

## Question 1

2.2 mg/ml  $\rightarrow$  25°C

130 mg/ml  $\rightarrow$  30°C

670 mg/ml  $\rightarrow$  60°C

Explain why the first step in the separation is to heat the group of tablets

Solution

As the temperature increases the solubility of caffeine also increases according to the data given above.

The maximum amount get solubilize which is present in the caffeine as we heat up the ground tablet, hence we can separate maximum amount of caffeine. This is the reason we heat up in the first step to separate maximum amount of caffeine from the tablet.

## Question 2,

Detailed Separation Scheme for the isolation of caffeine from the ground tablets.

