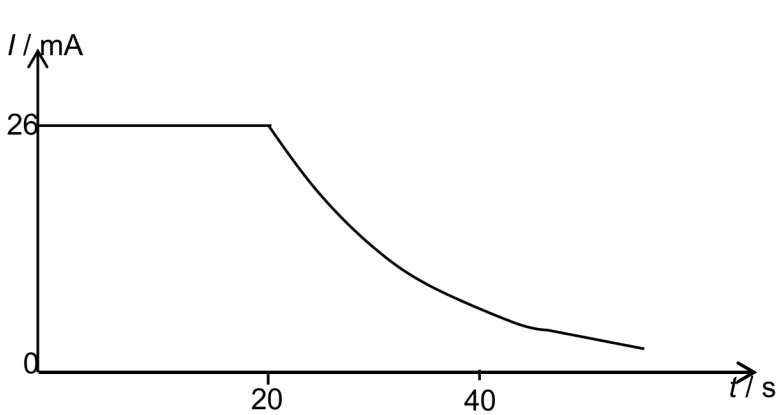
Question Number	Answer		Mark
14a	The capacitor stores charge/energy	(1)	**3**
	(if the switch is open) the capacitor discharges through resistor/controller **Or** (if the switch is open) the p.d across the resistor/controller is maintained by the capacitor	(1)	
	p.d. across capacitor will remain high enough to operate the controller for a short time **Or** current in circuit will remain high enough to operate the controller for a short time **Or** charge/energy stored is limited and will only last for a short time	(1)	
14b	Use of $\ln V = \ln V_0 - \frac{t}{RC}$	(1)	**2**
	t = 24 s	(1)	
	Example of calculation $\ln 4 = \ln 12 - \frac{t}{470 \times 47 \times 10^{-3}\text{s}}$ t = 24.3 s		
14c	Horizontal line of non-zero I from 0 to 20 s	(1)	**4**
	(Initial value of) I = 26 mA	(1)	
	(From 20 s) approximate exponential decrease	(1)	
	Approximately drops to 1/3 after about 44 s (24 s after start of decrease)	(1)	
	ECF depending on calculation from (b) Example of calculation I = 12 V / 470 Ω = 0.026 A  		
	Total for question 14		**9**