

Question number	Answer	Notes	Marks
12 (a) (i)	any three from: MP1. air becomes hot; MP2. air expands; MP3. air becomes less dense; MP4. air rises;	NOTE cannot award MP4 unless MP2 or MP3 has been given  reject for 1 mark( ie MAX mark = 2) air particles expand OR air particles become less dense	(3)
(ii)	clear inward arrow above the heat absorbing materials; clear up arrow inside the tower;		(2)
(iii)	convection (current);		(1)
(b) (i)	thermal (energy);  kinetic (energy);	allow heat or solar or light	(2)
(ii)	(hot) air turns turbines; turbines turn the generator/magnets inside a coil;		(2)
(c) (i)	during the day there is direct heating from the sun/eq;	allow RA	(1)
(ii)	any sensible suggestion e.g. so that convection continues beyond daylight hours; to act as heat source for night time;		(1)
(iii)	any sensible suggestion e.g. water tanks (to provide hot water at night); crops;	Allow photovoltaic cells solar panel (dull) black objects / blocks painted black	(1)

**Total for Question 12 = 13 marks**