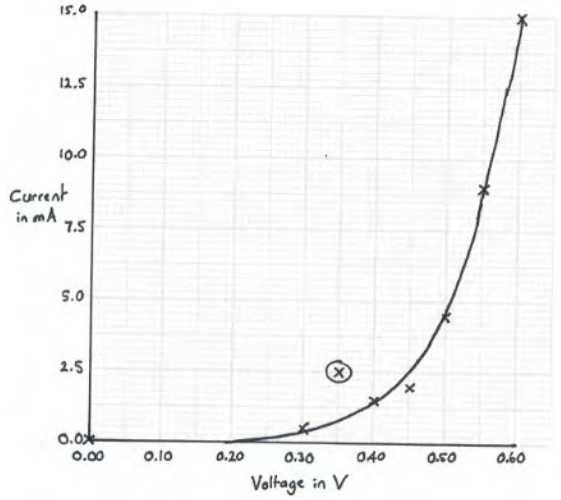
Question number	Answer	Notes	Marks
5 (a)	both ammeter and voltmeter symbols correct; ammeter drawn in series with LED; voltmeter drawn in parallel with LED;		3
(b) (i)	axes scales cover 50% of the grid in both directions and have a sensible, continuous scale; both axes labelled with quantities and units; all data plotted correctly;	reject if either scale uses multiples of 3, 7 or 9 or if discontinuous ignore orientation reject if either scale is discontinuous data should be plotted to within half a small square	3
(ii)	(0.35,2.5) circled;		1
(iii)	smooth curve drawn with approximately even distribution of points either side ignoring anomaly;  	allow ecf from (i) so judge curve for the student's plotting	1
(iv)	(data are) continuous/not discrete;		1
(v)	voltage = current × resistance;	allow standard symbols and rearrangements reject C, c for current	1
(vi)	MP1. voltage across resistor = 0.015 × 270; MP2. voltage across resistor is 4.05 (V); MP3. voltage across power supply = voltage across LED + voltage across resistor; MP4. voltage across power supply is (4.05 + 0.60 =) 4.7 (V);	allow 15 × 270 for this mark allow 4.0, 4.1 (V) scores MP1 and MP2 allow 4.65, 4.6 (V) V = 4050.6 (V) = 3 marks allow alternative method of calculating resistance of LED to find total resistance of circuit	4

Total for Question 5 = 14 marks