

Extension Worksheet – Option F, Worksheet 1

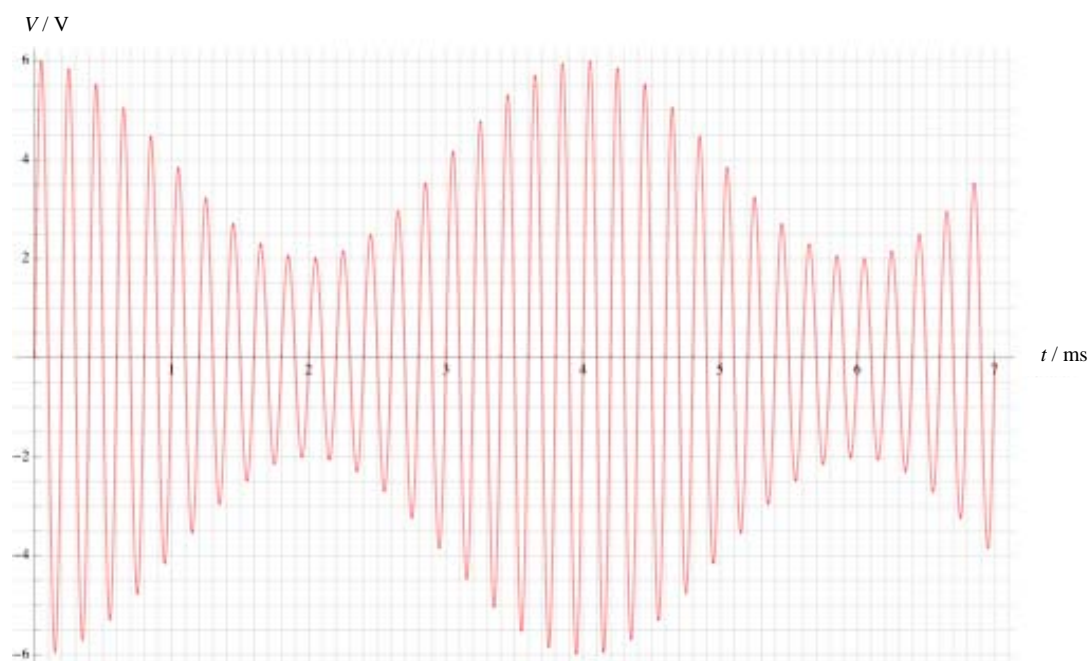
- 1** The graph shows the variation with time of the voltage of a frequency modulated carrier wave.



The amplitude of the signal (information) wave is 2.0 V and the frequency of the carrier is 8.0 kHz.

- a** On the graph above draw a sketch graph to show the variation with time of the signal wave voltage. [2]
- b** Estimate the frequency of the signal wave. [2]
- c** The frequency deviation constant for this wave is 3.0 kHz V^{-1} . State the range of frequencies present in the modulated carrier wave. [2]

- 2** The graph shows the variation with time of the voltage of an amplitude modulated carrier wave.



Use the graph to estimate:

- | | | |
|----------|------------------------------------|-----|
| a | the amplitude of the signal wave. | [1] |
| b | the amplitude of the carrier wave. | [2] |
| c | the frequency of the carrier wave. | [2] |
| d | the frequency of the signal wave. | [2] |