

The method of zone refining of metals is based on the principle of:

- A** greater mobility of the pure metal than that of impurity
- B** higher melting point of the impurity than that of the pure metal
- C** greater noble character of the solid metal than that of the impurity
- D** greater solubility of the impurity in the molten state than in the solid state

Correct option is D)

This method is based on the principle that the impurities are more soluble in the melt than in the solid state of the metal. A circular mobile heater is fixed at one end of a rod of the impure metal.

The molten zone moves along with the heater which is moved forward.

As the heater moves forward, the pure metal crystallises out of the melt and the impurities pass on into the adjacent molten zone.

Option D is correct.