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

Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Mark Schemes

Q1.

Question Number	Answer	Mark
	C	1

Q2.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is B **decreases** | **increases**	C and D are incorrect as the resistance decreases A is incorrect as n increases	1

Q3.

Question Number	Answer	Mark
	D	1

Q4.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is C A is not the correct answer, as I, n and e all constant. B is not the correct answer, as I, n and e all constant. D is not the correct answer, as I, n and e all constant.		1

Q5.

Question Number	Acceptable Answer	Additional Guidance	Mark
	D Work done per unit charge to move a charge around a circuit.		**1**

Q6.

Question Number	Acceptable answers	Additional guidance	Mark
	C		1

Q7.

Question Number	Acceptable answers	Additional guidance	Mark
	A uses the parallel resistors equation $\frac{1}{R_T}=\frac{1}{R}+\frac{1}{R}=\frac{2}{R}$	$\frac{R}{2}$	**1**
	B assumes resistors in parallel have the same total R as each individual R C is the addition of both resistances as if they were in series D is the product of both resistances		

Q8.

Question number	Acceptable answers	Additional guidance	Mark
	D		**1**

Q9.

Question Number	Answer	Mark
	D	1

Q10.

Question Number	Answer	Mark
	B	**1**

Q11.

Question Number	Answer	Mark
	C	1

Q12.

Question Number	Answer	Mark
	B	1

Q13.

Question Number	Answer	Additional Guidance	Mark
	B is the only correct answer	A is incorrect because amplitude does increase C is incorrect because rate of collision does increase D is incorrect because rate of energy transfer does increase	**1**

Q14.

Question Number	Answer	Mark
	A	1

Q15.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is B A *is not correct because R decreases as more conduction electrons* C *is not correct because lattice vibrations not affected* D *is not correct because lattice vibrations not affected*	It increases because there is an increase in the number of conduction electrons.	1

Q16.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is B A is not correct as the p.d. across the resistor will increase C is not correct as the resistance of the LDR will decrease D is not correct as the resistance of the LDR will decrease		**1**

Q17.

Question Number	Acceptable answers	Additional guidance	Mark
	B		1

Q18.

Question Number	Answers	Additional Guidance	Mark
	B	the rate of flow of charge.	**(1)**

Q19.

Question Number	Answers	Additional Guidance	Mark
	D	<table><tr><th>Gradient</th><th>Intercept on y-axis</th></tr><tr><td>negative</td><td>ε</td></tr></table>	**(1)**

Q20.

Question Number	Answers	Additional Guidance	Mark
	D	3W	**(1)**