15042

M.Sc. DEGREE EXAMINATION, OCTOBER/NOVEMBER 2015.

FIRST SEMESTER

Geology

Paper II — CRYSTALLOGRAPHY, MINERALOGY AND OPTICAL MINERALOGY

Time : Three hours Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Twining in crystals.
2. Etch figures.
3. Tecto silicates.
4. Zeolites.
5. Olivine.
6. Alumino silicates.
7. Extinction.
8. Birefringence.

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PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Explain in detail the derivation of 32 crystal classes.

Or

10. Write an explanatory notes on irregularities in crystals.

11. Explain isomorphism and Polymorphism with suitable examples.

Or

12. Describe the physical, chemical and optical properties of Feldspar group of minerals.

13. Give an account of mineralogy, chemistry and optical properties of pyroxene group.

Or

14. Write an essay on mica group of minerals.

15. What is Pleochroism? Explain the determination of Pleochroic scheme of biaxial minerals.

Or

16. Explain the parts of the microscope and its adjustments.

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