

[This question paper contains 2 printed pages.]

Sr. No. of Question Paper : 1718 C Roll No.....

Unique Paper Code : 219604

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

Name of the Paper : Exploration Geology (ET-3)

Semester : VI

Duration : 3 Hours Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Answer any **five** questions.
3. **All** questions carry equal marks.

1. Write short notes on **any two** :

- (a) Coefficient of variation in mineral deposits
- (b) Estimation of cash flow for a deposit
- (c) Significance of geological data in reserve estimation

2. What are the principles of geochemical exploration ? What controls the contrast of geochemical anomaly ?

3. Write short notes on :

- (a) Reserve and resource
- (b) Dispersion haloes
- (c) Indicators and pathfinders

4. Write notes on (any three) :
 - (a) Symmetrical and asymmetrical distribution
 - (b) Gossans
 - (c) Bore hole logging
 - (d) Prospecting guides

5. Describe the difference between two-sided and one-sided interval estimates for a group of 100 samples from a copper mine (arithmetic average grade is 2% with a standard deviation of 0.4%). Illustrate it with an example for 95% confidence estimate (Critical values of 't' being 1.96 and 1.65 for 95% and 90% confidence level).

6. Discuss methods of compositing of samples. What is core recovery ? Describe methods of correcting grade in case of core loss.

7. Elaborate the principles of magnetic methods of geophysical exploration. Mention the type of minerals which can be located using this method.

8. What is cut off grade ? Describe weighted average. What will be the exploration strategy for the hydrothermal mineral deposits ?