(f) Define dome faces of a crystal.

(g) What do the acronyms FCC and HCP stand for?

(h) Which factors control the birefringence of a mineral?

2. Answer any ***two*** questions : 5×2=10

(a) Write short notes on :

(i) isomorphism, and (ii) piezoelectricity.

(b) Briefly describe the process of determination of Miller's Indices of crystal faces.

(c) Describe different types of unit cell with suitable diagrams.

(d) Briefly describe the relationship among ionic radius ratio, coordination number and arrangement of anions around cation.

3. Answer any ***one*** question : 10×1=10

(a) Briefly describe with diagram the principle and method of construction of Nicol prism.

(b) Write the common formula of pyroxene group of minerals. Write name of different minerals in pyroxene quadrilateral with diagram.

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B.Sc. 1st Semester (Honours) Examination, 2022-23

GEOLOGY

Course ID : 12012 Course Code : SH/GEL/102/C-2T

Course Title : Mineral Science

Time : 1 Hour 15 Minutes *Full Marks :* 25

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.

1. Answer any ***five*** questions : 1×5=5

(a) Name the crystal system in which the isotropic minerals crystallise.

(b) Give one example of mineral which occur in fibrous form.

(c) Write the name of a felsic mineral which is undersaturated with respect to SiO_2.

(d) Name one high temperature polymorph of SiO_2.

(e) Mention two calcium-bearing minerals of Mohs' Scale of Hardness.