Pearson Edexcel

Mark Scheme (Results)

November 2020

Pearson Edexcel International GCSE In Physics (4PH1) Paper 1PR

Question number	Answer	Notes	Marks
9 (a)	correct voltmeter symbol; voltmeter connected in parallel with resistor;		2
(b)	light dependent resistor;	allow LDR	1
(c) (i)	9(.0) (V);		1
(ii)	substitution OR rearrangement; evaluation; e.g. 9.0 = current × 4500 OR current = voltage / resistance (current =) 0.0020 (A)	allow ecf from (i) allow 0.002 (A)	2
(iii)	substitution OR rearrangement; evaluation in Ω; conversion to kΩ; e.g. 3.0 = 0.0020 × resistance OR resistance = voltage / current (resistance =) 1500 (Ω) (resistance =) 1.5 (kΩ)	allow ecf from (ii)	3
(d)	lamp should be connected in parallel with component X / LDR; resistance of component X increases when it gets dark; voltage across component X increases / becomes greater than 10V when it gets dark;		3

Total for Question 9 = 12 marks

Question number	Answer	Notes	Marks
10 (a)	method to show shape; e.g. use compass(es) use of iron filings/powder use of plotting compass **to show direction**; a further method detail; e.g. mark card/move compass/multiple compasses idea of another line or lines added sprinkle (iron filings) tap card (to distribute iron filings)	all marks may be awarded from a labelled diagram	3
(b) (i)	any four from: MP1. idea that core **gains** a magnetic field; MP2. idea of a changing magnetic field; MP3. idea that field lines cut by wire; MP4. voltage induced (across coil); MP5. (causing a) current in the wire;	allow higher level ideas in terms of flux and flux linkage	4
(ii)	any one from: MP1. idea that dynamo-wheel friction makes bicycle harder to pedal; MP2. idea that lights would vary in brightness; MP3. lights will be off when bicycle is stationary;	allow current / brightness of lamps depends on how fast bicycle is moving	1

Total for Question 10 = 8 marks