

C 5147

(Pages : 3)

Name.....

Reg. No.....

**FOURTH SEMESTER B.Sc. DEGREE (SUPPLEMENTARY/IMPROVEMENT)
EXAMINATION, MAY 2016**

(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 total number of confirmed elements in the Periodic Table, as of 2014 :

- (a) 98. (b) 118.
(c) 112. (d) 114.

2 Polaroids show polarization by :

- (a) Dispersion. (b) Reflection.
(c) Polarization. (d) Absorption.

3 The optical property of minerals determined by the Becke line method :

- (a) Sign of elongation. (b) Pleochroism.
(c) Refractive index. (d) Extinction.

4 Type of extinction shown by mica group of minerals :

- (a) Parallel. (b) Oblique.
(c) Wavy or undulose. (d) Symmetrical.

Fill in the blanks.

5 _____ is the assumption by a mineral of a form belonging to another mineral.

6 If the optical direction 'X' in a mineral is the acute bisectrix, the mineral is said to be optically _____.

7 Enstatite, Bronzite and Hypersthene are _____ pyroxenes.

8 The most important use of the mineral apatite is as _____.

Turn over

Name the following.

9. The particular angle of incidence at which a ray of light is neither reflected nor refracted but moves along the interface between the two media.
10. The mineral having the highest birefringence.
11. The typical lustre shown by mica group of minerals.
12. Massive greyish green or brownish grey variety of talc having a greasy or soapy feel.

(12 × ¼ = 3 weightage)

II. Short answer type questions. Answer *all nine* questions.

- 13 Mineral and Mineraloid.
- 14 Van der Waals Bonding in minerals.
- 15 Solid solution in minerals.
- 16 Ordinary light and polarized light.
- 17 Order of Interference colour.
- 18 Pleochroism.
- 19 Uniaxial indicatrix and Biaxial indicatrix.
- 20 Physical and optical properties of zeolites.
21. Physical and optical properties of corundum.

(9 × 1 = 9 weightage)

III. Short essay type questions. Answer any *five* questions.

- 22 Classification of silicates.
- 23 Methods of determination of Refractive index of minerals.
- 24 Parts of petrological microscope.
- 25 Optical properties of isotropic minerals under parallel and crossed Nicols.
- 26 Types of extinction in minerals and their determination.
- 27 Structure, mineralogy, physical and optical properties of amphiboles.
- 28 Mineralogy, structure and important properties of Quartz.

(5 × 2 = 10 weightage)

IV. Essay type questions. Answer any *two* questions.

- 29 Describe the important physical properties of minerals.
- 30 Give an account of the mineralogical composition, structure, physical and optical properties, mode of occurrence and uses of Olivine group of minerals.
- 31 Describe the chemical composition, structure, physical and optical properties, mode of occurrence and uses of Topaz and Beryl.

(2 × 4 = 8 weightage)