

**Name of the Student:** \_\_\_\_\_

**Max. Marks : 18 Marks**

**Time : 18 Minutes**

**Q1.**

Stars do not stay the same forever.

- (a) Over billions of years the amount of hydrogen in a star decreases. Why?

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**(1)**

- (b) Describe how a massive star (at least five times bigger than the Sun) will change at the end of the main stable period.

To gain full marks in this question you should write your ideas in good English. Put them into a sensible order and use the correct scientific words.

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**(4)**

- (c) The inner planets of the solar system contain atoms of the heaviest elements.

- (i) Where did these atoms come from?

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**(1)**

- (ii) What does this tell us about the age of the solar system compared with many of the stars in the Universe?

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**(1)**

**Q2.**

The Big Bang theory attempts to explain the origin of the Universe.

- (i) What is the Big Bang theory?

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(1)

- (ii) What can be predicted from the Big Bang theory about the size of the Universe?

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(1)

(Total 2 marks)

**Q3.**

- (i) Explain how stars like the Sun were formed.

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(2)

- (ii) The Sun is made mostly of hydrogen. Eventually the hydrogen will be used up and the Sun will “die”.

Describe what will happen to the Sun from the time the hydrogen is used up until the Sun “dies”.

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(3)

(Total 5 marks)

**Q4.**

The Big Bang theory attempts to explain the origin of the Universe.

- (i) What is the Universe?

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(1)

(i) What are the main ideas of the Big Bang theory?

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(2)

(iii) What is thought to be happening to the size of the Universe?

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(1)

**(Total 4 marks)**