

M.Sc.(Geology) (NEP Pattern) Semester-I
NEP-51 / PSCGEOT01-Paper-I : Mineralogy and Crystallography

P. Pages : 2

Time : Three Hours



GUG/W/23/15103

Max. Marks : 80

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

1. Describe the method of determination of Optic sign of biaxial minerals.

OR

Write short notes on:

- a) Scanning Electron Microscope (SEM)
 - b) Reflection, refraction and refractive index.
 - c) Application of EPMA in mineralogy
 - d) Magnetic properties of Minerals.
2. Describe in detail about the Carbonate minerals with special emphasis on calcite group.

OR

Write short notes on:

- a) Bauxite group
 - b) Oxides and Hydroxides
 - c) Hematite Group
 - d) Rutile Group
3. Discuss in detail general formula, classification, atomic structure, chemistry and paragenesis of Epidote Group.

OR

Write short notes on:

- a) Pyroxene Group
- b) Serpentine Group
- c) Aluminosilicate Group
- d) Feldspathoides Group

4. Give a detailed account of imperfection of crystal and crystal defects.

OR

Write short notes on:

- a) Twinning
- b) Crystal systems and symmetry types.
- c) Crystallographic notation.
- d) Indices.

5. Write short notes on the following:

- a) Becke line
- b) Bragg's equation
- c) Halide group
- d) Soda niter
- e) Zeolite group
- f) Talc
- g) Axial ratio
- h) Miller indices
