

***This question paper contains 2 printed pages.***

***Your Roll No. ....***

***Sl. No. of Ques. Paper: 8329***

**HC**

***Unique Paper Code : 32197501***

***Name of Paper : Exploration Geology***

***Name of Course : Geology : DSE for Hons.***

***Semester : V***

***Duration : 3 hours***

***Maximum Marks : 75***

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

***Attempt any five questions.  
All questions carry equal marks.***

- 1. Discuss how minerals play a vital role in industrialization. Describe the historical perspective of economic mineral utilization. What is the role of economically important minerals in present day and future economy in India?**
- 2. What are the major types of geophysical techniques in mineral exploration? Describe in detail electrical methods of geophysical exploration.**
- 3. Define and describe the primary and the secondary geochemical dispersion with suitable diagrams. What is the relevance of secondary haloes in geochemical exploration?**

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4. Describe the UNFC method of reserve classification. Discuss various aspects of this scheme in detail. *25/1-*
5. Describe the significance of mineral exploration. Discuss chip-channel sampling in detail and describe how it differs from chip sampling.
6. Why are statistically constrained ore reserve estimations a prerequisite for exploitation of any mineral deposit? Describe in detail the assumptions that are followed while calculating the reserves.
7. Write short notes on any *three* of the following:
  - (a) Bouguer Anomaly
  - (b) The Rule of Gradual Change
  - (c) Simpson's Rule in Area Calculation
  - (d) Non-core and Core Drilling.
8. Discuss any *two* of the following:
  - (a) Variance, Standard Deviation and their relationship
  - (b) Composite Sample
  - (c) Pitting and Trenching.