

2018

CBCS

3rd Semester

GEOLOGY

PAPER—C5T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Igneous Petrology

Group—A

i. Answer any five questions :

5×2

(a) What is laccolith ?

(b) Write the plutonic equivalent rock of rhyolite and basalt.

(Turn Over)

- (c) What is spinifex texture ?
- (d) Write the phase rule in igneous system.
- (e) Write two differences between layered type and massive type anorthosite.
- (f) Define agpaicity index.
- (g) What is difference between ultramafic and ultrabasic rock ?
- (h) What is incongruent melting ?

Group--B

2. Answer any *four* questions : 4×5

- (a) Write a short note on basalt tetrahedron. 5
- (b) Describe the crystallization history of anorthite rich liquid in Ab-An System in equilibrium condition. 5
- (c) (i) Write the petrogenetic significance of Di-An system.

- (ii) What is the difference between spherulitic and variolitic texture ? 3+2
- (d) (i) Write three differences between I-type and S-type granite.
- (ii) Write the controlling factors of rate of nucleation in magma. 3+2
- (e) (i) Classify the equigranular texture of igneous rock with proper example.
- (ii) What is the major difference between Geophysical Moho and Petrological Moho in ophiolitic sequence ? 3+2
- (f) (i) Write the classification of granitic rock under IUGS scheme.
- (ii) What is poikilitic texture ? 4+1

Group—C

3. Answer any one question : 1×10

- (a) Write the essential minerals of the following rocks—
Kimberlite, Komatiite, Diorite, Sayanite, Anorthosite, Rhyolite.

- (b) Describe the equilibrium crystallization of 'Fo' rich liquid in Di-Fo-SiO₂ system. 3+7
4. (a) Write a short note on different characteristic properties of magma.
- (b) Write the geochemical and structural evidences of plutonic granitic magma emplacement in relation with granite petrogenesis. 4+6
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