


Name of the Student: _____

Max. Marks : 17 Marks

Time : 17 Minutes

Mark Schemes

Q1.

- (a) swap the blue wire and the green and yellow wire
allow connect the blue wire to the neutral pin and the yellow and green wire to the earth pin.
allow swap the earth and neutral wires
ignore the earth wire and neutral wire are wrongly connected 1
- (b) 230 (V) 1
- 50 (Hz) 1
- (c) 0 (V) 1
- (d)  1
- (e) the person could get an electric shock
allow so the person could be electrocuted 1
- because there is a current in the person
allow because the person provides a connection (from the washing machine) to earth
allow because there is a potential difference across the person 1
- (f) the charge flows through the earth wire (instead of the person) 1
- because the resistance of the earth wire is much less than that of a person
allow so the case does not become live
allow so the fuse will break / melt / blow 1

[9]

Q2.

- (a) ammeter in series with the resistor, voltmeter in parallel with the resistor
1
- (b) current decreased
ignore slows down
1
- (c) reverse the connections to the cell
allow battery for cell
allow reverse the cell
1
- (d) (directly) proportional
do not allow inversely proportional
do not allow indirectly proportional
1
- (e) potential difference = current \times resistance
allow voltage for potential difference
- or**
- $V=IR$
allow any correct re-arrangement
1
- (f) $3.0 = 0.12 \times R$
1
- $R = \frac{3.0}{0.12}$
1
- $R = 25 \text{ } (\Omega)$
1
- an answer of 25 (Ω) scores 3 marks*

[8]