

17U321

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Name:

Reg. No.....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(Regular/Supplementary/Improvement)

(CUCBCSS-UG)

CC15U GL3 B05 - CRYSTALLOGRAPHY

(Geology - Core Course)

(2015 Admission onwards)

Time: Three Hours

Maximum: 80 Marks

Draw neat sketches wherever necessary.

Part A

Answer *all* questions. Each question carries 1 mark.

1. The crystal form with only one face.
2. A regular polyhedral body with a definite chemical composition.
3. The maximum possible crystal classes in the crystal kingdom.
4. The crystal system which has centre of symmetry only.
5. Number of faces in Scalenohedron.
6. Crystal form in which faces are always parallel to vertical axis.
7. The most common type of twin shown by plagioclase.
8. The Weiss notation equivalent of Miller index (210).
9. The crystal form from which Diploid derived.
10. Type mineral of normal class of monoclinic system.

(10 x 1 = 10 Marks)

Part B

Answer any *ten* questions. Each question carries 2 marks.

11. Axial ratio.
12. Enantiomorphic forms.
13. Weiss notation.
14. Unit face.
15. Euler's Theorem.
16. Crystal.
17. Centre of symmetry.
18. 'Zone' in a crystal.
19. Twin plane and twin axis.
20. Distinguish between Orthodome and clinodome.

21. Solid angle.
22. Brachy axis.

(10 x 2 = 20 Marks)

Part C

Answer any *five* questions. Each question carries 6 marks.

23. Normal class of Monoclinic system.
24. Sphenoidal class of Tetragonal system.
25. Triclinic system.
26. Symmetry elements in the normal class of orthorhombic system.
27. Law of rational indices.
28. Goniometers.
29. Distinguish between hexoctahedron and hextetrahedron.
30. Crystallographic notations.

(5 x 6 = 30 Marks)

Part D

Answer any *two* questions. Each question carries 10 marks.

31. Describe the symmetry elements and forms present in the Rhombohedral class of the Hexagonal system.
32. Define twinning and types. Explain twin law different types of twin laws seen in the crystal systems.
33. Write an essay on the elements of symmetry with neat sketches and examples.
34. Describe the symmetry elements and forms present in the normal class of the Tetragonal system.

(2 x 10 = 20 Marks)
