3(a)	*any **two** from:* • fossil fuels / named fossil fuel • biofuels / named biofuel / biomass • wave(s) • wind (turbines) • Hydroelectric • solar panels / solar cells
3(b)(i)	$E_k = ½\ mv^2$
	$(m =)\ 11000 \times 2 \div [6.3]^2$ **OR** $(m =)\ 11000 \times 2 \div [39.69]$ **OR** 554 (kg) SEEN
3(b)(ii)	55 (%)
	efficiency = useful energy out(put) / (total) energy in(put) × 100 % OR $(6000 \div 11000) \times 100$
3(c)	(tides) follow a regular / predictable pattern **OR** (tides) are reliable ORA for wind

Multiple Choice Answers

Q13: B

3(a)	gravitational (potential) energy (store before / as the ball falls)
	kinetic energy (store) increases (as the ball falls) **OR** energy transferred to kinetic energy (store as the ball falls)
	(energy transferred from) kinetic energy (store) to internal / thermal energy (store)
3(b)	5.9 m / s
	$(\Delta)E_p = (\Delta)E_k$ **OR** E_p lost = E_k gained **OR** gravitational potential energy lost = kinetic energy gained **OR** $mg(\Delta)h = ½mv^2$
	$v^2 = 2g(\Delta)h$ **OR** $v^2 = 2 \times 9.8 \times 1.8$ **OR** $v^2 = 35(.28)$

Multiple Choice Answers

Q3: C

1(a)	constant speed
	constant / uniform deceleration
	stationary
1(b)(i)	7.1×10^5 J **OR** 710 000 J **OR** 710 kJ
	$E_K = ½mv^2$ **OR** $(E_K =)\ ½mv^2$ **OR** $½ \times 18\,000 \times (8.9)^2$
1(b)(ii)	31 000 N **OR** 31 kN
	$W = Fd$ **OR** $(F =)\ W / d$ **OR** 710 000 / 23
	F = 710 000 / 23