Mark schemes

Q1.

(a) *L* ✓

1

(b) Evidence of 0.707 OR 0.71 OR 0.7 used ✓ (V_{out} = 3.6 mV)

use of *Q* = their f_0 ÷ their f_B ✓

Expect to see
f_0 = (779 - 769) kHz;
f_B = 10 kHz (± 1 kHz)

Q = 774 ÷ 10 = 77.4 ✓ Accept range (*Q* = 70 - 86)

Alternative for 2 marks max if ~50% point is used (V_{out} ≈ 2.6 mV)

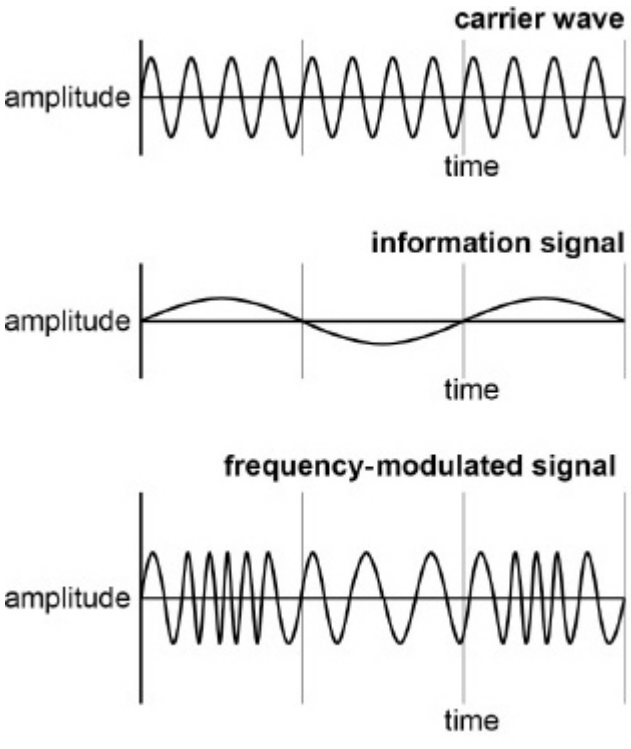
leading to f_B = 12 kHz (± 1 kHz) ✓

Q = 65 ✓

Accept that rounds in range (Q = 60 -70)

3

(c)



✓✓

1st mark - constant amplitude
2nd mark - correct frequency variation

2

(d) f_m = 18 ✓ (kHz)

Expect to see bandwidth = 2(Δf + f_m)

1

[7]