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Name:.....

Reg. No:.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2019

(Regular/Supplementary/Improvement)

(CUCSS - PG)

CC15P GEL2 C05 – CRYSTALLOGRAPHY AND MINERALOGY

(Applied Geology)

(2015 Admission onwards)

Time: Three Hours

Maximum: 36 Weightage

(Draw neat sketches wherever necessary)

I. Write short answers to **all** questions. Each question carries 1 weightage.

1. Birefringence.
2. MLC.
3. Bragg's law.
4. Double refraction.
5. Axial ratio.
6. Napier's rule.
7. Inclined extinction.
8. X-Ray diffractometer.
9. Pleochroic haloes.
10. 2V.
11. Isochromatic bands.
12. Zone and zone symbols.
13. Sign of elongation.
14. Interfacial angle.

(14 × 1 = 14 Weightage)

II. Write short essay on any **seven** questions. Each question carries 2 weightage.

15. Construction of gypsum and mica plates and their uses.
16. Scheme of pleochroism.
17. Translation periodicity of crystals.
18. Structure of clay minerals.
19. Repetition theory.
20. Alumino-silicates.
21. Anharmonic ratio.

22. Lattice symmetry.
23. Stereographic projection of crystals.
24. Dispersion and types of dispersion.

(7 × 2 = 14 Weightage)

III. Write long essays on *two* questions. Each question carries 4 weightage.

25. Explain schoenflies and Herman Mauguin notations.

Or

26. Give a detailed account on the structure, physical and chemical properties of garnet group of minerals.

(1 × 4 = 4 Weightage)

27. Detail the optical properties of uniaxial and biaxial minerals and distinguish between indicatrices produced by them.

Or

28. Give the procedures for conoscopic study of minerals under thin sections and describe the various types of interference figures.

(1 × 4 = 4 Weightage)
