1(b) $P = P_a + \rho hg$

$$\rho hg = P - P_a \quad \text{---} \quad (i)$$

but $\rho hg = \frac{F}{A}$ ---(ii)

$A = L^2$; using FLT system,

$$\rho hg = \frac{F}{L^2} = \frac{FT^2}{L^4}$$

$$\frac{F}{L^2} = \left[\frac{FT^2}{L^4}\right]\left[L/T^2\right] L = \frac{F}{L^2}$$

$$\frac{FT^2}{L^4} \times \frac{L}{T^2} = \frac{F}{L^2} \quad \text{---(iii)}$$

Replacing equation (iii) in (i),

$$\frac{F}{L^2} = P - P_a$$

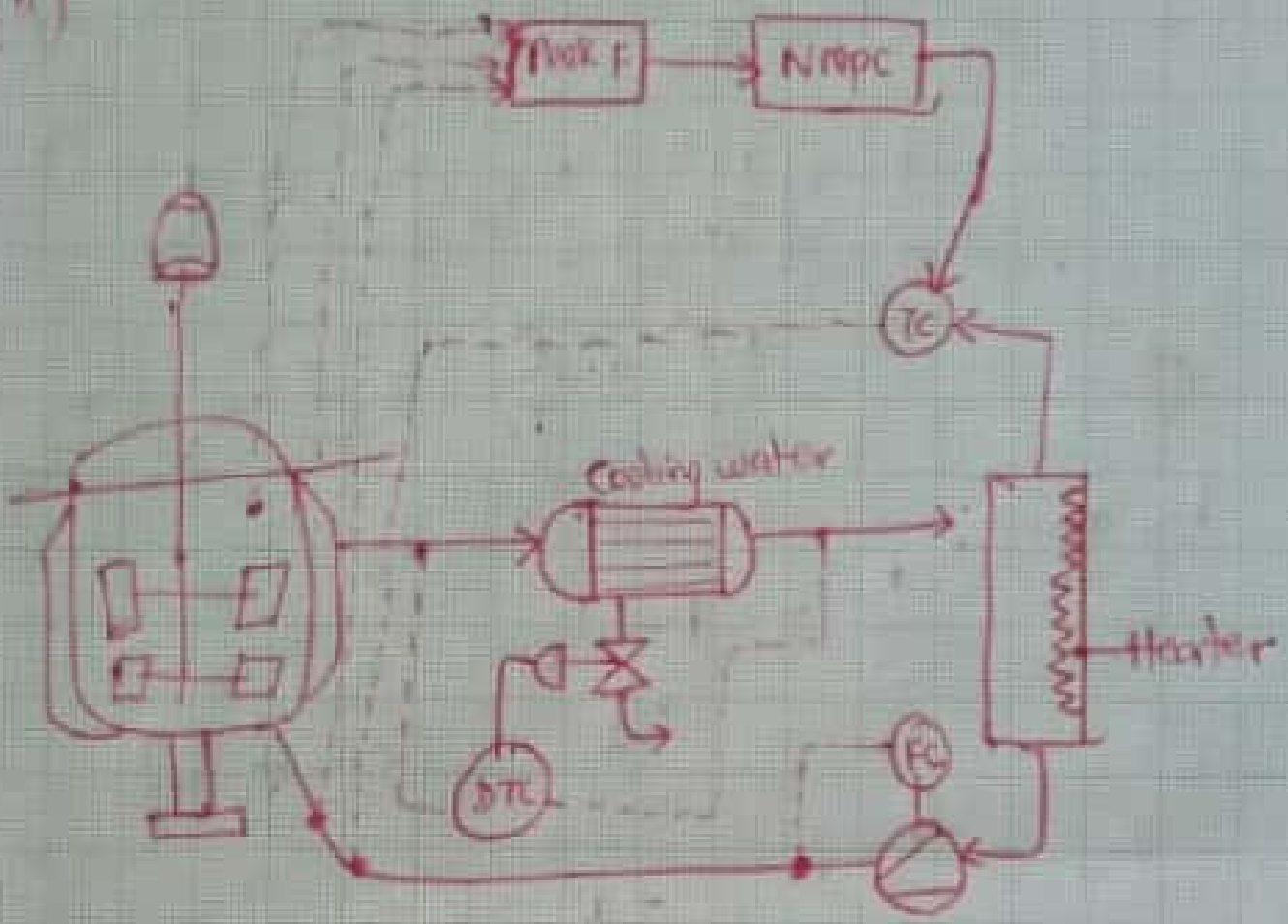
but $P = (\rho hg + P_a)$

$$\frac{F}{L^2} = \frac{F}{L^2} + P_a - P_a$$

$$\frac{F}{L^2} = \frac{F}{L^2}$$

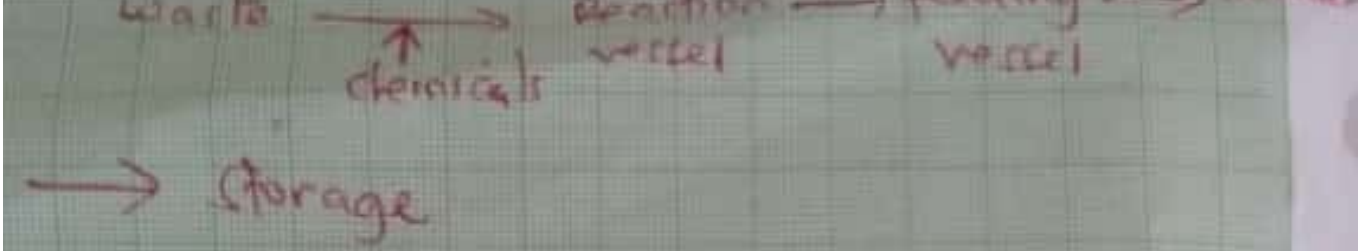
(h) This is already all variables from both sides of the equations are the same.

(h)



4) i) It is appropriate because batch or continous is majorly used to produce different sized products in bulk. It can reduce waste and decrease lead times in production

ii) Batch is operational under the following reaction conditions



iii) continous when properly implemented, reduce wastes, improve quality by making it easier to identify and correct errors, increase productivity and adapt to needs of customers more effectively than batch.

5) i) Primary flight instruments
ii) Navigation instruments
iii) Status of the flight in one intergrated display
iv) Power plant information