

PART 1 - CHEMISTRY

Topic : Chemical kinetics

SECTION-B : (Maximum Marks : 4)

This section contains **ONE** question.

The answer to each question is a **NON-NEGATIVE INTEGER**.

For each question, enter the correct integer corresponding to the answer in the place designated to enter the answer.

Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct answer is entered;

Zero Marks : 0 In all other cases.

1. A sample initially contains only U-238 isotope of uranium. With time, some of the U-238 radioactively decays into Pb-206 while the rest of it remains undisintegrated.

When the age of the sample is $P \times 10^8$ years, the ratio of mass of Pb-206 to that of U-238 in the sample is found to be 7. The value of P is ____.

[Given: Half-life of U-238 is 4.5×10^9 years; $\log_e 2 = 0.693$]

[JEE Advanced 2024 Paper 2]

Scan or tap for the
full solution



Space for Rough Work

**JEE ADVANCED CHEMICAL KINETICS —
FIRST-ORDER DECAY – AGE OF A ROCK — PYQS**

Test Pattern : **JEE (Advanced)**

ANSWER KEY

[illegible]