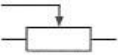


Multiple Choice Answers

Q23: A

Q24: D

7(a)	
7(b)(i)	1.5 V $V_{\text{out}} / V_R = R_{\text{out}} / R$ OR $V_R = 3 V_{\text{out}}$
7(b)(ii)	0.51 C $I = Q / t$ OR $(Q =) It$ OR $1.7 \times 10^{-3} \times 300$

3(a)	energy cannot be created or destroyed energy can be transferred / transformed (between energy stores)
3(b)(i)	energy transferred in one hour at a rate of transfer of 1 kW
3(b)(ii)	7200 (kWh) $(\Delta)E = Pt$ OR $(\Delta E) = Pt$ OR 1800×4.0 OR 1.8×4.0 OR 7.2×10^6
3(c)	any two from: - geothermal - nuclear - tidal

7(a)	8 (cells)
7(b)(i)	$(12 / 2.4 =) 5.0 \Omega$ $R = V / I$ in any form
7(b)(ii)	(Resistance of Q = $5 - 1.5$) = 3.5Ω $1 / R = 1 / R_1 + 1 / R_2$ OR $R = R_1 R_2 / (R_1 + R_2)$
7(c)(i)	correct voltmeter symbol connected correctly across both lamps
7(c)(ii)	4.3 W ($P =$) IV in any form OR 1.2×3.6 3.6 V OR 1.2 A