15U315 (Pages: 2) Name: .....

Reg. No.....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2016

(CUCBCSS - UG)

Geology - Core Course

CC15U GL3 B05 - CRYSTALLOGRAPHY

(2015 Admission)

Time: Three Hours Maximum: 80 Marks

Draw neat sketches wherever necessary.

I. Answer ***all*** questions:

1. The line of intersection of two adjacent faces of a crystal.
2. Crystal forms that exhibit the highest degree of symmetry possible in a system are called _____ forms.
3. The type mineral of Normal class of Orthorhombic system.
4. The maximum number of planes of symmetry possible in a crystal.
5. What is the typical form in Isometric system, which is bounded by twelve faces, each of which is a pentagon, but with one edge longer than the other four similar edges called?
6. Tetrahedron is the hemihedral form of _____.
7. The crystal class in which all the forms are pedions.
8. The type mineral of Trapezohedral class of Hexagonal system is _____.
9. The plane by which the component crystals of a twin are joined.
10. The mineral which shows typical swallow-tail twins. **(10 x 1 = 10 Marks)**

II. Answer ***any ten*** questions in **one** or **two** sentences each:

11. Crystal.
12. Contact Goniometer.
13. Crystal notation.
14. Axial ratio.
15. Axis of symmetry.
16. Pinacoid
17. Diploid.
18. Hextetrahedron.
19. Tetragonal prisms.

20. Polysynthetic twins.
21. Contact twins.
22. Twin axis.

(10 x 2 = 20 Marks)

III. Answer ***any five*** questions in a paragraph each:

23. Law of rational indices.
24. Law of constancy of interfacial angles.
25. Weiss and Miller indices.
26. Plagiohedral class of Cubic system.
27. Sphenoidal class of Tetragonal system.
28. Typical forms of Rhombohedral class of Hexagonal system.
29. Symmetry elements of Normal class of Tetragonal system.
30. Typical forms of Normal class of Orthorhombic system.

(6 x 5 = 30 Marks)

IV. Write essays on ***any two*** of the following:

31. Describe the symmetry elements and forms present in the Isometric system-Normal class.
32. Describe the symmetry elements, forms and type mineral of the Normal class of Hexagonal system.
33. Compare and contrast the forms of Normal classes of Monoclinic and Triclinic systems.
34. Give an account of the various laws of twinning with examples.

(2 x 10 = 20 Marks)

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