

**April 2025**  
**B.A./B.Sc.**  
**Sixth Semester**  
**DISCIPLINE SPECIFIC ELECTIVE – 3**  
**GEOLOGY**  
*Course Code: GLD 6.11*  
(Fuel Geology)

*Total Mark: 70*  
*Time: 3 hours*

*Pass Mark: 28*

*Answer five questions, taking one from each unit.*

**UNIT-I**

1. Write a note each on the following: 7×2=14
  - (a) Ultimate analysis of coal
  - (b) Classification of coal
2. Explain how macerals control the microlithotypes classification and its significance in coal basin analysis. 7+7=14

**UNIT-II**

3. What is coal liquefaction? Discuss in detail the different processes adopted for direct and indirect liquefaction of coal. 2+12=14
4. Write a note each on the following: 7×2=14
  - (a) Thermogenic and biogenic methane
  - (b) Concept of UCG with special emphasis on the chemical reactions involved

**UNIT-III**

5. Write a note each on the following: 7×2=14
  - (a) Organic origin of crude oil
  - (b) Physical properties of crude oil
6. Define migration of crude oil. Explain the different types with diagrams wherever necessary. 2+12=14

#### UNIT-IV

7. What are reservoir rocks? Give a detailed account on the clastic and chemical reservoir rocks. 2+12=14
8. Write a note each on the following: 7×2=14
- (a) Traps formed due to folding
  - (b) Types of cap rocks

#### UNIT-V

9. Discuss how thorium originates and occurs in nature. Also mention some of the thorium reserves in India and its uses. 4+10=14
10. What are gas hydrates? Explain the occurrence, recovery, and uses of gas hydrates. 2+12=14
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