

- 7 A helium balloon of volume V carrying a light weather instrument rises into the atmosphere. The total mass of the balloon skin and the weather instrument is M kg. Given the gravitational field strength is g , the density of air is ρ_{air} , and the density of helium is ρ_{He} , the net force acting on the balloon is

A $(\rho_{\text{air}} - \rho_{\text{He}})Vg$

B $(\rho_{\text{air}})Vg - Mg$

C $(\rho_{\text{air}} - \rho_{\text{He}})Vg - Mg$

D $(\rho_{\text{He}} - \rho_{\text{air}})Vg - Mg$