

No. of Printed Pages : 2

Sl. No.

**21APG3C9L**

**M.Sc. III Semester Degree Examination, April/May - 2023**

**APPLIED GEOLOGY**

**Exploration Geology**

**(CBCS)**

Time : 3 Hours

Maximum Marks : 70

**Note :** Answer **any five** of the following questions with Question **No.1 Compulsory**, each question carries **equal** marks.

1. Answer the following : **14**
  - (a) Discuss the geological setting of an area influence on the potential for mineral deposits.
  - (b) Explain the physical and chemical characteristics of rocks and minerals that can indicate the presence of ore deposits.
  
2. Answer the following : **14**
  - (a) Give a detailed account on key steps involved in mineral exploration.
  - (b) Describe the different stages of mineral exploration, and how they progress from one to another.
  
3. Answer the following : **14**
  - (a) What is the geochemical cycle, and how does it involve the movement of elements and compounds through the Earth's systems ?
  - (b) What factors influence the mobility of elements and geochemical anomalies that ? Contribute to sustainable mineral exploration and mining practices ?
  
4. Add a note on : **14**
  - (a) Explain the principles of electrical prospecting methods, and discuss how they are used to identify potential mineral deposits.
  - (b) Explain the magnetic properties of rocks, and how they are used in mineral exploration.

**P.T.O.**

- 5.** Answer the following : **14**
- (a) Explain the principles of reserve estimations, and discuss the key factors that are considered in estimating mineral reserves.
  - (b) Explain the principles of evaluating sampling data, and discuss how sampling data are used to estimate the quantity and quality of mineral deposits.
- 6.** Answer the following : **14**
- (a) Describe the various types of sampling equipment used in mineral exploration, and explain how each type is used in the field.
  - (b) Explain the importance of understanding weathering processes and products in the exploration and exploitation of mineral resources.
- 7.** Answer the following : **14**
- (a) Explain the principles of gravity prospecting method and discuss how it is used in mineral exploration.
  - (b) Discuss the factors that can affect the reliability of reserve estimation in mineral exploration.
- 8.** Write a short note on : **14**
- (a) Geo-exploration
  - (b) Reserve estimation
  - (c) Prospecting

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