



21. In Carius method of estimation of halogens, 250 mg of an organic compound gave 141 mg of AgBr. The percentage of bromine in the compound is : (at. mass Ag = 108 ; Br = 80)

1. 24                      2. 36                      3. 48                      4. 60

**Answer:** In Carius Halogen method a known mass of an organic compound is heated with fuming nitric acid in the presence of silver nitrate contained in a hard glass tube known as carius tube, in a furnace. Carbon and hydrogen present in the compound are oxidised to carbon dioxide and water. The halogen present forms the corresponding silver halide (AgX). It is filtered, washed, dried and weighed.

$$\% \text{ of Br} = \frac{\text{Weight of AgBr}}{\text{Molecular Weight of AgBr}} \times \frac{\text{Molecular weight of Br}}{\text{Weight of Organic Bromide}} \times 100 = \frac{141}{188} \times \frac{80}{250} \times 100 = 24$$

**Correct option (1) 24**