



**Final Year Examination of the
Three -Year Degree Course, 2001**

(Faculty of Science)

GEOLOGY

Paper-II

(Geoexploration and Principles of Mining)

Time –Three hours
Maximum Marks-50

The candidates are requested to attempt **FIVE** questions in all taking at least **ONE** question from each unit.
All questions carry equal marks.

UNIT-I

1. What is geoexploration? Give a brief account on various geological techniques applied for mineral exploration. 2+8
2. What do you understand by mining lease? Write the procedure for obtaining mining lease for talc. 2+8

UNIT-II

3. What are the different methods of drilling? Describe diamond drilling method in detail. 2+8
4. Write detailed notes on any **TWO** of the following:- 5*2
 - (a) Core-logging.
 - (b) Selection of sites for drilling.
 - (c) Deviation of bore-holes.

UNIT-III

5. What is sampling? Describe channel sampling in detail. 2+8
6. Write notes on any **TWO** of the following:- 5*2
- (a) Calculating of tonnage of ores.
 - (b) Calculation of average grade.
 - (c) Calculation of cut-off grade.

UNIT-IV

7. Write notes on any **TWO** of the following:- 5*2
- (a) Path-finder elements
 - (b) Background values.
 - (c) Dispersion patterns.
8. Write detailed notes on any **TWO** of the following :- 5*2
- (a) Magnetic methods of prospecting.
 - (b) Gravity methods of prospecting.
 - (c) Principles of geophysical prospecting.

UNIT-V

9. Explain the following pair of terms with suitable sketches:- 2.5+2.5+2.5+2.5
- (a) Adit and Tunnel.
 - (b) Drive and Cross-cut.
 - (c) Raise and Winze.
 - (d) Hanging wall and Foot wall.
10. (a) Explain the terms bench height, bench width and bench slope with suitable sketches. 3
- (b) Write the advantages and disadvantages of open-cast mining. 4
 - (c) Discuss the conditions necessary for underground mining. 3