



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Honours Examinations 2021

(Under CBCS Pattern)

Semester - III

Subject : GEOLOGY

Paper : C 5 - T & P

(Igneous Petrology)

Full Marks : 60 (Theory-40 + Practical-20)

Time : 3 Hours

*Candidates are required to give their answers in their own
words as far as practicable.*

The figures in the margin indicate full marks.

(Theory)

Group-A

A. Answer any **three** of the following questions :

12×3=36

1. (a) Write the mineralogical composition of the following rocks : Lamprophyre, Basalt, Syanite.
(b) Describe the phase rule with the help of any two components system.
2. (a) Discuss about the petrogenetic significance of Ab-An system.

6+6

- (b) Describe the equilibrium crystallization Albite rich liquid with the help of Ab-An system. 4+8
3. (a) Write the characteristics of magma.
- (b) Describe briefly about different kinds of intrusive bodies. 6+6
4. (a) Write the differences between alkali basalt and tholeiitic basalt.
- (b) Write a note on basalt tetrahedron. 6+6
5. (a) A granitic rock incorporated within basaltic magma—describe the assimilation process.
- (b) Write a short note on different types of equigranular textures with example. 6+6
6. Describe the crystallization history of Fo-rich liquid with the help of Di-Fo-Silica system. 12

Group-B

B. Answer any *two* of the following questions : 2×2=4

1. Write the names of volcanic equivalent rocks of Gabbro and Granite.
2. What is Poikilitic texture?
3. What is the difference between dyke and sill?
4. 'Volatile content of magma controls its viscosity'—this statement is true or false. Justify your answer.

(Practical)
Paper - C 5 P
(Igneous Petrology-II Lab)
Marks : 20

Group-A

A. Answer any *one* of the following questions :

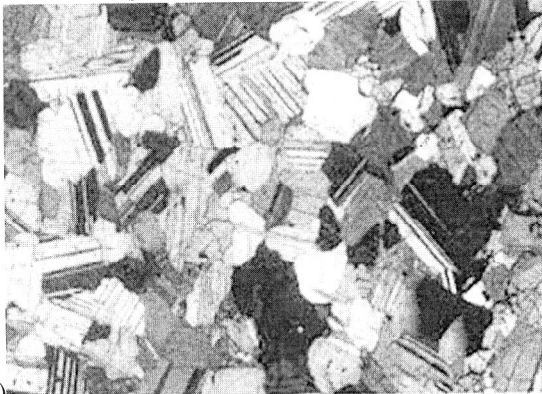
15×1=15

1. Write the characteristic properties of the rock in hand specimen (Any *one*) : Basalt, Granite, Diorite. 15
2. From the given modal proportion of a peridotite classify the rock according to the IUGS classification diagram.

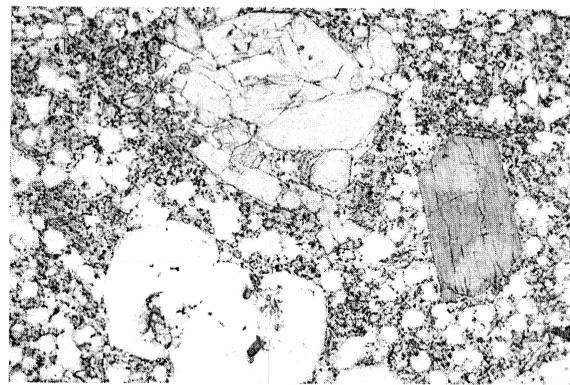
Olivine = 40%, Orthopyroxene = 20%, Clinopyroxene = 40%.

15

3. Identify and describe the textures from the given figure. 1 (A & B). (Figure attached). 15



(A)



(B)

Figure for Question no. 3

Group-B

B. Answer the following question :

5×1=5

4. How to write a practical note book on petrology.

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Vidyasagar University