

ES4103: Geochemistry
Mid Semester (Autumn) Examination, 2018
Department of Earth Sciences, IISER-Kolkata

Total marks: 20

Time: 1 hour

1. Draw a typical shale-normalized REE pattern for seawater. In the open oceans, negative Ce anomaly becomes more pronounced with depth. Why? [3+4]
2. Precipitation of a crystal is not always possible from a supersaturated solution due to the existence of a nucleation barrier. Discuss why this barrier exists and how it is overcome in case of the eventual precipitation of a crystal. [7]
3. At high very ionic strengths ($I > 1.0$), it has been observed that activity of charged dissolved species increases with ionic strength of the solution. Explain why. [6]

