Question Number	Answer	Mark
2(a)	• Path difference between microwaves reflected from metal plate and reflected from glass plate **Or** phase difference between microwaves reflected from metal plate and reflected from glass plate (1) • (Reflected) waves superpose/interfere (at the receiver) (1) • As *d* is varied, path/phase difference changes causing constructive **and** destructive interference (1)	**3**
2(b)(i)	• Determines the mean distance between maxima (1) • λ = 2 × distance between maxima (1) • λ = 2.8 cm rounded to 2 s.f. (1) <u>Example calculation</u> Mean distance between maxima = (1.2 cm +1.6 cm +1.2 cm +1.5 cm)/4 Mean distance between maxima = 1.38 cm λ = 2 × 1.38 cm λ = 2.8 cm	**3**
2(b)(ii)	• Use of $c = f\lambda$ (1) • $f = 1.1\times10^{10}$ Hz (1) Note – allow ecf from 2(b)(i) <u>Example calculation</u> $c = f\lambda$ 3.0×10^{8} m $s^{-1} = f \times 0.028$ m $f = 3.0\times10^{8}$ m s^{-1} / 0.028 m $f = 1.1\times10^{10}$ Hz	**2**
	Total for question 2	**8**