3**0** Technetium-99 has a half life of 6.0 hrs. It is used as a biological tracer. A sample of technetium-99 with an activity of 8.0×10^{10} Bq is injected into the bloodstream of a patient. 20 hours later, when the technetium-99 is assumed to be uniformly distributed throughout the blood of the patient, a 10 cm^3 blood sample is obtained. The activity from the sample is found to be 1.6×10^7 Bq.

What is the total volume of blood in the patient?

A 3100 cm^3 **B** 4700 cm^3 **C** 5000 cm^3 **D** 6300 cm^3

End of paper