Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : 6_Radioactivity

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

Sometimes food can become contaminated with radioactive substances.

Describe the harmful effects of eating food contaminated with radioactive substances.

(2)

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(Total for question = 2 marks)

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Q2.

Answer the question with a cross in the box you think is correct ☒ . If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒ .

This question is about radioactivity.

Alpha (α), beta (β) and gamma (γ) are three types of radioactive emissions.

Which statement describes **all** of these radioactive emissions?

(1)

- ☐ **A** ionising and emitted by stable nuclei
- ☐ **B** ionising and emitted by unstable nuclei
- ☐ **C** neutral and emitted by stable nuclei
- ☐ **D** neutral and emitted by unstable nuclei

(Total for question = 1 mark)

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Q3.

Nuclear fusion provides the energy source for stars including the Sun.

Describe what happens during nuclear fusion.

(3)

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(Total for question = 3 marks)

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Q4.

Describe what happens in the nucleus of an atom when a positron is emitted.

(2)

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(Total for question = 2 marks)

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Q5.

Carbon–14 is radioactive and has a half-life of 5 700 years.

The number of radioactive carbon–14 atoms in a very old piece of wood is found to have decreased from 1 000 000 to 125 000.

Determine the age of the piece of wood.

(2)

age of wood = ... years

(Total for question = 2 marks)

Q6.

This question is about radioactivity.

Fluorine-19 is a stable isotope of the element fluorine.

The element fluorine also has several radioactive isotopes.

Describe **one** similarity and **one** difference between the numbers of particles in one nucleus of fluorine-19 and one nucleus of a radioactive isotope of fluorine.

(2)

similarity

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difference

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(Total for question = 2 marks)

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Q7.

*The global demand for electricity is increasing.

There is a debate about whether nuclear power generation should or should not contribute to meeting this increasing demand.

Discuss the arguments for and against using nuclear power to meet the increasing global demand for electricity.

(6)

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(Total for question = 6 marks)

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