

GUJARAT TECHNOLOGICAL UNIVERSITY

3rd Semester Civil Engineering – PDDC

Subject Code & Name : X30601 - Hydrology and Water Resources Engineering

Assignment – 3

Date : 18-10-2014

Theory :

1. What is Aquifer? Discuss types of Aquifer with neat sketches.
2. Define following terms:
 - i. Aquiclude
 - ii. Aquifuge
 - iii. Aquitard
 - iv. Leaky Aquifer
 - v. Perched Aquifer
 - vi. Permeability
 - vii. Specific yield
3. Explain Darcy's law. What are its limitations? Also Discuss its Validity.
4. Distinguish between Specific Yield and Storage Coefficient.
5. Design a tube well for following data:
 - i. Yield required=0.081 Cumecs
 - ii. Thickness of confined aquifer=30 m
 - iii. Radius of circle of influence=300m
 - iv. Permeability coefficient=60m/day
 - v. Drawdown= 5.1m