

M.Sc.(Geology) (CBCS Pattern) Semester-I
PSCGEOT01 - Paper-I : Mineralogy & Crystallography

P. Pages : 2

Time : Three Hours



GUG/W/24/11162

Max. Marks : 80

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- Notes : 1. All questions carry equal marks.
2. Draw neat diagrams wherever necessary.

1. Give an account of various optical properties which are studied under cross Nicols.

OR

Give an account of the following:

- a) Radioactive properties of minerals.
- b) Thermal properties of minerals.
- c) Bragg's equation
- d) Interference figures

2. Give an account of various Silicate structures.

OR

Write notes on the following:

- a) Polymorphism.
- b) Pseudomorphism
- c) Coordination and co-ordination numbers.
- d) Bonding in minerals.

3. Give a brief of Pyroxene group with special reference to general formulae, classification, atomic structure and paragenesis.

OR

Describe the following:

- a) Amphibole group.
- b) Quartz group
- c) Olivine group
- d) Chlorite group

4. Describe symmetry and forms of orthorhombic crystal system.

OR

Give an account of the following:

- a) Twinning.
- b) Axial and symmetry elements of tetragonal crystal system
- c) Axial ratio
- d) Crystallographic axes

5. Write short notes on the following:

- a) Differential thermal analysis.
- b) Pleochroic haloes
- c) Rutile group
- d) Periclase
- e) Members of Mica group
- f) Members of zeolite group.
- g) Axis of symmetry
- h) Plane of symmetry
