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
	C	1

Q2.

Question Number	Answer	Mark
	B	1

Q3.

Question Number	Answer	Mark
	C	1

Q4.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is B A is not the correct answer, as the gradient of the velocity graph must increase. C is not the correct answer, as the gradient of the velocity graph must increase. D is not the correct answer, as as the gradient of the velocity graph must increase.		1

Q5.

Question Number	Answer	Mark
	B P and Q will have the same maximum velocity	**1**
	A – the graph is incorrect C – the graph is incorrect D – the graph is incorrect	

Q6.

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

Q7.

Question Number	Acceptable answers	Additional guidance	Mark
	The only correct answer is D *A is not correct because the acceleration in the vertical plane is g* *B is not correct because the horizontal component of velocity is constant* *C is not correct because of $v = 0 - at$ gives $t = v / g$*		**1**

Q8.

Question Number	Answer	Additional Guidance	Mark
	A is the only correct answer	B is incorrect because speed has been divided by 2 C is incorrect because $E_K = 0.5\ mv^2$ D is incorrect because $E_K = 0.5\ mv^2$	**1**

Q9.

Question Number	Answer	Mark
	C	1

Q10.

Question Number	Answer	Mark
	C	1

Q11.

Question Number	Answer	Mark
	C 42 m	1
	Incorrect Answers: A – 141 m is ¾ of the internal circumference of the track (¾ × 2 × π × 30 = 141 m) B – 141 m is ¼ of the internal circumference of the track (¼ × 2 × π × 30 = 47 m) D – 30 m (the radius) is the displacement travelled in one direction (downwards from the start position)	

Q12.

Question Number	Answer	Mark
	D 4 mm	1
	Incorrect Answers: A – distance has been measured and has not been scaled. B – the displacement has not been scaled C – distance has been used	

Q13.

Question Number	Answer	Mark
	B Incorrect Answers: A – this answer is incorrect C – this answer is incorrect D – this answer is incorrect	1

Q14.

Question Number	Answer	Mark
	A area under an acceleration-time graph	**1**
	Incorrect Answers: B – this is equivalent to the displacement C – this is equivalent to the rate of change of acceleration D – this is equivalent to the acceleration	

Q15.

Question Number	Answer	Mark
	C $(2.5 \times 4.3) + (2.5 \times 9.81)$	**1**
	A – this answer is incorrect B – this answer is incorrect D – this answer is incorrect	

Q16.

Question Number	Acceptable Answer	Additional guidance	Mark
	C	$\frac{mgh}{t}$	**(1)**

Q17.

Question Number	Answers	Additional Guidance	Mark
	B	$s = ut + \frac{1}{2}at^2$	**(1)**

Q18.

Question Number	Answers	Additional Guidance	Mark
	A		**(1)**

Q19.

Question Number	Acceptable Answer	Additional guidance	Mark
	B	total kinetic energy is mv^2	**(1)**

Q20.

Question Number	Acceptable answers	Additional guidance	Mark
	B		1