Practice Question Set For A-Level
Subject : Physics
Paper-1 Topic : 2 (Mechanics)

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

Mark Schemes

Q1.

Question Number	Answer	Mark
	The only correct answer is A – The v-t graph is a graph of the gradient of the s-t graph. **B** *is not correct because this answer shows a decreasing positive velocity, followed by an increasing negative velocity* **C** *is not correct because this answer shows a constant positive velocity followed by a constant negative velocity then an increasing negative velocity* **D** *is not correct because this answer shows a velocity of zero, then an infinite velocity, followed by a velocity of zero again.*	**1**

Q2.

Question Number	Answer	Mark
	C Incorrect Answers: A – this answer is incorrect, there is no force upwards on the ball B – this answer is incorrect, there is no force upwards on the ball D – this answer is incorrect, there is also a downward air resistance force as the ball is moving upwards	**1**

Q3.

Question Number	Answer	Mark
	The only correct answer is A the only force on the ball is weight **B** *is not correct because the only force on the ball is weight* **C** *is not correct because the only force on the ball is weight* **D** *is not correct because the only force on the ball is weight*	**1**

Q4.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is C *A is not correct because charge is a scalar quantity* *B is not correct because mass is a scalar quantity* *D is not correct because time is a scalar quantity*		**1**

Q5.

Question Number	Answer	Mark
	C	**1**

Q6.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is C A is not the correct answer, as P.E. increases and speed decreases as particle approaches nucleus B is not the correct answer, as P.E. increases and speed decreases as particle approaches nucleus D is not the correct answer, as P.E. increases and speed decreases as particle approaches nucleus		**1**

Q7.

Question Number	Answer	Additional Guidance	Mark
	C is the only correct answer	A is incorrect because the wrong trigonometric function has been used B is incorrect because the wrong trigonometric function has been used D is incorrect because the wrong forces have been used	**1**

Q8.

Question Number	Acceptable answers	Additional guidance	Mark
	B		**1**

Q9.

Question Number	Acceptable Answer	Additional Guidance	Mark
	C		**1**

Q10.

Question Number	Acceptable Answer	Additional Guidance	Mark
	D $-0.60\ \text{kg m s}^{-1}$		**1**

Q11.

Question Number	Acceptable Answers	Reject	Mark
	B		**1**

Q12.

Question Number	Answer	Mark
	D	**1**

Q13.

Question Number	Answer	Mark
	D Step 4	1
	Incorrect Answers: A – this step uses the conservation of energy B – this step is just a statement of Ohm's law C – this step uses the conservation of energy	

Q14.

Question Number	Answer	Mark
	A	1

Q15.

Question Number	Answer	Mark
	C	1

Q16.

Question Number	Answer	Mark
	B	1

Q17.

Question Number	Answer	Additional Guidance	Mark
	C is the only correct answer	A is incorrect because the wrong trigonometric function has been used B is incorrect because the wrong trigonometric function has been used D is incorrect because the wrong algebraic equation has been used	1

Q18.

Question Number	Answer	Mark
	C	1

Q19.

Question Number	Answer	Mark
	C	1
	Incorrect Answers: **A** – incorrect normal force direction **B** – incorrect normal force direction and frictional force direction **D** – incorrect frictional force direction	

Q20.

Question Number	Answer	Mark
	D	1