

**B. Sc. 3<sup>rd</sup> Semester (Honours) Examination, 2021**

**GEOLOGY**

**Course ID: 32011**

**Course Code: SHGEL-301C-5(T)**

**Course Title: Igneous Petrology**

**Time: 1 Hour 15 Minutes**

**Full Marks: 25**

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

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

1. Answer any five of the following questions: 1x5 = 5
    - a. Name a rock which usually shows the pillow structure?
    - b. What is laccolith?
    - c. What is orbicularite?
    - d. How does norite differ from gabbro?
    - e. Which igneous rock contains >90% plagioclase?
    - f. Define incongruent melting of a mineral.
    - g. Define petrographic province.
    - h. How does granite differ from granodiorite?
  
  2. Answer any two of the following questions: 5x2 = 10
    - a. How do you explain the close spatial association of aplite and pegmatite?
    - b. Compare the following textures: (i) poikilitic and intergrowth textures; (ii) graphic and granophyric textures?
    - c. How does ophitic texture grades to other textures with change of relative size of pyroxene and plagioclase?
    - d. Compare between norm and mode of igneous rocks.
  
  3. Answer any one of the following questions: 10x1 = 10
    - a. Write a brief note on the physical properties of magma.
    - b. Draw an isobaric (0.1 MPa) phase diagram of the diopside (Di) - anorthite (An) system showing different phase fields. Describe the course of crystallization of a diopside-rich liquid mentioning the composition and most plausible texture of final product. 4 + 6 = 10
-