

QP CODE: 25050534



Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION, DECEMBER 2025

First Semester

M Sc GEOLOGY

Core Courses - GL010102 - APPLIED MINERALOGY

2019 Admission Onwards

F5D1E5F3

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Define bravais lattices.
2. Dispersion in minerals.
3. Distinguish optic sign and sign of elongation.
4. Why olivine is considered to be the reason for discontinuities in the upper mantle?
5. How cations are distributed in pyroxenes?
6. List gem varieties of beryl and their chemistry.
7. Differentiate the structures of talc and Pyrophyllite.
8. Evaluate critically the structure of high quartz and low quartz.
9. How dolomite structure differ from calcite structure?
10. What are characteristic radiations XRD?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Explain rotoinversion symmetries.
12. Describe uniaxial indicatrix.
13. Explain bridging oxygens and non-bridging oxygens. Comment the role of bridging oxygen for diversity in silicate minerals.





14. Explain structure and chemistry of melilite group of minerals.
15. Explain various intergrowth textures associated with feldspars.
16. Explain in detail brucite and gibbsite structures.
17. Write a note on perovskite.
18. Explain principles X-ray diffraction.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Give an account of the various optical accessories and their uses.
20. Explain chemistry, structure, optical properties and paragenesis of amphibole group of minerals.
21. Describe the feldspar group of minerals with reference to their structural, chemical and optical properties.
22. Write a note on X-ray diffraction studies in crystals.

(2×5=10 weightage)

