

- (f) (i) Gradient calculated correctly
[not available for candidates that have plotted V against t] [1]
- (ii) The value of the gradient, m , of the graph of $\ln V$ against t is $[-] \frac{1}{RC}$ (1)
Statement that $C = - \frac{1}{mR}$ (1)
[This mark also implies that the first mark can be given by implication]
 C calculated correctly (1)
 C given to 3 sig figs and correct unit [allow e.c.f. from a graph of V against t for 1 mark only] (1)
[NB For full marks there need to be a clear link between the graph and the calculated value of C] [4]
- (g) [\pm] 50 μF stated (1)
Suitable comment on the comparison of candidates own value with the max/min values of C (ecf on the maximum and minimum values of C and value of C from part (f)(ii)) (1)
[Alternatively – calculating % difference of own value from 1000 μF (1 mark)
Comparison with 5% (1 mark)] [2]