SH-I/GEL/102/C-2/19

B.Sc. 1st Semester (Honours) Examination, 2019-20

GEOLOGY

Course ID : 12012 **Course Code : SHGEL-102C-2**

Course Title: Mineral Science

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

The figures in the right hand side 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: 1×5=5

(a) What is a mineral?

(b) What does the acronym FCC stand for?

(c) Define dome face of a crystal.

(d) Which mineral has hardness (H) 5 in Mohs Scale of Hardness?

(e) Name one mineral which shows both piezoelectricity and pyroelectricity.

(f) Write one example of uniaxial positive mineral.

(g) Mention one mineral which usually occurs in bladded form.

(h) Name the crystal systems in which the biaxial minerals crystallize.

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

(a) Describe the symmetry elements of normal classes of seven crystal systems.

(b) Briefly describe the conventional unit cells of the 14 Bravais Lattices in tabular form.

(c) Write short notes on: 2.5+2.5=5

(i) Non-primitive unit cell

(ii) Law of constancy of interfacial angles

(d) Describe the principle of construction of Nicol prism.

3. Answer *any one* of the following questions: 10×1=10

(a) Write down the relationship among ionic radius ratio and coordination number. Diagrammatically show various arrangements of cations and anion in different coordination number.

(b) Briefly discuss with diagram the principle of use of petrological microscope.

———