

Qu No.		Extra Information	Marks
4.1	Water molecules colliding with a surface create pressure		1
	At increasing depth more molecules (above a surface)		1
4.2	Pressure at depth = $h \rho g$	Allow ecf from first marking point.	1
	= $332 \times 1000 \times 9.8$		
	= 3253600		
	Force = pressure \times area		1
= 3253600×0.015		1	
= 48,804 N		1	
= 4.9×10^4 N.			

Qu No.		Extra Information	Marks
5.1	Newton's third law		1
	Jetpack forces the water down		1
	So water exerts an <u>equal</u> (magnitude) and <u>opposite</u> (direction) force on the jetpack (so it moves up)		1
5.2	Combined weight = $84 \times 9.8 = 820$ N		1
	Resultant force = $1900 - 820 = 1100$ N		1
	Acceleration = $F/m = 1100 / 84$		1
	= 13 m/s^2		1
	$v^2 = u^2 + 2as = 0 + 2 \times 13 \times 5 = 130$		1
	$v = 11 \text{ m/s}$		1