

Ph.D. GEOLOGY (PHDGY)
Term-End Examination
June, 2022

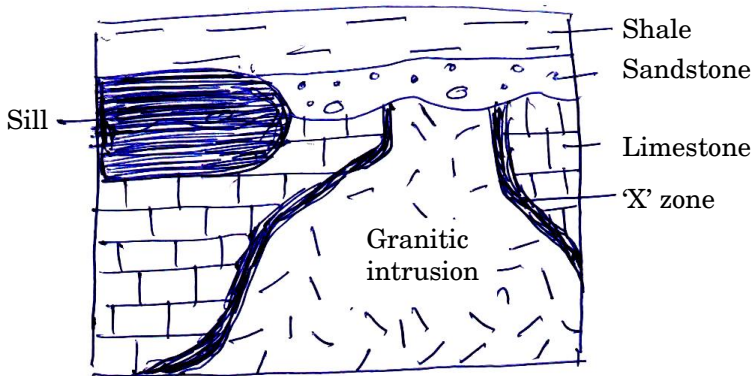
RGY-102 : RESEARCH TECHNIQUES IN GEOLOGY

Time : 3 hours

Maximum Marks : 100

Note : Answer any **five** questions. All questions carry equal marks.

1. Discuss the steps you would take while planning for field work in your study area and also mention about the safety measures. 20
2. Explain the basic principles and working of Scanning Electron Microscope, with the help of neat and labelled sketches. 20
3. Discuss the sequence of events in the given geologic section, with the help of stratigraphic laws. Use letters A, B, C ... to indicate the sequence of events from the oldest to the youngest.



Also mention what the 'X' zone indicates.

20

4. Describe the principles and various steps involved in GPS survey. Draw neat well-labelled diagrams, wherever required. 20
5. Illustrate with the help of neat well-labelled diagrams (with examples) about the significance of petrographic studies in understanding the crystallization history of igneous rocks. 20
6. Discuss in detail about the methods of sample preparation involved in soil and water investigations. 20
7. Distinguish between any **two** of the following : $2 \times 10 = 20$
- (a) Graded and Cross beddings
 - (b) Passive and Active remote sensing
 - (c) Major oxides and Trace elements
 - (d) Proximate and Ultimate analyses
8. Write short notes on any **two** of the following : $2 \times 10 = 20$
- (a) Acid Mine Drainage
 - (b) Types of Coal
 - (c) Large Ion Lithophiles
 - (d) Field Instruments
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