

Question number	Answer	Notes	Marks
3 (a)	any three from: MP1. idea that plastic is an insulator OR that metal is a conductor; MP2. idea that charge/electrons are transferred (by rubbing/friction); MP3. charge/electrons remain/build up on plastic parts; MP4. charge/electrons flow through the metal parts/travel to earth;	allow plastic has no free electrons allow plastic does not conduct allow electrons gained / lost must be clearly linked to plastic must be clearly linked to metal	3
(b) (i)	substitution into energy = charge × voltage; rearrangement; evaluation; e.g. (0.00)5 = charge × 6000 charge = (0.00)5 / 6000 (charge =) 8.3×10^{-7} (C)	ignore unit conversions until evaluation -1 for POT error allow 8×10^{-7} , 8.33... × 10⁻⁷ (C)	3
(ii)	idea of bringing pad near another uncharged insulator; attraction used to demonstrate charge on sponge;	allow water from tap, (small) pieces of paper, hair, balloon etc. as the insulator allow gold leaf electroscope reject references to repulsion unless linked to gold leaf electroscope	2

Total for Question 3 = 8 marks