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24-GE-22

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION  
JUNE - JULY 2024**

**GEOLOGY**

Paper - II

**[Igneous and Metamorphic Petrology]**

*[Max. Marks : 75]*

*[Time : 3:00 Hrs.]*

*[Min. Marks : 26]*

**Note :** Candidate should write his/her Roll Number at the prescribed space on the question paper.  
Student should not write anything on question paper.  
Attempt five questions. Each question carries an internal choice.  
Each question carries **15 marks**.

**Q. 1** What is Magma ? Discuss the composition, factors affecting composition and origin.

**OR**

Write short notes on the following -

- i) Phase rule and Unicomponent silicate system.
- ii) Magmatic differentiation and assimilation.

**Q. 2** Describe the IUGS classification of Plutonic Igneous rocks.

**OR**

Write short notes on the following -

- i) Forms of Igneous Rocks.
- ii) Origin of Basaltic and Granitic Magma.

**Q. 3** Describe Indian occurrence, petrography and origin of Granite.

**OR**

Write short notes on the following -

- i) Kimberlites (Petrography and Indian Occurrence).
- ii) Carbonatite (Petrography and Indian Occurrence).

**Q. 4** Describe the agents and kinds of Metamorphism.

**OR**

**P.T.O.**

Write short notes on the following -

- i) Classification of Metamorphic rocks.
- ii) Structure of the Metamorphic rocks.

**Q. 5** What is Metamorphic Facies ? Describe the classification.

**OR**

Write short notes on the following -

- i) Metasomatism and its types.
- ii) Contact and Thermal Metamorphism.

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