

20P446

(Pages: 1)

Name:

Reg. No:

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2021

(CUCSS - PG)

(Regular/Supplementary/Improvement)

CC19P GEL4 C10 - GEOCHEMISTRY AND ISOTOPE GEOLOGY

(Geology – Core Course)

(2019 Admission onwards)

Time: Three Hours

Maximum: 30 Weightage

(Draw neat sketches wherever necessary)

I. Short answer type questions. Answer any **four** questions. Each question carries 2 weightage.

1. Total Alkali-Silica discrimination diagram.
2. Siderophile elements.
3. Metastable equilibrium.
4. AAS
5. Geochemical tracers.
6. ¹⁴C dating.
7. Half-life.

(4 × 2 = 8 Weightage)

II. Short essay questions. Answer any **four** questions. Each question carries 3 weightage.

8. r- and s-processes.
9. Concordia diagram.
10. High field strength elements.
11. Chondritic meteorites.
12. Branched decay of ⁴⁰K.
13. Carbon cycle in Earth.
14. Principles of SHRIMP analysis.

(4 × 3 = 12 Weightage)

III. Long essay. Answer any **two** questions. Each question carries 5 weightage.

15. Describe the significance of rare earth elements in understanding geochemical evolution of mantle and crust.
16. Explain mass independent fractionation of Oxygen isotopes in Earth systems.
17. Discuss about the decays schemes of U-Th–Pb isotope system and its applications in metamorphism.
18. Describe geochemical cycle with special reference to carbon cycle.

(2 × 5 = 10 Weightage)
