

This question paper contains 2 printed pages]

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S. No. of Question Paper : 8006

Unique Paper Code : 2193010018

Name of the Paper : **Techniques of Sample Collection and
Processing in Geology**

Name of the Course : **B.Sc. (Hons.) Geology (NEP)**

Semester : **VIII**

Duration : **3 Hours**

Maximum Marks : **90**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any *five* questions.

1. Differentiate between a sample and a specimen. What are the essential characteristics of a good geological specimen ? Describe different types of geological specimens. 18
2. Name and describe at least *three* instruments used for water sampling. Discuss their working conditions and suitability for different field situations. 18
3. Explain different types of geochemical samples, including lithogeochemical, pedogeochemical, geobotanical and stream sediment samples along with their applications. 18

P.T.O.

4. (a) Classify samples based on analytical purposes and explain their significance. 9
- (b) Explain reverse circulation (RC) sampling, including its advantages and applications in geological studies. 9
5. (a) Define uncertainty and precision in geological sampling. Discuss methods to reduce uncertainty and improve precision. 6
- (b) Explain heavy mineral separation techniques used in sample processing. 6
- (c) Describe core drilling, including its purpose, preferred conditions, advantages and limitations. 6
6. Describe sample processing techniques for analytical purposes. Explain procedures used for geochemical characterization, petrographic studies and bulk composition analysis. 18
7. Describe sampling techniques for soils with suitable examples. Mention commonly used instruments and discuss the types of interpretations and analyses carried out using soil samples. 18
8. In a suspected copper-mineralized area that is forested and hilly, with limited rock exposure, thick soil cover and seasonal streams, suggest a suitable sampling method for reconnaissance. Give reasons for your choice. 18