



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



DEPARTMENT OF CIVIL ENGINEERING

19CEB301- SOIL MECHANICS

III YEAR V SEM

UNIT 2 – SOIL WATER AND WATER FLOW

Topic 6 : Permeability Measurement in Laboratory



LABORATORY TESTS



- ❖ Constant Head Permeability test- coarse grained soil
- ❖ Variable Head test – Fine grained soil

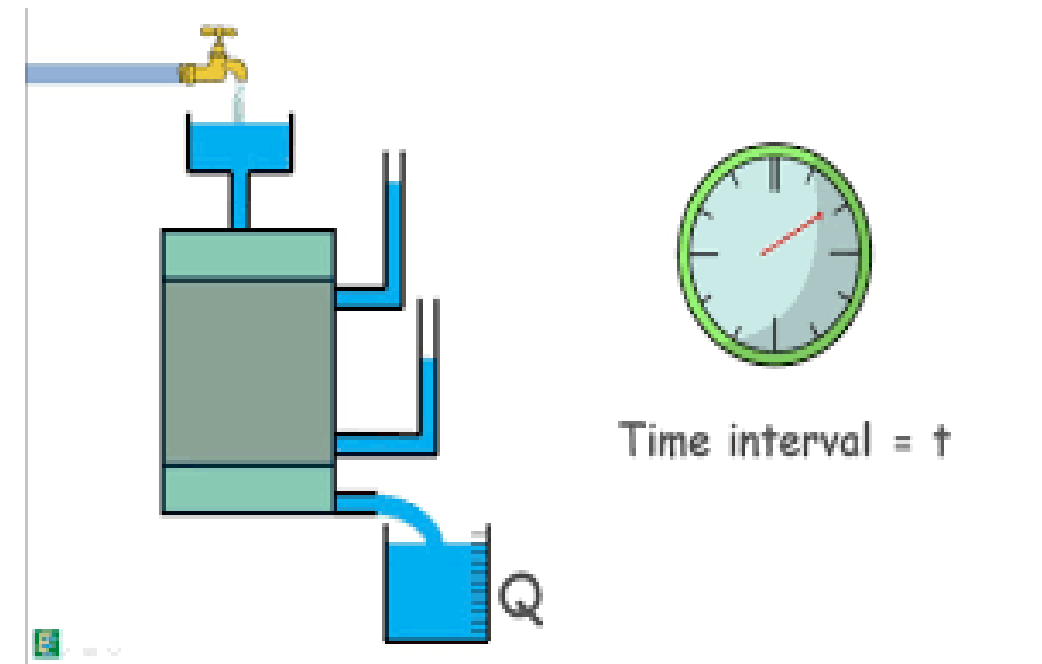




CONSTANT HEAD TEST



- ❖ Water flow is constant
- ❖ Quantity of water flowing per unit time is calculated
- ❖ Obeys Darcy's law

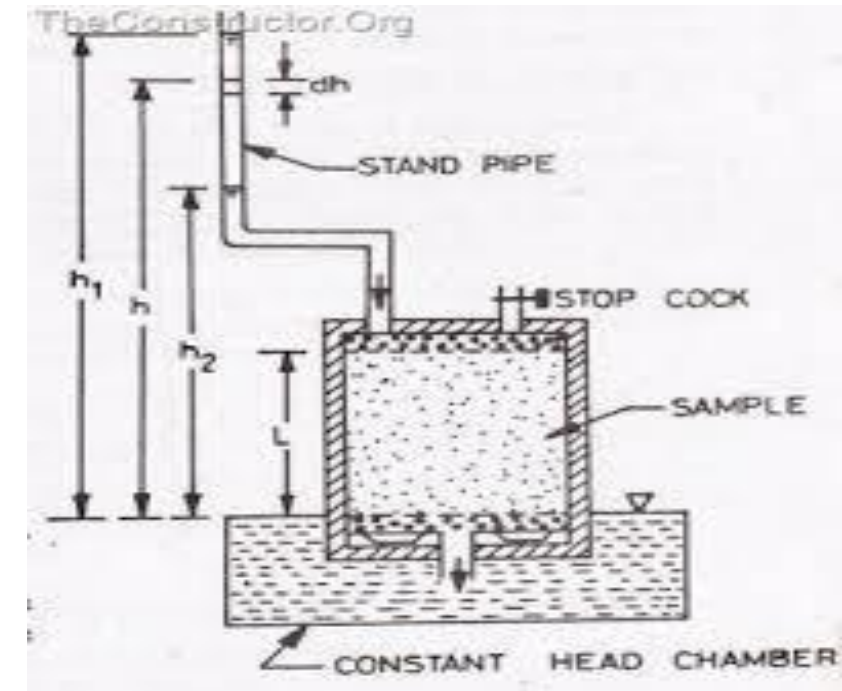




VARIABLE HEAD TEST



- ❖ Inlet is closed
- ❖ Time for fall of water per unit time interval is noted
- ❖ Applicable for clay soils





APPLICATIONS



- ❖ Co-efficient of permeability computations
- ❖ Seepage analysis
- ❖ Flow nets



ASSESSMENT



- ❖ What is stand pipe?
- ❖ What is diameter of soil sample?
- ❖ What are the dimensions of permeameter?



REFERENCES



- ❖ Coduto, D.P., “Geotechnical Engineering Principles and Practices”, Prentice Hall of India Private Limited, New Delhi, 2002
- ❖ McCarthy D.F., “Essentials of Soil Mechanics and Foundations Basic Geotechniques”, Sixth Edition, Prentice-Hall, New Jersey, 2002
- ❖ Das, B.M, “Principles of Geotechnical Engineering”, (fifth edition), Thomas Books/ cole, 2002



THANK YOU