UG/2nd Sem/Geolo/H/19 (Pr.)

2019

B.Sc.

2nd Semester Examination

GEOLOGY (Honours)

Paper - GE2P

[Practical]

Full Marks : 20 Time : 3 Hours

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

Answer *all* questions.

1. The following table represents chemical analysis for a group of rocks, create MgO vs. SiO_2 and CaO vs. SiO_2 diagram.

Oxide	Basalt	Basaltic Andesite	Andesite	Dacite	Rhyolite
SiO_2	50.2	54.3	60.1	64.9	71.5
MgO	7.4	3.7	8.8	1.7	0.5
CaO	10.0	8.2	5.9	3.6	1.1

[Turn Over]

2. Considering the Airy's isostatic compensation for a mountain having elevation of 2 km above the mean sea level at a point P. What would be the thickness of its root below P.

   (Crustal rock density = 2.7 gm / cm^3 and Mantle = 3.3 gm / cm^3) 5

3. Plot the following data on AFM diagram :

Oxide	Basalt	Andesite	Dasite	Rhyolite
SiO_2	50.2	60.1	64.9	66.2
TiO_2	1.1	0.7	0.6	0.5
Al_2O_3	14.9	16.1	16.4	15.3
Fe_2O_3	10.4	6.9	5.1	5.1
MgO	7.4	2.8	1.7	0.9
CaO	10.0	5.9	3.6	3.9
Na_2O	2.6	3.8	3.6	3.9
K_2O	1.0	2.5	2.5	8.1
Other	1.9	1.8	1.6	1.2

6