

# Fission and Fusion

## Question paper

<b>Level</b>	IGCSE(9-1)
<b>Subject</b>	Physics
<b>Exam Board</b>	Edexcel IGCSE
<b>Module</b>	Double Award (Paper 1P)
<b>Topic</b>	Radioactivity and Particles
<b>Sub-Topic</b>	Fission and Fusion
<b>Booklet</b>	Question paper

**Time Allowed:** 23 minutes

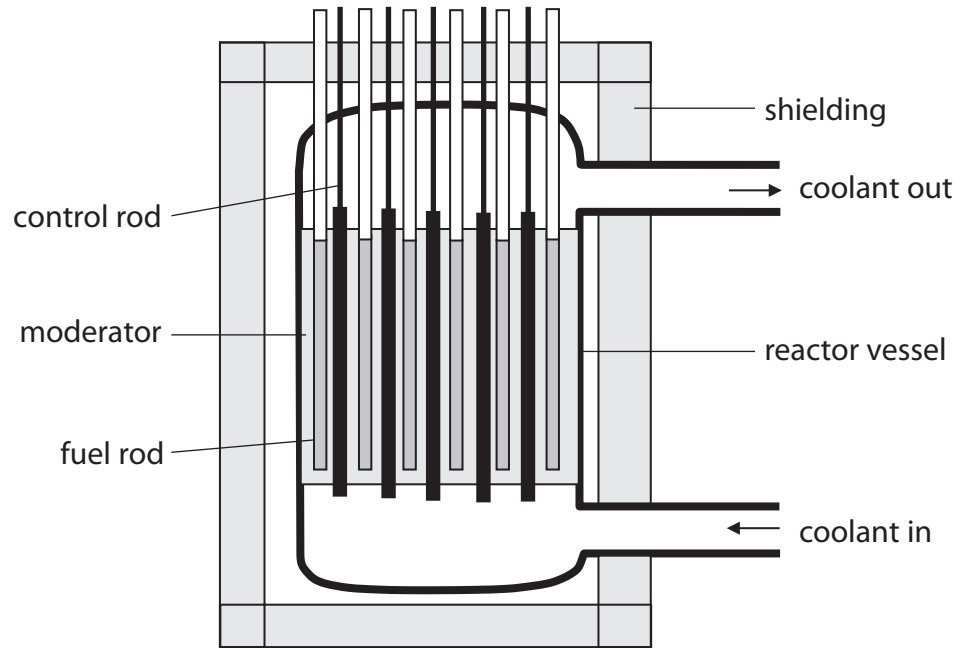
**Score:** /19

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	'75%	70%	60%	55%	50%	<50%

1 The diagram shows the main parts of a nuclear reactor.



(a) Draw a line linking each part of the reactor with its main function.

The first one has been done for you.

(2)

part of reactor	main function
control rod ●	● controls the rate of fission
coolant ●	● absorbs dangerous radiation
fuel rod ●	● contains uranium for fission
shielding ●	● removes energy from the reactor

(b) State the type of energy released in a fission reaction.

(1)

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(c) Explain the role of the moderator in a fission reaction.

(2)

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(d) Explain, in terms of neutrons, what is meant by controlled nuclear fission.

(3)

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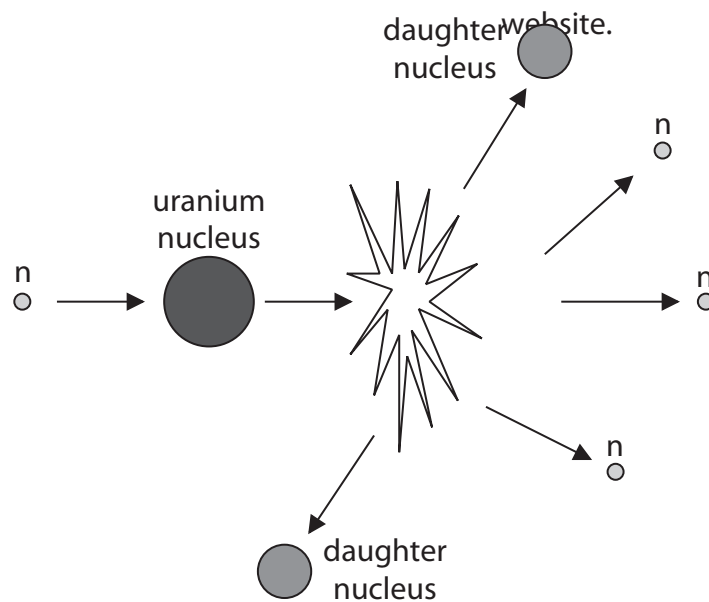
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**(Total for Question 1 = 8 marks)**

2 A student finds this representation of nuclear fission on a



(a) Describe what happens when nuclear fission of uranium occurs.

(3)

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(b) The daughter nuclei move off with high speed.

Name the type of energy that this gives them.

(1)

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**(Total for Question 2 = 4 Marks)**



(b) State the form of energy that is released during fission.

(1)

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(c) How does the shielding improve safety?

(1)

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**(Total for Question 3 = 7 marks)**