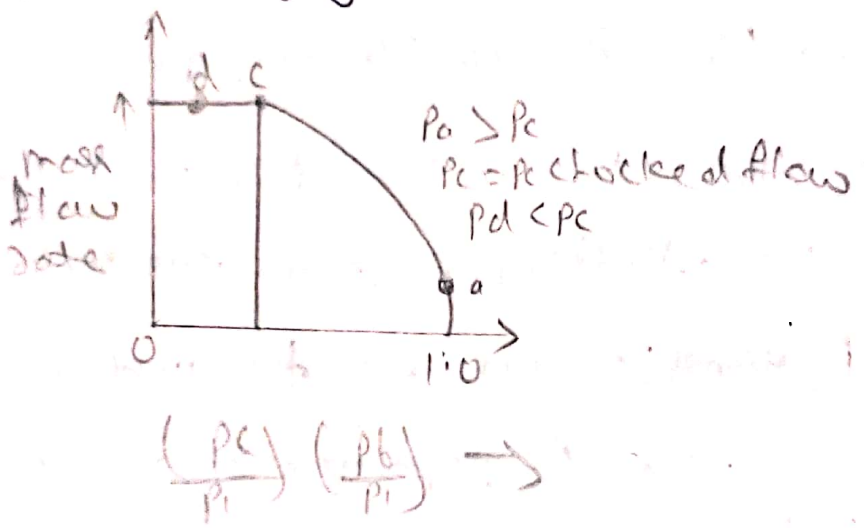
Section-5

Ans 4) (1) The flow condition in which a nozzle operating with maximum mass flow rate is known as choked flow.

(2) Choking of fluid in nozzle is the condition of reduction in fluid pressure.

(3) Let us consider a converging nozzle...



nozzle efficiency:-

→ (1) It is defined as the ratio of actual enthalpy drop to the isentropic enthalpy drop between the same pressure.

$$\eta_{nozzle} = \frac{h_1 - h_2}{h_1 - h_2}$$

(2) If the actual velocity at exit from the nozzle is C_2 and the velocity at exit when the flow is isentropic is C_2 then,

$$h_{nozzle} = C_{2r}^2 - C_1^2$$

(3) As the inlet velocity C_1 is negligible then,

$$h_{nozzle} = \frac{C_2^2 - C_1^2}{C_{2r}^2}$$