Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic : 8_Energy

Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
(i)	D R and S A, B and C are incorrect because the difference in vertical positions are all less than that shown by R and S		(1) AO1

Question number	Answer	Additional guidance	Mark
(ii)	recall (1) work done = force x distance substitution and evaluation (1) (work done =) 14,000 (J)	(work done) = 700 x 20 award full marks for the correct answer without working	(2) AO1

Question number	Answer	Additional guidance	Mark
(iii)	substitution (1) 11250 = m x 10 x 15 rearrangement and evaluation (1) (mass=) 75 (kg)	award full marks for the correct answer without working. if no other marks scored then award 1 mark for answers of 0.013 (substitution mark using h = 15)	(2) AO2

Question number	Answer	Additional guidance	Mark
(iv)	An explanation linking some work is done to overcome friction/air resistance (1) energy is dissipated /transferred to the environment (1)	allow energy is lost thermal energy	(2) AO1

Question number	Answer	Additional guidance	Mark
(v)	C increase the efficiency of the cyclist and bicycle A is incorrect because lubrication has no effect on work done against gravity B is incorrect because lubrication will increase efficiency D is incorrect because the overall energy transfer will not increase		(1) AO1

Q2.

Question number	Answer	Additional guidance	Mark
(i)	D R and S A, B and C are incorrect because the difference in vertical positions are all less than that shown by R and S		**(1)** **AO1**

Question number	Answer	Additional guidance	Mark
(ii)	recall (1) work done = force x distance substitution and evaluation (1) (work done =) 14,000 (J)	(work done) = 700 x 20 award full marks for the correct answer without working	**(2)** **AO1**

Question number	Answer	Additional guidance	Mark
(iii)	substitution (1) 11250 = m x 10 x 15 rearrangement and evaluation (1) (mass=) 75 (kg)	 award full marks for the correct answer without working. if no other marks scored then award 1 mark for answers of 0.013 (substitution mark using h = 15)	**(2)** **AO2**

Question number	Answer	Additional guidance	Mark
(iv)	An explanation linking some work is done to overcome friction/air resistance (1) energy is dissipated /transferred to the environment (1)	 allow energy is lost thermal energy	**(2)** **AO1**

Question number	Answer	Additional guidance	Mark
(v)	C increase the efficiency of the cyclist and bicycle A is incorrect because lubrication has no effect on work done against gravity B is incorrect because lubrication will increase efficiency D is incorrect because the overall energy transfer will not increase		**(1)** **AO1**

Q3.

Question Number	Answer	Mark
	The only correct answer is B: work done= force x distance moved in direction of force **A is incorrect** because the equation would be dimensionally inconsistent **C is incorrect** because the equation would be dimensionally inconsistent **D is incorrect** because the direction of the distance moved is incorrect	**(1)**