83642 (Pages : 2) Name...................................

Reg. No...............................

SECOND SEMESTER M.Sc. (APPLIED GEOLOGY) DEGREE EXAMINATION, JUNE 2015

(CUCSS)

Geology

GEL 2C 05—CRYSTALLOGRAPHY AND MINERALOGY

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Draw diagrams wherever necessary.

I. Short answer type questions. Answer *all* questions :

1 Zone.

2 Line lattice.

3 Inversion axes.

4 Optic normal.

5 Parallel extinction.

6 Mica plate.

7 Interference colour.

8 Pleochroism.

9 Cubic closest packing.

10 Herman-Mauguin symbols.

11 Cyclosilicates.

12 X-ray diffractometer.

13 Dispersion.

14 Isochromatic curves.

(14 × 1 = 14 weightage)

II. Short essay questions. Answer any *seven* questions :

15 Translation periodicity of crystals.

16 Uniaxial indicatrix.

17 Becke line.

18 Stereographic projection of cubic crystals.

19 Kinds of Symmetry Operations.

Turn over

20 Point group symmetry.

21 Plagioclase feldspar.

22 Determination of optic axial angle.

23 Napier's rule.

24 Anharmonic ratio.

$(7 \times 2 = 14$ weight

III. Long Essay. Answer *two* questions :

25 Explain the characters of single chain silicates. Give an account of Pyroxene group of miner

Or

26 Describe physical, chemical and optical properties of Olivine group of minerals.

27 What is X-ray crystallography ? Explain the procedure of identifying crystalline compou by the powder method.

Or

28 What are space lattices ? Describe different types of space lattices with the help of sketches.

$(2 \times 4 = 8$ weight