SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

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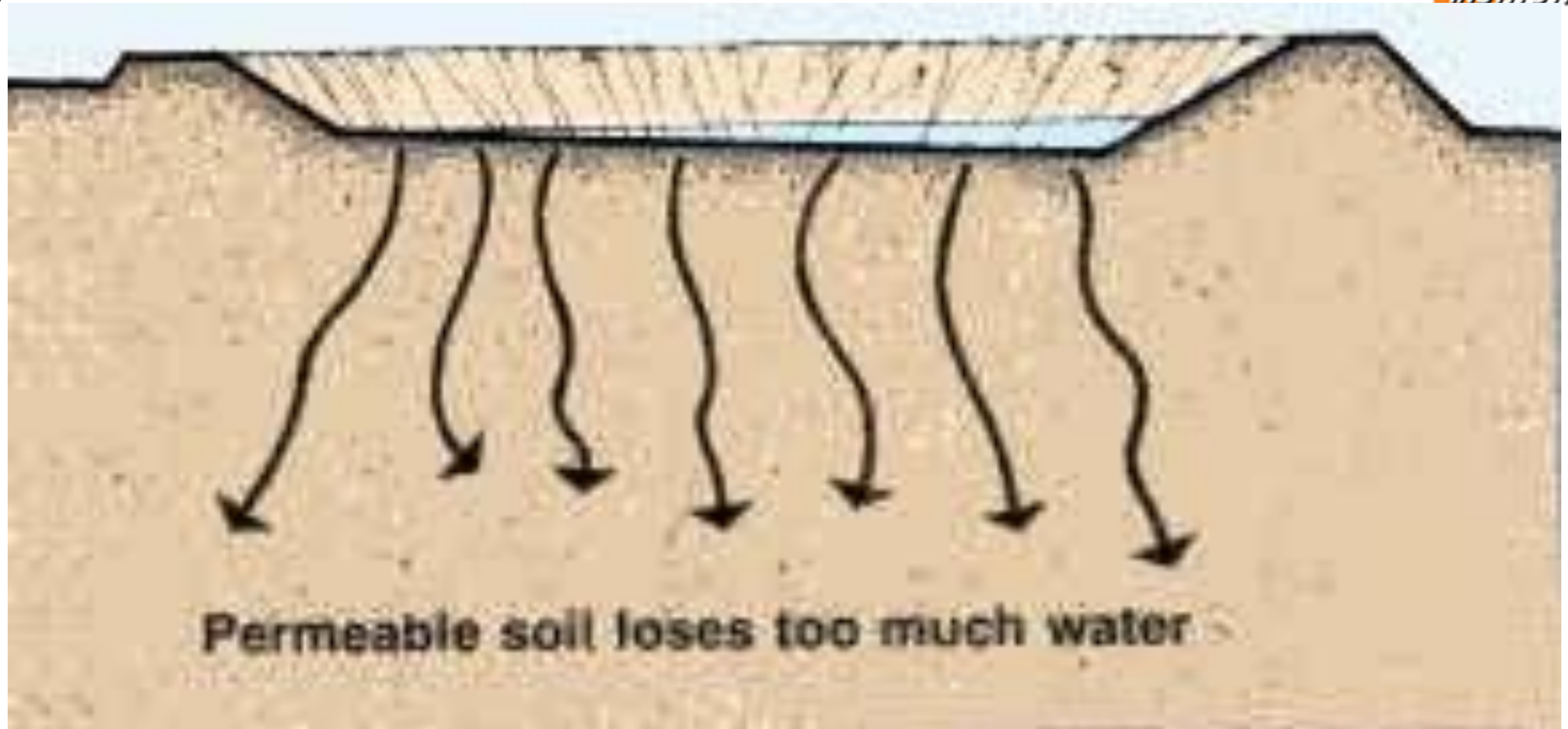Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF CIVIL ENGINEERING

