October 2025
B.A./B.Sc.
Fifth Semester
CORE – 12
GEOLOGY
Course Code: GLC 5.21
(Hydrogeology)

Total Mark: 70 *Pass Mark: 28*
Time: 3 hours

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

UNIT–I

1. Discuss the occurrence and groundwater potential of different geologic formations as aquifers. 14

2. Write a note on each of the following: 7×2=14
   (a) Interception
   (b) Porosity and permeability

UNIT–II

3. Explain the different types of hydrothermal phenomena and their processes of formation. 14

4. Write a note on each of the following: 7×2=14
   (a) Depression springs and contact springs
   (b) Laminar and turbulent flow

UNIT–III

5. Explain the basic concepts of well hydraulics with reference to important well terms and the nature of converging flow in aquifers. 14

6. Discuss the role of geophysical survey methods in groundwater exploration. Explain the commonly used techniques with their principles and applications. 14

UNIT–IV

7. What factors influence seawater intrusion in coastal aquifers? Discuss its effects on groundwater quality. 14

8. Write a note on each of the following: 7×2=14
   (a) Chemical properties of water
   (b) Graphical methods of interpreting groundwater quality

UNIT–V

9. Discuss the role of rainwater harvesting in sustainable water resource management. 14

10. Write a note on each of the following: 7×2=14
    (a) Interaction of groundwater with rivers and streams
    (b) Basic concept of water balance studies