

**2SGEO-T2 - Geology Paper-II (Crystallography and Optical Mineralogy)**

P. Pages : 2

Time : Three Hours



**GUG/W/19/1241**

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw neat sketches wherever necessary.

1. Define crystal? Give an account of Laws of crystallography with examples.

**OR**

Give an account of Zircon class of Tetragonal crystal system with reference to symmetry elements, forms along with their miller indices.

2. Describe the symmetry elements and forms present in Axinite class of Triclinic crystal system with miller indices.

**OR**

Describe with neat sketches optical properties of Quartz, Biotite, Hypersthene and Hornblende.

3. Write brief notes on the following: -

- a) Crystal structure of NaCl.
- b) Hexoctahedron.
- c) Symmetry elements of Gypsum class.
- d) Pleochroism.

**OR**

Write brief notes on the following-

- e) Weiss parameters.
- f) Cube.
- g) Orthodome.
- h) Isotropism.

4. Describe the following-

- a) Miller indices.
- b) Dodecahedron.

- c) Hexagonal prism.
- d) Extinction.

**OR**

Describe the following-

- e) Plane of symmetry.
- f) Macrodome.
- g) Hemi-prism.
- h) Refractive index.

**5.** Write on the following in not more than two sentences solve **any ten**.

- a) Zone.
- b) Edge.
- c) Open form.
- d) Name any two minerals belonging to cubic crystal system other than Galena.
- e) Octahedron.
- f) Bipyramid.
- g) Brachydome.
- h) Hexagonal pyramid.
- i) Basal pinacoid.
- j) Twinkling.
- k) Cross hatching.
- l) Ordinary light.

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