3.24 The Solar System, Orbital Motion and Satellites: 10-minute Pack

Total Marks

AQA 8463 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Satellites can be natural or artificial.

(a) Give one example of a natural satellite, other than the Moon. **(1)**

(b) State two uses of artificial satellites. **(2)**

(Total for Question 1 is 3 marks)

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2 A star with a mass similar to the Sun passes through several stages during its life cycle.

(a) Put these four stages in the correct order, starting with the earliest: main sequence star, protostar, red giant, white dwarf. **(3)**

(b) State what a white dwarf eventually becomes, once it has cooled down completely and stopped glowing. **(1)**

(c) State the source of energy that keeps a star stable and glowing during the main sequence stage. **(1)**

(Total for Question 2 is 5 marks)

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Mark scheme · 3.24 The Solar System, Orbital Motion and Satellites: 10-minute Pack

Question 1

(a) any moon of another planet, e.g. a moon of Jupiter or Saturn **B1**

(a) Answer: E.g. a moon of Jupiter.

(b) first correct use, e.g. communications (television/phone signals); weather monitoring/forecasting; satellite navigation (GPS-type systems); Earth observation/environmental monitoring; scientific research/astronomy **B1**

(b) second correct use, different from the first (from the same list) **B1**

(b) Answer: Any two of: communications, weather monitoring, satellite navigation, Earth observation, scientific research.

Question 2

(a) protostar placed before main sequence star **B1**

(a) main sequence star placed before red giant **B1**

(a) red giant placed before white dwarf **B1**

(a) Answer: protostar, main sequence star, red giant, white dwarf

(b) black dwarf **B1**

(b) Answer: Black dwarf.

(c) nuclear fusion of hydrogen (into helium) in the star's core **B1**

(c) Answer: Nuclear fusion of hydrogen into helium.

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