**QUESTION BANK**

**CE2028-GROUND WATER ENGINEERING**

**UNIT –I**

**PART-A**

1. Mention the characteristics of groundwater?
2. State Darcy’s law. When is it applicable?
3. What are the limitations of Darcy’s law ?
4. Distinguish between artesian aquifer and water table aquifer.
5. Write the definition of aquifer?
6. What are the different types of aquifer?
7. Define permeability.
8. Write down the advantages of study of ground water level fluctuations?
9. State the distribution of water.
10. What are the various rock formations which form a good aquifer?
11. Define the terms ground water column.
12. List any four components of hydrogeological cycle.
13. Difference between confined and unconfined aquifer.
14. What do you mean by ground water?
15. Define the terms underground water and surface water.
16. What is the role of a ground water engineer in hydrologic cycle?
17. How does three differentiate between confined aquifer and unconfined aquifer?
18. write about the hydrological cycle
19. give the definitions of evapotranspiration and runoff

PART-B

1. What is meant by aquifer? Explain the different types of aquifers with neat sketch.
2. Explain how groundwater table fluctuation is measured? List the inference that can be deduced from this.
3. Describe the various rock formations which form a good aquifer?
4. What is hydrological cycle? Briefly discuss the various components of hydrological cycle with the help of suitable sketch.
5. Explain the Darcy’s law and briefly explain the limitations of Darcy’s law. discuss the experimental verification of Darcy’s law`
6. write the short notes on :
7. aquicludes
8. aquifer
9. underground water
10. hydraulic conductivity

7.. Explain the following:

1. confined aquifer
2. unconfined aquifer
3. permeability
4. aquitards

8 Describe the function and characteristics of aquifer materials.

9 Briefly explain the special aquifer and perched aquifer with neat sketch.

10 Explain the following:

1. transpiration
2. precipitation
3. condensation
4. infiltration

**UNIT-II**

**PART-A**

1. What do you understand by the term heterogeneity?
2. Define anisotropy.
3. What is meant by specific yield?
4. Define flow net and how this technique will be helpful for groundwater flow analysis?
5. State the storage capacity.
6. Write the definition for coefficient of transmissibility.
7. How will you determine the equations of ground water flow.
8. What are the assumptions of dupuit forchheimer?
9. Write the definition for specific capacity.
10. State the condition for the application of the same to the unconfined aquifer.
11. what is meant by the dupuit assumptions
12. What use are they in groundwater hydrology?
13. Define unconfined aquifer.
14. Write the definition for steady radial flow
15. What is meant by confined aquifer?
16. State the hydraulic conductivity.
17. Write the definition for transmissivity.
18. What do you understand by storability?
19. What do you mean by unsteady flow?
20. What are the hydraulic properties of aquifer?

**PART-B**

1. Derive an expression for yield from well in confined aquifer.
2. What are meant by the dupuit assumptions and what use are they in groundwater hydrology?
3. Derive the theim equation for steady radial flow in a confined aquifer and state the condition for the application of the same to the unconfined aquifer.
4. Derive an expression for yield from well in unconfined aquifer.
5. What is mean by layered heterogeneity and anisotropy formation?
6. Briefly explain the hydraulic properties of aquifers.
7. Explain the following terms :
8. hydraulic conductivity
9. transmissivity
10. specific capacity
11. storability
12. Explain the flow net and how this technique will be helpful for groundwater flow analysis?
13. Briefly explain the heterogeneity with neat sketch.
14. Explain the following terms :
15. Specific yield
16. Ground water hydrology
17. Storage capacity
18. Flow net