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Subject Details: Physics HL Paper 2 Markscheme

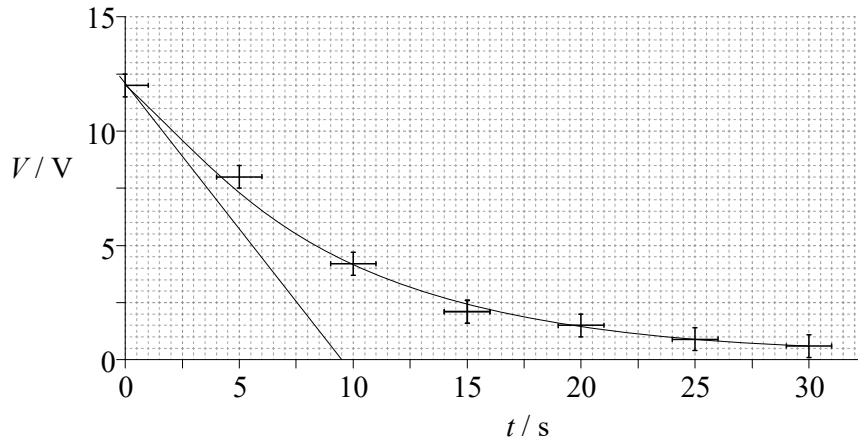
Mark Allocation

Candidates are required to answer **ALL** questions in Section A [**45 marks**] and **TWO** questions in Section B [**2 × 25 marks**]. Maximum total = [**95 marks**].

1. A markscheme often has more marking points than the total allows. This is intentional.
2. Each marking point has a separate line and the end is shown by means of a semicolon (;).
3. An alternative answer or wording is indicated in the markscheme by a slash (/). Either wording can be accepted.
4. Words in brackets () in the markscheme are not necessary to gain the mark.
5. Words that are underlined are essential for the mark.
6. The order of marking points does not have to be as in the markscheme, unless stated otherwise.
7. If the candidate's answer has the same "meaning" or can be clearly interpreted as being of equivalent significance, detail and validity as that in the markscheme then award the mark. Where this point is considered to be particularly relevant in a question it is emphasized by **OWTTE** (or words to that effect).
8. Remember that many candidates are writing in a second language. Effective communication is more important than grammatical accuracy.
9. Occasionally, a part of a question may require an answer that is required for subsequent marking points. If an error is made in the first marking point then it should be penalized. However, if the incorrect answer is used correctly in subsequent marking points then **follow through** marks should be awarded. When marking indicate this by adding **ECF** (error carried forward) on the script.
10. Do **not** penalize candidates for errors in units or significant figures, **unless** it is specifically referred to in the markscheme.

SECTION A

A1. (a)



- (i) smooth curve;
that passes through all error bars; [2]
 - (ii) correctly identifies three points from own graph;
correctly processes these three points using exponential/half life/constant ratio/
relationship;
to conclude that decay is exponential;
within uncertainty; [4]
- (b) (i) evaluates a gradient over a minimum of 5 s to give an initial
rate for example, $\left(\frac{12}{9.5} = \right) 1.3 \text{ V s}^{-1}$ for graph above; (allow ECF
from the graph)
- V s^{-1} ; [2]
Clear evidence of calculation of gradient must be seen.
- (ii) obtains evidenced answer for t intercept; [1]

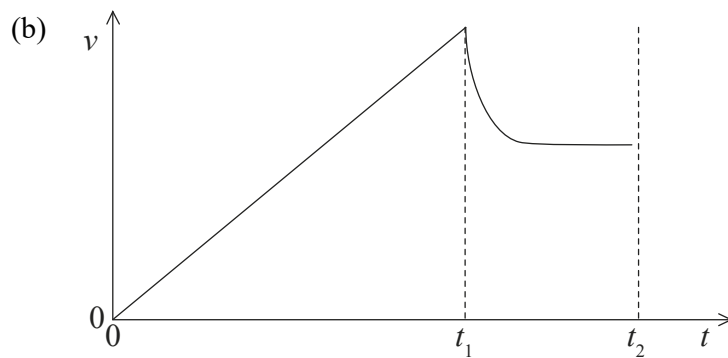
(c) $C = \left(\frac{10}{10 \times 10^6} = \right) 1.0 (\pm 0.2) \times 10^{-6} \Omega^{-1} \text{ s/F};$ [1]

Award [0] for absence of 10^6 unless unit is in terms of $M\Omega$.

A2. (a) (i) $s = 12.5/12.6 \text{ m};$ [1]

(ii) $v = \sqrt{2gs}$ *or* $gt;$ *(allow any use of suvat equations)*
 $= (\sqrt{2 \cdot 9.8 \cdot 12.5} =) 15.7 \text{ ms}^{-1};$ [2]

Award [2] for a bald correct answer.



straight line to water surface;

clear decrease after hitting surface;

constant non-zero speed reached *smaller* than $\left. \begin{array}{l} \text{(speed must be less than} \\ \text{maximum velocity)} \end{array} \right\}$ [3]

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/928072001053006114>