuckle Pin by bending.

$$\frac{\rho}{2} \left( \frac{t_1}{3} + \frac{t}{4} \right)$$

$$\frac{\pi d_1^3}{32}$$

Single eye (orland end design

Failure of single eye in tension.

Failure of single eye in double shear.

$$P = \chi \frac{(d_2 - d_1)t}{\chi} \times T = (d_2 - d_1)t \cdot T$$

Failure of single eye in crushing.

Fork end design:

Failure of fork end in tension.

P= (da-d.)t, x& ot.

Failure of forkend in double ships

P= (do-d) t x R x T.

Failure of fork end in crushing.

P=d,t,xexoe

A Knuckle Joint is transmit a force of 140kg allowable stresses in tension, Shear and Compression are, 75 N/mm2, 65 N/mm2, 140 N/mm2 Design a.

Joint - Gm= P= 140 kN - 140 x103N.

Ot = 75 N/mm2

T = 65 N/mm2

Soln= 7 d= P x 4 x 57

d = 48,75 -2 [50 mm]