The relative lowering of vapour pressure produced by dissolving 71.5 g of a substance in 1000 g of water is 0.00713. The molecular weight of the substance will be

A) 18.0

B) 342

C) 60

D) 180

Correct Answer: D

Solution :

$$\frac{P^0 - P_s}{P^0} = \frac{\frac{w}{m}}{\frac{w}{m} + \frac{W}{M}} \text{ or } 0.00713 = \frac{71.5/m}{\frac{71.5}{m} + \frac{1000}{18}} \qquad m = 180$$