

C81830

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Name.....

Reg. No..... 38

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL/MAY 2015
(UG-CCSS)

Core Course—Geology
GL 4B 07—MINERALOGY
(2009-2012 Admissions)

Time : Three Hours

Maximum : 30 Weightage

Draw neat sketches wherever necessary.

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

Choose the most appropriate answer :

1 A mineral showing double hardness :

- (a) Quartz. (b) Orthoclase.
(c) Kyanite. (d) Beryl.

2 Refractive index of canadabalsm :

- (a) 1.54. (b) 2.1.
(c) 1.33. (d) 2.4.

3 An example for diamorphism

- (a) Corundum and topaz.
(b) Pyroxene and amphibole.
(c) Orthoclase and plagioclase.
(d) Graphite and diamond.

4 Under the polarizing microscope microcline is identified by :

- (a) Crossed-hatched appearance. (b) 1st order interference colour.
(c) Polysynthetic twinning. (d) Strong Pleochroism.

Name the following :

- 5 Chemical composition of Olivine.
6 The hardest mineral.
7 Name a piezoelectric mineral.
8 A mineral characterised by symmetrical extinction.

Turn over

Fill in the blanks :

- 9 The common alteration product of olivine is _____.
- 10 _____ is the iron end member of olivine solid solution.
- 11 _____ is a pyroxene indicative of high pressure.
- 12 The streak of haematite is _____.

(12 × ¼ = 3 weigh

II. Short Answer questions. Answer all *nine* questions :

- 13 What is streak of minerals ?
- 14 Ore forming minerals.
- 15 What is polarized light ?
- 16 Isotropic minerals.
- 17 Relief of minerals.
- 18 Beryl.
- 19 Covalent bond.
- 20 Extra ordinary light.
- 21 What is Isomorphism ?

(9 × 1 = 9 weigh

III. Short Essays. Answer any *five* :

- 22 Describe various type of Lustre in minerals.
- 23 Primary minerals.
- 24 Structure of olivine.
- 25 Amphibole group of minerals.
- 26 Solid solution series.
- 27 Types of Extinction in minerals.
- 28 Optical accessories.

(5 × 2 = 10 weigh

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

- 29 Describe atomic structure, chemistry and physical properties of pyroxenes.
- 30 Describe various optical properties in minerals.
- 31 Describe atomic structure, chemistry and physical properties of Garnet group of minerals.

(2 × 4 = 8 weightage)