



'সমানো মন্ত্র: সমিতি: সমানী'

**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours 1st Semester Examination, 2023

**CC2-GEOLOGY**

**MINERAL SCIENCE**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

**GROUP-A**

**Answer any five from the following**

1×5 = 5

1. What is a nesosilicate?
2. What do you mean by atomic bonding?
3. What is total internal reflection?
4. Give an example of sulfide and oxide mineral each with composition.
5. What do you mean by luster and diaphaneity?
6. Is mineralogical transition possible while we go in depth of crust to mantle? If yes give an example.
7. What is cleavage in a mineral?
8. How can you identify quartz?

**GROUP-B**

**Answer any three from the following**

5×3 = 15

9. What is miller index? What is the function of a polarizer in an optical microscope?
10. What are the principal theorization of ion and charge in case of atomic substitution in minerals?
11. What is twinning and polymorphism?
12. What is E-ray and O-ray? Explain.
13. What is solid solution?

**GROUP-C**

**Answer any two from the following**

10×2 = 20

14. Define the different crystal systems with neat sketch.
15. What is Moh's scale of hardness? Give the sequence. What is the meaning of optically isotropic and anisotropic minerals?
16. What do you mean by optic axis? What is birefringence? What is the meaning of uniaxial positive and uniaxial negative crystal?
17. What are the functions of Canada Balsam and Nicol Prism for an optical microscope?

—x—