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Name: .....

Reg.No: .....

**THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2023**

(CBCSS - PG)

(Regular/Supplementary/Improvement)

**CC19P GEL3 C09 - IGNEOUS AND METAMORPHIC PETROLOGY**

(Applied Geology)

(2019 Admission onwards)

Time : 3 Hours

Maximum : 30 Weightage

**Part-A**

Answer any *four* questions. Each question carries 2 weightage.

1. Describe Bowen's Reaction Series.
2. Explain Igneous textures.
3. Explain the main concepts related with Phase rule.
4. Explain types of phase diagrams.
5. Explain CIPW norm and mode.
6. Describe Reaction textures.
7. Explain metasomatism.

**(4 × 2 = 8 Weightage)**

**Part-B**

Answer any *four* questions. Each question carries 3 weightage.

8. Explain REEs? Highlight their significance in the study of igneous rocks.
9. Explain the stable isotopes used in igneous rocks.
10. Explain Ab- An System.
11. Explain Niggli's variation diagram.
12. Describe Chemographic projections of metamorphic rocks.
13. Explain extraterrestrial metamorphism.
14. Explain metamorphism of Ultramafic rocks.

**(4 × 3 = 12 Weightage)**

**Part-C**

Answer any *two* questions. Each question carries 5 weightage.

15. Describe Diopside - Anorthite -Forsterite system and its petrogenetic significance.

16. Explain Petrography and petrogenesis of Kimberlites
17. Describe metamorphism in context of plate tectonics.
18. Describe Petrogenetic significance of metamorphic structures.

**(2 × 5 = 10 Weightage)**

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