

**PARUL UNIVERSITY**  
**PARUL INSTITUTE OF APPLIED SCIENCES**  
**MID SEMESTER INTERNAL EXAMINATION, MARCH, 2020**  
**B. Sc. Semester II**  
**Subject: GEOLOGY**

**Paper Code: 1111151**

**Title of the paper: Mineral Science**

**Date: 09/03/2020**

**Time: 01 Hour 30 Minutes**

**Maximum Marks: 40**

**Instructions:**

- 1. All questions are compulsory and options are given in first and second question only.**
- 2. Numbers to the right of question indicate the marks of respective question.**

---

**Q. 1** Attempt **any one question** of the following. **(08)**

- (i) Explain Fracture & types of fracture with an example in a mineral.
- (ii) Describe Sorosilicates and Cyclosilicates in detail.

**Q. 2** Attempt **any three questions** of the following. **(12)**

- (i) Explain Pseudomorphism.
- (ii) Describe Fluorescence in detail.
- (iii) Explain Mohs scale of Hardness in detail.
- (iv) Describe lustre in a mineral.
- (v) Explain Snell's law and light refraction.

**Q. 3** Do as directed. Attempt **all five questions**. **(05)**

- (i) Define optical mineralogy.
- (ii) What is light?
- (iii) Explain Specific gravity.
- (iv) Differentiate between metallic luster and silky luster.
- (v) Differentiate between cleavage and fracture.

**Q. 4** Write correct option in your answer sheet for following 15 multiple choice questions. **(15)**

MCQ 1 \_\_\_\_\_ of a mineral is due to absorption of certain wavelengths of light by atoms making up the crystal.

- |            |                      |
|------------|----------------------|
| (A) Streak | (B) Hardness         |
| (C) Colour | (D) Specific gravity |

MCQ 2 \_\_\_\_\_ of a mineral may be defined as the size and shape of the crystals, and the structure or form shown by the crystal aggregates and cryptocrystalline masses

- |              |                       |
|--------------|-----------------------|
| (A) Cleavage | (B) Tenacity          |
| (C) Habit    | (D) None of the above |

MCQ 3 A mineral may be defined as

- |  |   |
|--|---|
| (A) A heterogenous solid body which occurs naturally   | (B) A heterogenous solid body characterized by an orderly arrangements of atoms |
| (C) An inorganically formed substance having a definite chemical composition & occurring naturally | (D) None of the above   |

- MCQ 4 The 'Jolly's Spring Balance' is an instrument used to determine the \_\_\_\_\_ of minerals  
 (A) Hardness (B) Specific gravity  
 (C) Refractive index (D) All of the above
- MCQ 5 \_\_\_\_\_ is an example of Cyclosilicates.  
 1. Beryl 2. Tourmaline 3. Hemimorphite 4. Chlorite  
 (A) Only 1 is correct (B) Only 2 is correct  
 (C) Both 1 and 2 are correct (D) Both 3 and 4 are correct
- MCQ 6 The splitting of a light beam into two perpendicularly polarized rays is called\_\_\_\_\_.  
 (A) Double reflection (B) Double polarization  
 (C) Double refraction (D) None of the above
- MCQ 7 'Luster' is defined as the appearance of a mineral in  
 (A) White light (B) Monochromatic light  
 (C) Incident light (D) Reflected light
- MCQ 8 When a mineral under test is scratched by quartz, and itself scratches orthoclase, its hardness must lie between  
 (A) 5 and 6 (B) 6 and 7  
 (C) 7 and 8 (D) 4 and 5
- MCQ 9 Arrange the following minerals in the correct order of hardness  
 (A) Diamond > Quartz > Calcite (B) Quartz > Diamond > Talc  
 (C) Quartz > Corundum > Talc (D) Quartz < Diamond < Corundum
- MCQ 10 What is the chemical composition of Quartz?  
 (A) SiO<sub>2</sub> (B) CaCO<sub>3</sub>  
 (C) SiO<sub>2</sub>nH<sub>2</sub>O (D) None of the above
- MCQ 11 Which of the following is matched correctly?  
 (A) Metallic luster ----- Pyrite Vitreous luster ----- Galena  
 (C) Greasy luster ----- Quartz None of the above
- MCQ 12 Which of the following mineral shows 3 sets of cleavage?  
 (A) Garnet (B) Calcite  
 (C) Quartz (D) None of the above
- MCQ 13 \_\_\_\_\_ exhibits adamantine luster  
 (A) Quartz (B) Talc  
 (C) Diamond (D) Kaolin
- MCQ 14 Quartz is  
 (A) Weakly magnetic (B) Non-magnetic  
 (C) Strongly magnetic (D) None of the above
- MCQ 15 In which mineral you will get Si:O is 1:2  
 (A) Quartz (B) Beryl  
 (C) Tourmaline (D) Zircon

-- End of Paper--