Practice Question Set For A-Level
Subject : Physics
Paper-1 Topic : 3_ElectricCircuits

Name of the Student:_____
Max. Marks : 15 Marks **Time : 15 Minutes**

Mark Schemes

Q1.

Question Number	Answer	Mark
	C	1

Q2.

Question Number	Acceptable answers	Additional guidance	Mark
	D		1

Q3.

Question Number	Acceptable answers	Additional guidance	Mark
	D In the dark the resistance of the LDR will be very large so practically all the potential difference of 6V will be across it.	a little below 6 V	1
	A assumes the resistance of the LDR decreases to almost zero B assumes the resistance of the LDR decreases a little C assumes the resistance of the LDR increases a little		

Q4.

Question Number	Answer	Mark
	C $\mathbf{kg\,m^2\,s^{-3}\,A^{-2}}$	1
	Incorrect Answers: A – Ω is not a base unit B – V is not a base unit D – C is not a base unit	

Q5.

Question Number	Answer	Mark
	D $kgm^2s^{-3}A^{-1}$	1
	Incorrect Answers: **A** – correct units but J and C are not base units **B** – correct units but J is not a base unit **C** – correct units but C is not a base unit	

Q6.

Question Number	Answer	Mark
	The only correct answer is C $\frac{V}{RnAe}$ **this comes from the rearrangement of** $I = nqvA$**, and substitution for** I **using** $R = \frac{V}{I}$ **A** *is not correct because this answer is rearranged incorrectly* **B** *is not correct because this answer is rearranged incorrectly* **D** *is not correct because this answer is rearranged incorrectly*	1

Q7.

Question Number	Answer	Mark
	D $\frac{mgh}{VIt}$ Incorrect Answers: A – this answer is incorrect B – this answer is incorrect C – this answer is incorrect	1

Q8.

Question Number	Answer	Mark
	The correct answer is D Incorrect Answers: A – emf is a constant B – emf is a constant C – as resistance increases, the terminal p.d. increases	1

Q9.

Question Number	Answer	Mark
	C ammeter reading decreases, voltmeter reading increases	1
	A – the ammeter reading does not increase B – neither occurs D – the voltmeter reading does not decrease	

Q10.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is B A is not correct as 120 Ω / 3 = 40 Ω C is not correct as 120 Ω / 3 = 40 Ω D is not correct as 120 Ω / 3 = 40 Ω		1

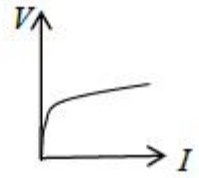
Q11.

Question Number	Answer	Mark
	A	1

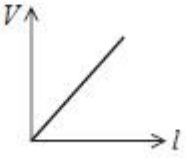
Q12.

Question Number	Answer	Mark
	C	1

Q13.

Question Number	Acceptable Answer	Additional Guidance	Mark
	C 		1

Q14.

Question Number	Acceptable Answer	Additional Guidance	Mark
	A 		1

Q15.

Question Number	Answer	Mark
	C The diode starts to conduct when the potential difference is about 0.7 V.	1
	Incorrect Answers: A – The diode has zero resistance when connected in the forward direction B – The diode has zero resistance when connected in the reverse direction. D – The diode stops conducting when the potential difference is about −0.7 V.	