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RGY-102

Ph. D. GEOLOGY (PHDGY)

Term-End Examination

December, 2019

RGY-102 : RESEARCH TECHNIQUES IN

GEOLOGY

Time : 3 Hours

Maximum Marks : 100

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

1. Explain the basic working principle of X-Ray Diffraction (XRD) technique. Support your answer with neat well labelled diagram. Add a note on significance of XRD technique in identification of clay minerals. 20

2. Describe the kind of sedimentary structures you would expect in the field while conducting field work in a sedimentary terrain. Add a note on how this data can be documented in the field note book. 20
3. What are heavy minerals ? Explain the separation of heavy minerals from bulk rock using the bromoform method. 20
4. Discuss about the methods and precautions you would undertaken while collecting water samples for hydrogeological investigation. 20
5. What is GPS ? Describe the importance of using GPS during geological field work. 20
6. Explain, how you would represent the geochemical dataset generated from XRF technique.
7. Write short notes on any *two* of the following : 10 each
 - (a) Field kit
 - (b) Field safety measures
 - (c) Preparation of thin sections
 - (d) Importance of drawing sketches in field

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8. Write short notes on any *two* of the following :

10 each

- (a) Importance of Petrography
- (b) Tabular classification of igneous rocks
- (c) Reconnaissance survey
- (d) Flame photometer