



**B.Sc. (H) Geology  
Theory Examination**

SL No of QP :5625  
Unique Paper Code : 2193010012  
Name of Paper : Application of Hydrogeology in Industries and Mining  
Name of Course : B.Sc. (H) Geology  
Semester : VI

**Duration: 3 hours**

**Maximum Marks: 90**

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

1. Define Water Audit. Imagine you are tasked with conducting a water audit in your college campus. Outline a detailed plan covering data collection, water balance preparation, loss identification, and recommendation formulation. What challenges would you anticipate, and how would you address them?

**(18 marks)**

2. Discuss the followings:

- a. Constitutional provision regarding groundwater and the Indian Easement Act 1882 in context of groundwater ownership in India.
- b. The National Green Tribunal (NGT).
- c. Clauses of the Environment Protection Act 1986, relevant for functioning of the Central Ground Water Authority (CGWA).

**(5+5+8=18)**

3. Discuss about the followings:

- a. Approach for groundwater resource estimation in India and bases for demarcation of Assessment Unit.
- b. Groundwater resource estimation-based categorization of assessment units.
- c. The process of validating the results of groundwater resource estimation.

**(10+5+3 = 18 marks)**

4. In context of the Central Ground Water Authority (CGWA) guidelines to regulate and control ground water extraction in India, write short notes on:

- a. Categories of consumers exempted from seeking No Objection Certificate for ground water extraction.
- b. Regulations for Drinking & Domestic uses of groundwater for Residential apartments in urban areas.
- c. The specific conditions for grant of No Objection Certificate (NOC) for ground water extraction for Infrastructure projects.

**(6+6+6=18 marks)**

5. In context of the Central Ground Water Authority (CGWA) guidelines to regulate and control ground water extraction in India:

- a. Discuss about the General compliance conditions given with the No Objection Certificates.
- b. Rules and the timelines for Renewal of No Objection Certificate.
- c. Discuss about the provisions of Environmental Compensation (EC).

**(8+6+4 =18 Marks)**

6. Discuss in detail about the philosophy and protocols of the Comprehensive Hydrogeological Report (CHR) in context of the Central Ground Water Authority (CGWA) guidelines to regulate and control ground water extraction in India.

**(18 marks)**

7. In context of the Central Ground Water Authority (CGWA) guidelines to regulate and control ground water extraction in India, discuss about the regulatory framework and the specific conditions for grant of No Objection Certificate (NOC) for ground water extraction for commercial uses by the industries.

**(18 Marks)**

8. Discuss in detail about the philosophy and protocols of the Impact Assessment Report (IAR) in context of the Central Ground Water Authority (CGWA) guidelines to regulate and control ground water extraction in India.

**(18 marks)**