

Q6

(a) Sketch a pressure –specific volume diagram for a pure substance which contracts on freezing , showing the lines of constant temperature. Label the phase regions and indicate clearly the:

- (i) saturated liquid line.
- (ii) saturated vapour line.
- (iii) critical point.
- (iv) triple point.

(b) Sketch a second diagram choosing pressure and temperature as the axis such that the triple point appears as a point. Label the solid, vapour and liquid regions.

(c) Add a dotted line to the  $p - T$  diagram to show the behaviour of substance that expands on freezing.

