

C 81831

(Pages : 2)

Name.....

Reg. No.....37.....

**FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL/MAY 2015**

(UG—CCSS)

Core Course—Geology

GL 4B 07—MINERALOGY

(2013 Admissions)

Time : Three Hours

Maximum : 30 Weightage

*Draw neat sketches wherever necessary.*

I. Objective type questions. Answer *all* twelve questions.

Choose the correct answer :

1 The first person to be credited with the publication of the Periodic Table :

- (a) Georgius Agricola. (b) Amedeo Avagadro.  
(c) Dmitri Mendeleev. (d) Victor Goldschmidt.

2 Minerals that are attracted by a magnetic field are said to be :

- (a) Paramagnetic. (b) Ferromagnetic.  
(c) Ferrimagnetic. (d) Diamagnetic.

3 The mineral which exhibits anomalous interference colours :

- (a) Topaz. (b) Garnet.  
(c) Zeolite. (d) Zoisite.

4 Silicate structure of garnet :

- (a) Tecto-silicate. (b) Neso-silicate.  
(c) Phyllo-silicate. (d) Cyclo-silicate.

Fill in the blanks :

- 5 Andalusite, kyanite and sillimanite and good examples of minerals showing ———.
- 6 ——— extinction is shown by most prismatic sections of minerals crystallizing in the monoclinic and triclinic crystal systems.
- 7 ——— is an orthorhombic amphibole.
- 8 The chemical composition of Beryl is ———.

Turn over

Name the following :—

- 9 A mineral with Van der Waals bonds.
- 10 The birefringence of Quartz.
- 11 The instrument used to determine the optic orientation, 2V and optic sign of minerals.
- 12 The mineral group to which Forsterite and Fayalite belong to.

(12 × ¼ = 3 weightage)

II. Short answer type questions. Answer *all* nine questions. Each question carries 1 weightage :

- 13 Mineral and Mineraloid.
- 14 Isomorphism.
- 15 Opalescence and Phosphorescence.
- 16 Refractive index.
- 17 Polaroid.
- 18 Anisotropic minerals.
- 19 Sign of elongation.
- 20 Optical properties of garnet.
- 21 Uses of calcite and dolomite.

(9 × 1 = 9 weightage)

III. Short essays type questions. Answer any *five* questions. Each question carries 2 weightage :

- 22 Types of chemical bonding in minerals.
- 23 Jolly's spring balance method.
- 24 Parts of the Petrological microscope.
- 25 Optical accessories and their uses.
- 26 Uniaxial Indicatrix and Biaxial Indicatrix.
- 27 Mineralogical composition and properties of Pyroxenes.
- 28 Physical and Optical properties of Tourmaline.

(5 × 2 = 10 weightage)

IV. Essay type questions. Answer any *two* questions. Each question carries 4 weightage :

- 29 Describe the structure and classification of silicates.
- 30 Describe the mineralogy, structure, chemical composition, physical and optical properties, modes of occurrence and uses of Mica.
- 31 Give an account of the minerals Quartz and Corundum with reference to their mineralogical composition, physical and optical properties, modes of occurrence and industrial uses.

(2 × 4 = 8 weightage)