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Answer ALL questions.

- 1** (a) The table gives some properties of different types of radiation.

Type of radiation	Nature	Relative charge	Ionising ability
alpha (α)	helium nucleus		high
beta (β)		-1	medium
gamma (γ)	electromagnetic wave	0	low

- (i) Complete the table by giving the two missing properties. (2)

- (ii) Which type of radiation from the table has the lowest penetrating power? (1)

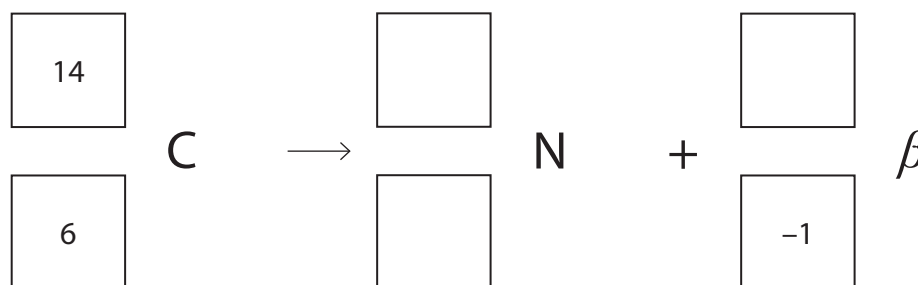
- (iii) Which types of radiation from the table can be completely absorbed by 5 mm of aluminium? (1)

and

- (b) Carbon-14 is a radioactive isotope of carbon.

It decays by beta emission to form an isotope of nitrogen.

Complete the nuclear equation for the decay of carbon-14. (2)



(Total for Question 1 = 6 marks)

