

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Winter 2019-20 Examination

Semester: 1**Subject Code: 11211101****Subject Name: Mineralogy and Crystallography****Date: 27/11/2019****Time: 10.30 am To 1.00 pm.****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Explain Triclinic system.
 (b) Explain Crystallographic axes.
- Q.1. B) Answer the following questions (Any two)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
 1. What is the role of polarization in optical mineralogy?
 2. What is index of refraction?
 (b) Short note on Crystal symmetry. (04)
 (c) Short note on Nesosilicates. (04)
- Q.2. A) Answer the following questions.**
 (a) Short note/ Brief note (2x2) (Each of 02 marks) (04)
 1. Explain isotropic crystals.
 2. Give two mineral examples of pyroxene group.
 (b) Short note on Orthorhombic system. (04)
- Q.2. B) Answer the following questions (Any two)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
 1. In which crystal system, majority of minerals crystallizes:
 a) Orthorhombic system b) Isometric system c) Monoclinic system d) Tetragonal system
 2. Identify nonmetal element from the options given below
 a) Sulfur b) Copper c) Gold d) Silver
 3. Most of the sulfide minerals are _____ with distinctive colors.
 a) Semiopaque b) Opaque c) Nonopaque d) None of the above
 (b) Short note on Polarization. (03)
 (c) Short note on 4/m 2/m 2/m with stereogram axes of symmetry and forms developed. (03)
- Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Brief note on Cyclosilicates.
 (b) Brief note on Monoclinic system.
- Q.3. B) Answer the following questions (Any two)**
 (a) Short note/ Brief note (2x2) (Each of 02 marks) (04)
 1. Which crystal system is having maximum number of classes?
 2. What is the crystallography of olivine group minerals?
 (b) Short note on chemical composition of earth's crust. (04)
 (c) Short note on measurement of RI. (04)
- Q.4. A) Answer the following questions.**
 (a) Fill in the blanks. (Each of 02 marks) (04)
 1. ___include those natural compounds in which oxygen is combined with one or more metals
 2. Beryl mineral belongs to _____ crystal system.
 (b) Short note on 2/m 2/m 2/m class class with stereogram axes of symmetry and forms developed (04)
- Q.4. B) Answer the following questions (Any two)**
 (a) Short note. (Each of 01 marks) (03)
 1. What are crystallographic axes of Isometric system?
 2. What are forms developed in 432 class?
 3. What are crystallographic axes of Hexagonal system?
 (b) Short note on pyroxene group. (03)
 (c) Short note on serpentine group. (03)