Mark Scheme for H61PWE Coursework 1

	Question in Lab sheet	Mark Available	Mark Awarded
Q1	What is the effective resistance of a) the ammeter and b) the voltmeter when connected in the circuit?	2	
Q2	Calculate the value of resistance you require for circuit 1 to have a supply current of 23mA.	1	
Q3	Measure the current and voltage in circuit 1 Do your measurements agree with your calculations (show calculation):	1	
Q4	calculate the power dissipated in the resistor	1	
Q5	Calculate the currents in R1, R2 and R3 and the voltages across each resistor	7	
Q6	Measure voltages and currents and compare with theory	1	
Q7	Calculate R4. Calculate I1 – I4 Evidence of using current divider rule Calculate voltages	10	
Q8	Demonstrate KVL Demonstrate relationship of VS to Vpq, Vqr, Vrs using voltage divider	4	
Q9	From your measurements, state: 1) The potential of nodes P, Q, R and S 2) The voltage between nodes P and R 3) The voltage between nodes S and Q.	6	
Q10	Show that Vqr can be calculated knowing the potentials at node Q and Node R.	1	
Q11	Figure 7 - Calculate the theoretical values for the voltages V_{AB} V_{BC} V_{CD} and V_{DE}. Show your working. Use these values to calculate V_{EC}	5	
Q12	What are the potentials at nodes A-E Use these potentials to calculate the values of V_{AB} and V_{CD} and confirm your calculations from (Q11).	7	
Q13	Do the measured potentials match the theoretical values calculated in (Q12)?	2	
Q14	Do your measurements demonstrate the “voltage divider” rule?	1	
Q15	Change Rload to 500kΩ and run the simulation. What happens to Vout?	1	
Q16	Change Rload to 50kΩ and run the simulation. What happens to Vout?	2	
Q17	What conclusions can you draw about the potential divider rule?	2	
	Marks for presentation, organisation etc	6	
	Total Mark	**60**	