

2023
M.Sc.
Third Semester
CORE – 09
GEOLOGY
Course Code: MGLC 3.11
(Engineering Geology & Hydrogeology)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. Write an account on soil profile and classification. 14
2. Write notes on the following: 7×2=14
 - (a) Engineering properties of rocks
 - (b) Rock quality designation

UNIT-II

3. What are the specific strategies that can be implemented to reduce the likelihood of reservoir induced seismicity? 14
4. Write notes on the following: 7×2=14
 - (a) Nature's equilibrium
 - (b) Environmental protection

UNIT-III

5. What are aquifers? How do geological formations play a crucial role in their formation and function? 2+12=14
6. Write notes on the following: 7×2=14
 - (a) Specific yield and specific retention
 - (b) Hydraulic conductivity

UNIT-IV

7. What is the purpose of conducting a pumping test in hydrology? How does it provide valuable information about aquifers? $2+12=14$
8. How does remote sensing technology helps in the identification and mapping of potential recharge areas for ground water resources? 14

UNIT-V

9. How does the conjunctive use of water help address challenges associated with water scarcity and variability in places? 14
10. Write notes on the following: $7 \times 2 = 14$
- (a) Quality of water for industrial uses
 - (b) Water pollution
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