

2019

B.Sc.

3rd Semester Examination

**GEOLOGY (Honours)**

Paper - C 5-T

**(IGNEOUS PETROLOGY)**

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

**Group - A**

Answer any *five* questions :

5×2=10

1. What is poikilitic texture ?
2. What is the difference between dyke and sill ?
3. Define the term cryptocrystalline rock. Give example.
4. Write Indian occurrence of basalt and anorthosite.
5. Write two differences between I type and S type granite.

*[ Turn Over ]*

6. What is eutectic and peritectic point ?
7. What is the difference between 'aa' and 'pahoehoe' lava ?
8. What is ophiolite ? Give example.

Group - B

Answer any *four* questions : 4×5=20

9. Write a short note on types of textures commonly found in Basalt.
10. Describe the crystallization history of Fo rich melt in Fo-silica system in equilibrium condition.
11. Classify Igneous rock according to Hatch and Walls.
12. (i) Give an account on porphyritic texture.  
(ii) What is orbicular texture ? 3+2
13. (i) Classify granite according to their depth of origin.  
(ii) Classify alkaline rock according to agpicity index. 2.5+2.5
14. (i) Write a note on phase rule.  
(ii) Write the petrogenetic significance of Ab - An system. 3+2

**Group - C**

Answer any *one* question :

1×10=10

15. (a) Describe the equilibrium crystallisation of Di-rich liquid in Di-Ab-An System.
- (b) Write the essential minerals and Indian occurrence of the following rocks — Lamprophyre, Granite, Kimberlite. 7+3
16. (a) Write a note on genesis of tholeiitic basalt and alkaline basalt.
- (b) Write the geochemical and structural evidences of metasomatic origin of granitic rock. 4+6
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