Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 7_ Astronomy

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

Question number	Answer	Additional guidance	Mark
(i)	 B A is incorrect because the force of gravity acts towards the centre C and D are incorrect because the force does not act tangentially		**1 AO1.1**

Question number	Answer	Additional guidance	Mark
(ii)	an explanation linking any **two** from velocity is changing (1) direction is changing (1) there is a resultant force (on the satellite) (1)	 velocity / acceleration is a vector accept unbalanced forces the direction of the velocity is changing scores 2 marks	**2 AO1.1**

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Q2.

Question number	Answer	Mark
	B	(1)

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Q3.

Question number	Answer	Additional guidance	Mark
	D a natural satellite A is incorrect, the Moon is not an asteroid B is incorrect, the Moon is not a comet C is incorrect, the Moon is not a nebula		**(1)** **AO1**

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Q4.

Question number	Answer	Mark
	C Mercury A is incorrect Jupiter is the fifth planet from the Sun B is incorrect Mars is the fourth planet from the Sun D is incorrect Venus is the second planet from the Sun	**(1)** **AO1**

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Q5.

Question number	Answer	Mark
	☒ **C** Neptune	**(1)**

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Q6.

	Answer	Acceptable answers	Mark
(a)	D the Universe (1)		**(1)**
(b)	(nebula) main sequence (star) (1) AND red giant white dwarf (1) All three in correct order for 2 marks	Red Giant White Dwarf (Main sequence) (1)	**(2)**
(c)i	infrared (radiation)/(rays) (1)		**(1)**
(c)ii	An explanation linking any two from • above the clouds / no clouds/ no weather (1) • image is clearer/more detailed/ not distorted/not blurred (1) • no light pollution (1) • (some) telescopes use gamma/ X-rays/ultraviolet /infrared/microwaves (1) • no absorption (by atmosphere) of gamma/ Xrays/ ultraviolet /infrared/ microwaves (1)	Credit to be given for stating that all telescopes would be better in space, but size and weight may exclude e.g. Jodrell Bank from space. no air/dust/pollution wider field of view/ can use anytime IGNORE 'see further' IGNORE 'it is closer (to the stars/planets)' IGNORE: references to improving understanding / knowledge of space	**(2)**

		Indicative Content	Mark
QWC	***(d)**	A description including some of the following points • improved QUALITY eg higher or better magnification/ detail/resolution or clearer/brighter image **OR** MORE INFORMATION (than with naked eye) of image/data eg new planets/stars/nebula e/pulsars (This could	**(6)** **Exp**

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		be extra detail for greater magnification/resolution only) • detection of (non-visible) electromagnetic WAVES eg Xray / UV / IR/ radio • TECHNOLOGY that enable collection of more data eg reflecting telescope/arrays ***and/or*** additions eg computer-aided /photographic connections or larger (objective) lens/mirror • POSITION of telescopes – eg orbital/outside atmosphere/on top of mountains/away from atmosphere/rays not absorbed/obscured/scattered by atmosphere. Ignore 'Hubble' or 'Compton'.	
Level	**0**	No rewardable content	
1	**1 - 2**	• a limited description e.g. mention of any one example such as "magnifies stars/planets" OR "discovering new planets/stars" • the answer communicates ideas using simple language and uses limited scientific terminology • spelling, punctuation and grammar are used with limited accuracy	
2	**3 - 4**	• a simple description e.g. mention of either two of the improvements **OR** extra detail about one of the improvements eg improvement **plus** example (ie Magnifies planets *so that craters/mountains may be seen)* • the answer communicates ideas showing some evidence of clarity and organisation and uses scientific terminology appropriately • spelling, punctuation and grammar are used with some accuracy	
3	**5 - 6**	• a detailed description e.g. mention of	

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		three (or more) improvements **OR** two improvements **plus extra detail about one of them (ie Telescopes in space can detect XRays *that would be absorbed by the atmosphere*)** • the answer communicates ideas clearly and coherently uses a range of scientific terminology accurately • spelling, punctuation and grammar are used with few errors

(Suitable extra detail shown in italics in examples above)

(Total for Question = 12 marks)

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