

**Central Tribal University of Andhra Pradesh**  
**Semester End Examination-June/July-2024**

**Name of the Program : B.Sc. Geology**

**Name of the Course : Crystallography and Mineralogy**

**Course Code: GEO151**

**Semester: II**

**Max. Time: 3 Hours**

**Max. Marks: 70**

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**Part-A**

**Answer all ten questions. Each question Carry 1 mark each. (10q x 1m =10 M)**

1. Define Specific gravity.
2. hardness of Quartz on Moh's Hardness scale
3. Chemical composition of Diamond
4. Define Cleavage.
5. Silica Oxygen ratio of sheet silicates
6. Does quartz possess cleavage?
7. Give an example for lamellar form mineral
8. What is the difference between plastic and elastic nature of mineral
9. Name the mineral that possess double refraction -----
10. The phenomenon of Minerals with different crystal structure with same chemical composition is known as -----

**Part-B**

**Answer any four questions. All questions carry 5 marks each. (4q x 5m = 20M)**

11. What is the significance of fracture of minerals? List the different types of fractures.
12. Discuss briefly olivine group
13. Write a short note on types of Aluminosilicates
14. what is the significance of Optical Mineralogy
15. Write a short note on optical properties of quartz.
16. Give a short note on mineral classification.

**Part-C**

**Answer either A or B from each question. All questions carry 10 marks each. (4q x 10m = 40 M)**

17. A) Write an essay on 32 crystal classes.

**OR**

- B) Give a detailed note on Bowens's reaction series and its significance.

18. A) Define silicates. Give a detailed note on classification of silicate structures

**OR**

- B) Give a detailed note on quartz group mineralogy

19. A) Describe in detail the optical properties of minerals

**OR**

- B) Write an essay on anatomy of petrological (polarizing) microscope.

20. A) Give a detailed note on Optical Properties of mica minerals

**OR**

- B) Explain the Optical Properties of garnet mineral group

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