

D 92269

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Name.....

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Reg. No.....

**THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2015**

(CUCBCSS—UG)

Core Course—Geology

GL 3B 05—CRYSTALLOGRAPHY

Time : Three Hours

Maximum : 80 Marks

*Draw neat sketches wherever necessary.*

**Part A (Objective Type Questions)**

*Answer all ten questions.*

1. The substance which is lacking both internal structure and definite external form.
2. The instrument used to measure interfacial angle.
3. Miller indices of Trapezohedron.
4. The crystal class which possesses maximum number of symmetry elements.
5. The crystal forms in which faces are always parallel to vertical axis.
6. The type mineral of tripyramidal class of tetragonal system.
7. The distance from the centre of the crystal to the point at which corresponding crystallographic axis meets the face.
8. Name the form in which three crystallographic axes meets the face at unit distance and fourth Parallel in rhombohedral class.
9. The plane in which reversed crystals are united.
10. The nature of twinning in Fluorite.

(10 × 1 = 10 marks)

**Part B (Short Answer Type Questions)**

*Answer any ten questions.*

11. Enantiomorphic forms.
12. Crystalline substance.
13. Solid angles.
14. Dodecahedron.
15. Twinning axis.

**Turn over**

16. Law of rational indices.
17. Tetragonal third order pyramid.
18. Brachy axis.
19. Carlsbad Twinning.
20. Weiss symbol.
21. Unit form.
22. Crystallographic axes of Hexagonal system.

(10 × 2 = 20 marks)

### Part C (Paragraph Type Questions)

Answer any **five** questions.

23. Goniometers.
24. Symmetry elements of Normal class of Isometric system.
25. Crystallographic notations.
26. Forms present in normal class of monoclinic system.
27. Arrangement of axes in different crystal systems.
28. Forms present in tetrahedral class of monoclinic system.
29. Distinguish between hexoctahedron and hextetrahedron.
30. Distinguish between Tetragonal prisms and hexagonal prisms.

(5 × 6 = 30 marks)

### Part D (Essay Type Questions)

Answer any **two** questions.

31. Describe symmetry elements and forms present in the tetrahedral class of Isometric system.
32. Describe symmetry elements and forms present in the Normal class of tetragonal system.
33. Describe symmetry elements and forms present in the Normal class of hexagonal system.
34. Describe symmetry elements and forms present in the Normal class of orthorhombic system.

(2 × 10 = 20 marks)