

Model Question Paper SET3
Paper : MJ 10 (GEOCHEMISTRY AND ISOTOPE GEOLOGY)
Subject : Geology

Full Marks: 75

Time: 3 hours

Group A

(Short answer-type compulsory questions)

Q1. Fill in the blanks: [5x1=5]

- a) Sm–Nd dating involves the decay of _____ to _____.
- b) Isotopes produced by radioactive decay are called _____ isotopes.
- c) HFSE stands for _____
- d) most abundant element of solar system is.....
- e) Isotopes that do not undergo radioactive decay are called _____ isotopes

Q2. What is radioactive decay? Define half-life. [5]

Q3. Define geochemistry and discuss its scope . [5]

Group B [4 X 15]

Answer any four

(Subjective/ Descriptive questions)

Q4. Explain the concept of element partitioning and redistribution.

Q5. Define stable Isotope. What are the applications of stable Isotope in Geochemistry.

Q6. Define compatible and incompatible elements in minerals. How geochemical anomalies help in geochemical exploration.

Q7. Write a note on global geochemical cycle of Carbon.

Q8. Write a note on global geochemical cycle of Oxygen.

Q9. Write the petrographic characteristic of any 3 of the following rocks:

- i. Goldschmidt's geochemical classification of elements
- ii. REE
- iii. Half life
- iv. Radiogenic Isotope.
- v. Major , minor and trace elements

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