Question number			Answer	Notes	Marks
10	(a)	(i)	B radio waves		1
		(ii)	C Microwaves and radio waves travel at the same speed in a vacuum.		1
		(iii)	any one sensible property; e.g. travels (very) fast travel at speed of light can be coded can travel in vacuum	Allow can penetrate the ionosphere, can carry more information (than radio) higher frequency /shorter wavelength (than radio) minimal diffraction	1
	(b)		Quantities substituted in the correct equation; Rearrangement; Calculation; Conversion from hours/days to s at any point (implicit if correct ans in km); e.g. $3.1 = \dfrac{2 \times \pi \times r}{(24 \times 3600)}$ $r = \dfrac{3.1 \times 24 \times 3600}{2\pi}$ $r = 42\ 600$ km	No credit for quoting the equation as $v = 2\pi r/T$ is given on page 2. sub and rearrange in either order allow 3600 or 86 400 seen Allow 42630, 42628 Allow 42622 (from $\pi = 3.142$)	4

10	(c)		any suitable point;		1
			e.g. Satellite always appears in same part of sky satellite always about the same point on the Earth no need (for satellite dish) to track because it orbits in the same time the earth rotates	Allow idea of geostationary orbit	

Total 8 marks