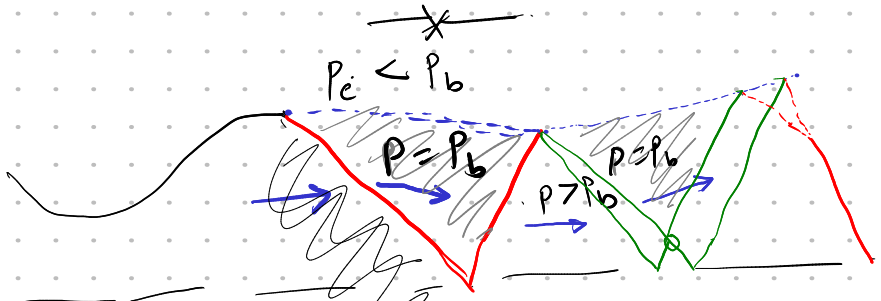
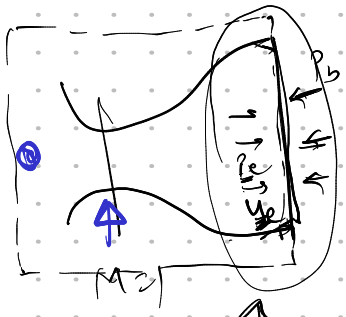
Diamond shock formation

1. Underexpanded supersonic nozzle.
2. Overexpanded " "



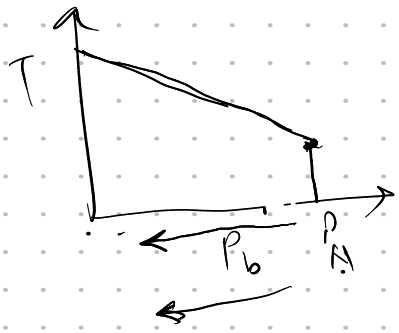
$T = \dot{m} U_e$ → subsonic

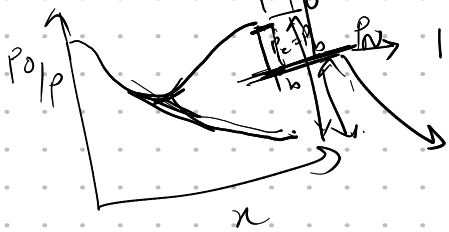


$P_e = P_b$

$$T = \dot{m}U_e + (P_b - P_e)A_e$$

① ②





Normal shock at the exit

Tuesday 24 Afternoon exam

1 hour

15%

Syllabus :- Whatever we did till today.

Viva :-

28 - 3

→ 10 students per day

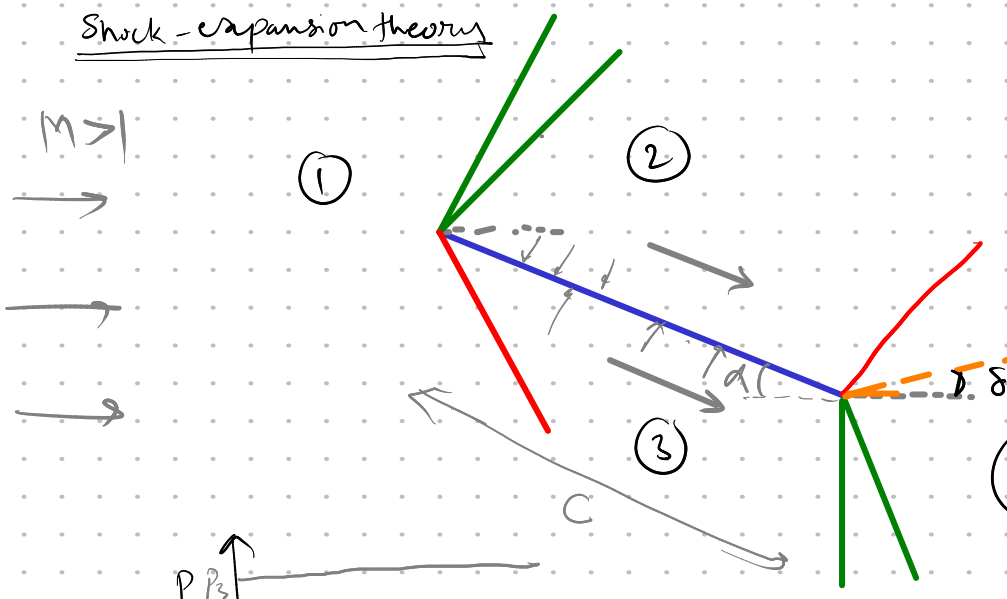
→ Random schedule to be uploaded by tomorrow evening

→ Syllabus - Everything

→ Discussion of Exam paper

→ 15-20 minutes.

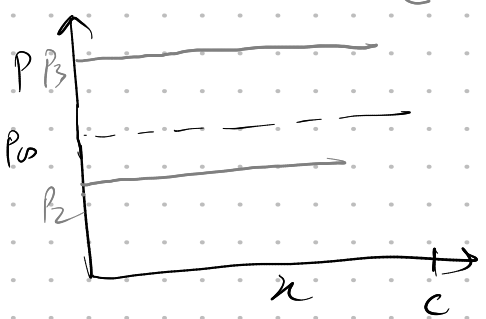
Shock-expansion theory



$P_4 = P_5$

$U_4 \neq U_5$

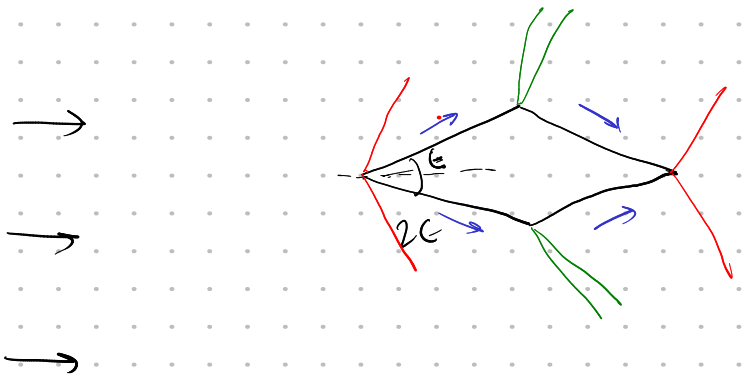
$s_4 \neq s_5$



Net force - $(P_3 - P_2)(C \times 1)$

$$L = (P_3 - P_2) C \times \cos\alpha$$

$$D = (P_3 - P_2) C \times \sin\alpha$$



$\alpha = 0$

$L = 0$

$D \neq 0$