

B.Sc. Semester-III Examination, 2022-23**GEOLOGY [Honours]**

Course ID : 32011 Course Code : SH/GEL/301/C-5(T)

Course Title : Igneous Petrology

Time : 1 Hour 15 Minutes

Full Marks : 25

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

1. Answer any **five** of the following questions: $1 \times 5 = 5$
 - a) Name the factors which control the rock melting in the crust and upper mantle.
 - b) Write the name of two igneous rock-forming minerals which indicate the undersaturation of a magma with respect to SiO_2 .
 - c) Name an igneous rock which is produced only by assimilation.
 - d) Name the plutonic igneous rock composed of olivine and plagioclase.
 - e) Which rock usually shows the pillow structure?
 - f) Define a petrographic province.
2. Answer any **two** of the following questions: $5 \times 2 = 10$
 - a) Describe with sketches the primary structures used for determination of right side up of a stratigraphic sequence.
 - b) Compare between I- and S-type granite.
 - c) Briefly describe the reasons for the formation of porphyritic textures in igneous rocks.
 - d) How do you distinguish between sill and buried lava flow?
3. Answer any **one** of the following questions: $10 \times 1 = 10$
 - a) Write a brief note on the physical properties of magma.
 - b) Describe the principles of IUGS classification of plutonic igneous rocks with $M < 90$.