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

$\rho hg = P - P_a$ ---(i)

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

$A = L^2$; Using FLT System,

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

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

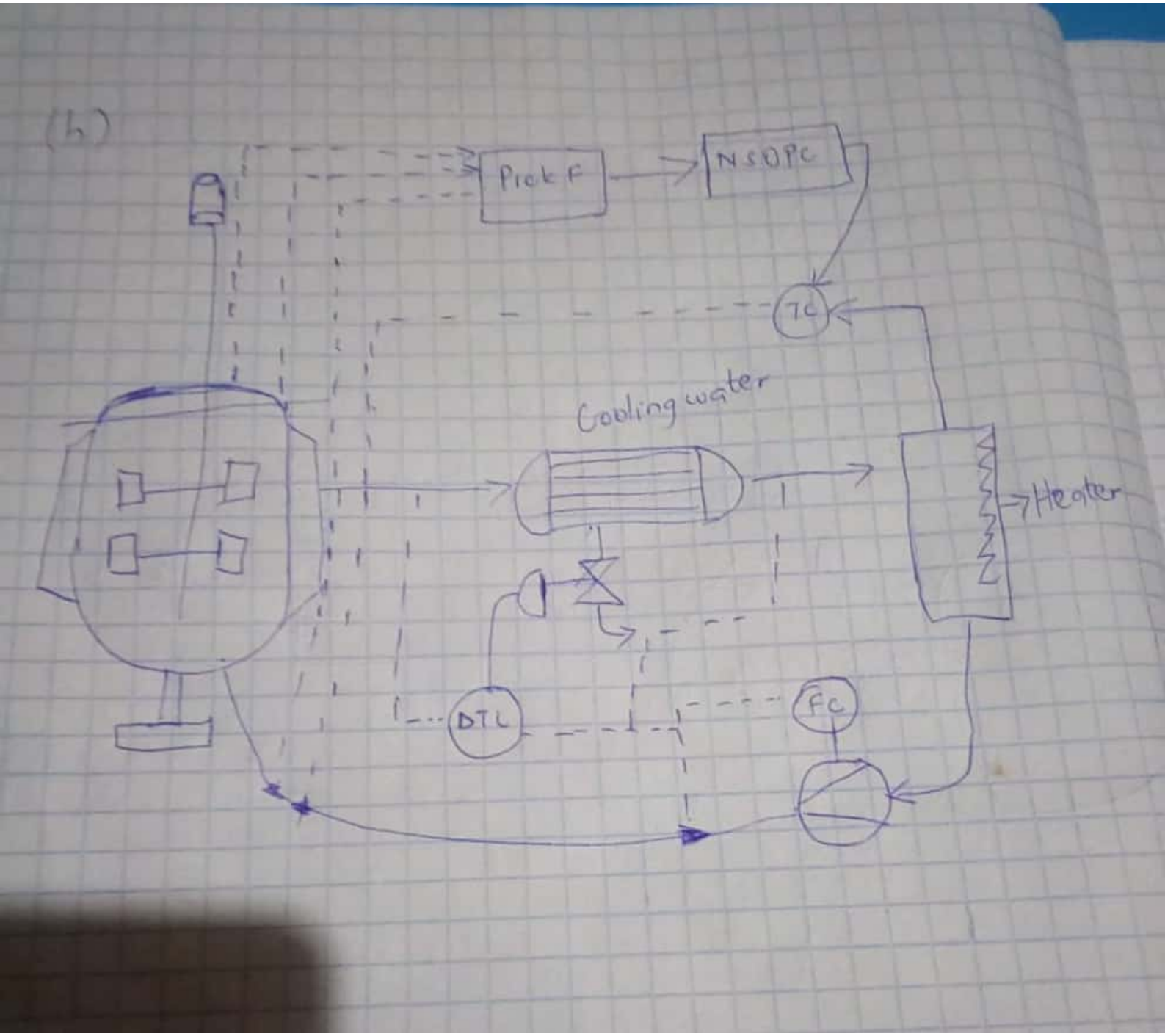
$\frac{FT^2}{L^4} \times \frac{L^2}{T^2} = \frac{F}{L^2}$ ---(iii)

Replacing equation iii in (i)

$\frac{F}{L^2} = P - P_a$ but $P = (\rho hg + P)$

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

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



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

(ii) Batch is operational under the following reaction conditions

Haste → reaction → Feeding → extruder
↑ Vessel Vessel
Chemicals

→ Storage

(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.

(b) (i) Primary flight instruments
(ii) Navigation instruments
(iii) Status of the flight in one intergration display.

(iv) Power plant information.