

[This question paper contains 2 printed pages.]

Your Roll No. ....

5902

B

**B.Sc. (Hons.) Geology / Sem. III**

Paper - GEHT 308 : Igneous Petrology

Time : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Answer Five questions in all.

All questions carry equal marks.

1. Discuss tectono-magmatic settings and generation of various magma types giving suitable illustrations.
2. Discuss any *two* of the following in details :
  - (a) Granite and related rocks.
  - (b) Lamprophyres.
  - (c) MORB.
3. Describe and illustrate the course of crystallization of the following :
  - (a) Albite - Anorthite system.
  - (b) Anorthite - Diopside system.
4. Write explanatory notes on any *two* of the following :
  - (a) Intergrowth and reaction textures and structures
  - (b) Komatiites
  - (c) Ocean Island Basalts.

[P. T. O.]

5. What do you understand by Normative and Modal compositions of a rock? Discuss IUGS classification of mafic and felsic rocks. 5002
6. How would you distinguish any *two* of the following :
  - (a) P-MORB and N-MORB
  - (b) Andesite and Dacite
  - (c) Island arc and Continental arc basalts.
7. Write short notes on any *two* of the following :
  - (a) Graphic texture
  - (b) Perthite and antiperthite
  - (c) Batholiths.
8. What do you understand by the term 'Magma' ? Discuss about its physical and chemical characteristics. Comment upon differentiation of the magma.