19CEB301- SOIL MECHANICS

III YEAR   V SEM

UNIT 2 – SOIL WATER AND WATER FLOW

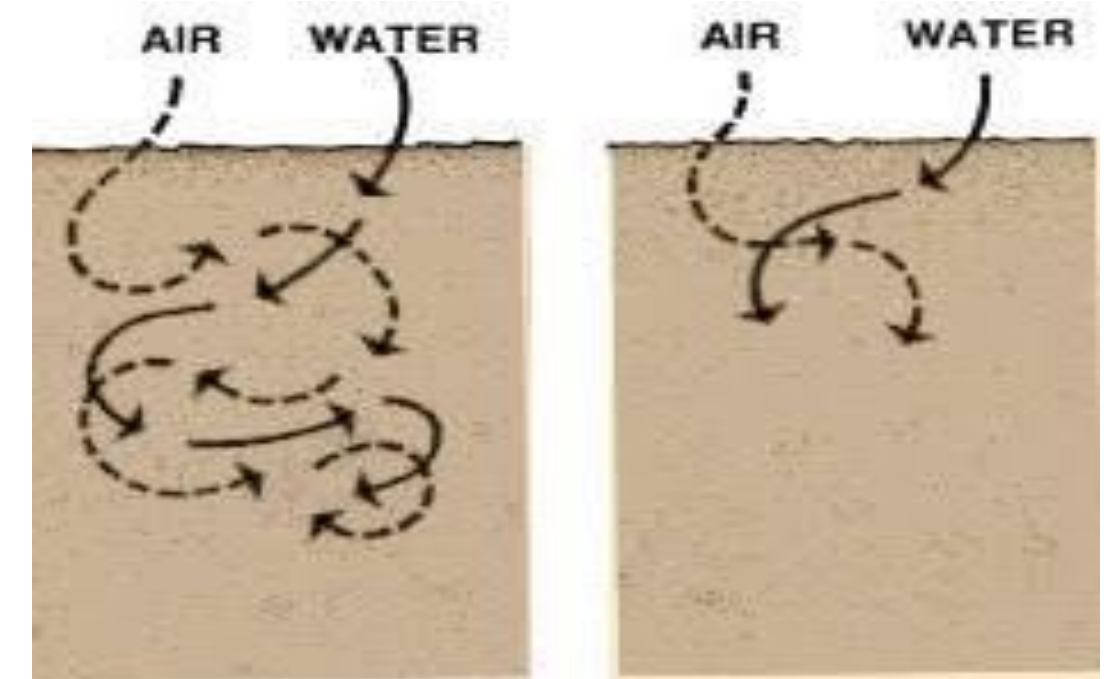Topic 4 :   Permeability

Permeable soil loses too much water

DEFINITION

❖ Process of permitting the flow of water through its inter connecting voids

❖ Water flow from region of high potential to low potential

DARCY'S LAW

❖ Flow is uniform and steady

❖ Flow is continuous

❖ Flow is laminar

❖ Reynold's number less than 1

❖ Velocity is directly proportional to hydraulic gradient
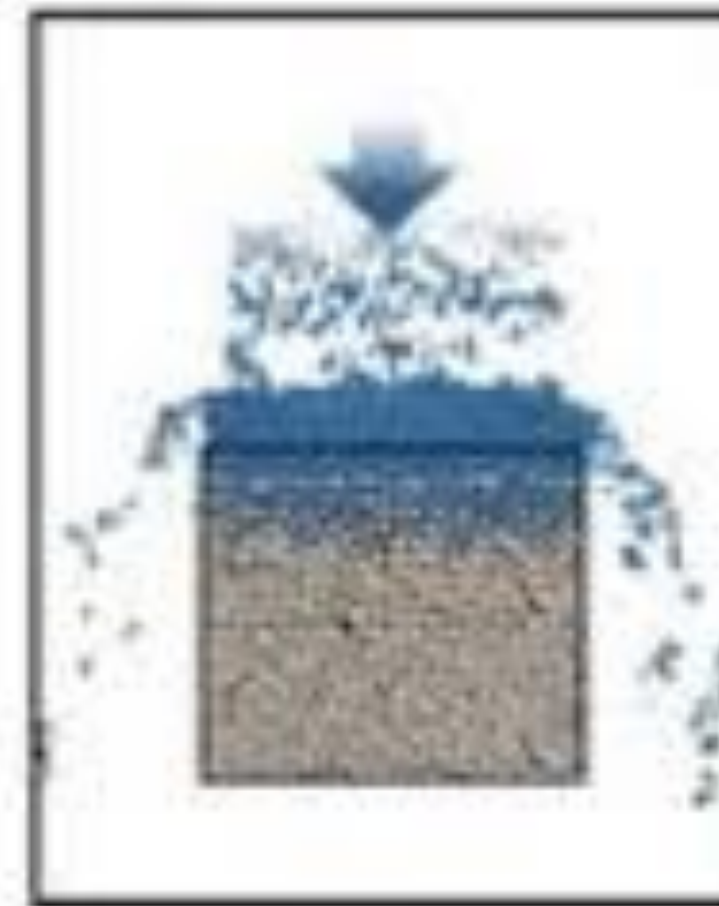
Infiltration Variations by Soil Texture

Sand   Silt   Clay

APPLICATIONS

- ❖ Seepage of dams
- ❖ Stress computations
- ❖ Bearing Capacity
- ❖ Co-efficient of permeability

❖ What is Reynold's Number ?

❖ What is the range of permeability for different soils?

❖ What is co-efficient of permeability ?

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