| Question number | Answer | Notes | Marks |
|---|---|---|---|
| 5 (a) | any 4 from:<br>MP1. fewer particles outside the balloon;<br><br>MP2. (hence) fewer impacts (per second) on the outside of the balloon;<br>MP3. (hence) pressure outside balloon is reduced;<br>MP4. pressure inside balloon > pressure outside balloon;<br>MP5. (hence) air inside the balloon expands until the pressures balance; | condone idea that all particles have been removed<br><br>ignore references to vacuum<br><br>reject 'air particles expanding' | 4 |
| (b) (i) | pressure increases;<br>(because) volume (of trapped air) has decreased / particles collide with liquid surface more (often); | allow walls for liquid surface | 2 |
| (ii) | water level increases / rises;<br>greater {force / pressure} acts on the water (so can support greater weight of water above); | allow formula as justification<br>$p = h\rho g$<br>(because the increased pressure difference supports a greater height of water) | 2 |
| (iii) | water level decreases / falls;<br>(because) pressure difference is now less/eq; | | 2 |

Total for question 5 = 10 marks