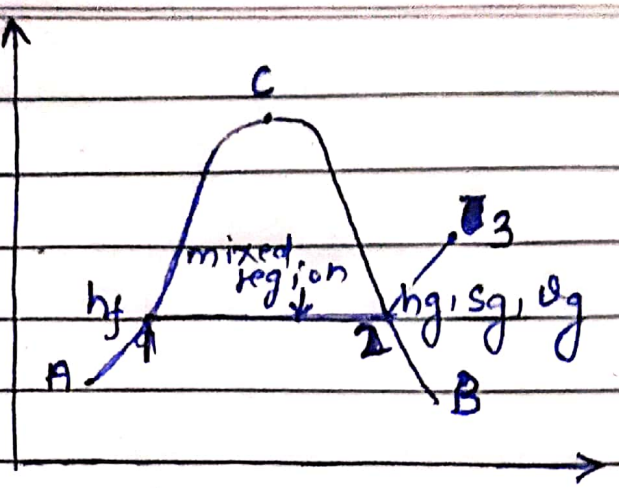

1-2 → Mixed Region

2-3 → Superheated Region

A-C → Saturated Liquid line

C-B → Saturated Vapour line

→ On Saturated liquid line properties are represented by 'f' like h_f, v_f, s_f

→ On Saturated Vapour line properties are denoted by 'g' like h_g, v_g, s_g

→ In mixed region properties are denoted by 'fg' like h_{fg}, s_{fg}

→ Formula applicable in mixed region $\boxed{h = h_f + x\, h_{fg}}$

entropy, $\boxed{s = s_f + x\, s_{fg}}$

→ Formula applicable in superheated region:

$$h_3 = h_2 + c_p(T_3 - T_2)$$
$$= h_{g_2} + c_p(T_3 - T_2)$$

$$s_3 = s_2 + c_{ps} \ln \frac{T_3}{T_2}$$

$$= s_{g_2} + c_{ps} \ln \frac{T_3}{T_2}$$