



SNS COLLEGE OF TECHNOLOGY
(An Autonomous Institution)
DEPARTMENT OF AEROSPACE ENGINEERING



Subject Code & Name: **23AST205 AEROSPACE STRUCTURES**

UNIT: 4. BUCKLING OF PLATES

TOPIC: 4. Crippling strength estimation

$$= \left[(2 \times 1.89 \times 0.25) + 4 \times 2.68 \times 0.25 \right] + (1 \times 3)$$
$$= [0.945 + 2.68 + 3]$$
$$= 6.625 \text{ cm}^2$$

Crippling strength:-

A test of short length column sections composed of plane plate elements often shows that after the section has buckled globally the unit still has the ability to carry greater load before failure occurs. In other words, the local buckling and local failure loads are not same for cases where local buckling occurs at the low stress the crippling or failure stress will be higher.

When buckling occurs at high stress such as 0.7 and 0.8 in compressive yield stress buckling and crippling are practically same.

Two methods for calculating Crippling Stress,

- (i) Angle method or Needham's method.
- (ii) Gerard Method.

