



# **SNS COLLEGE OF TECHNOLOGY**

**Coimbatore-35**  
**An Autonomous Institution**

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai



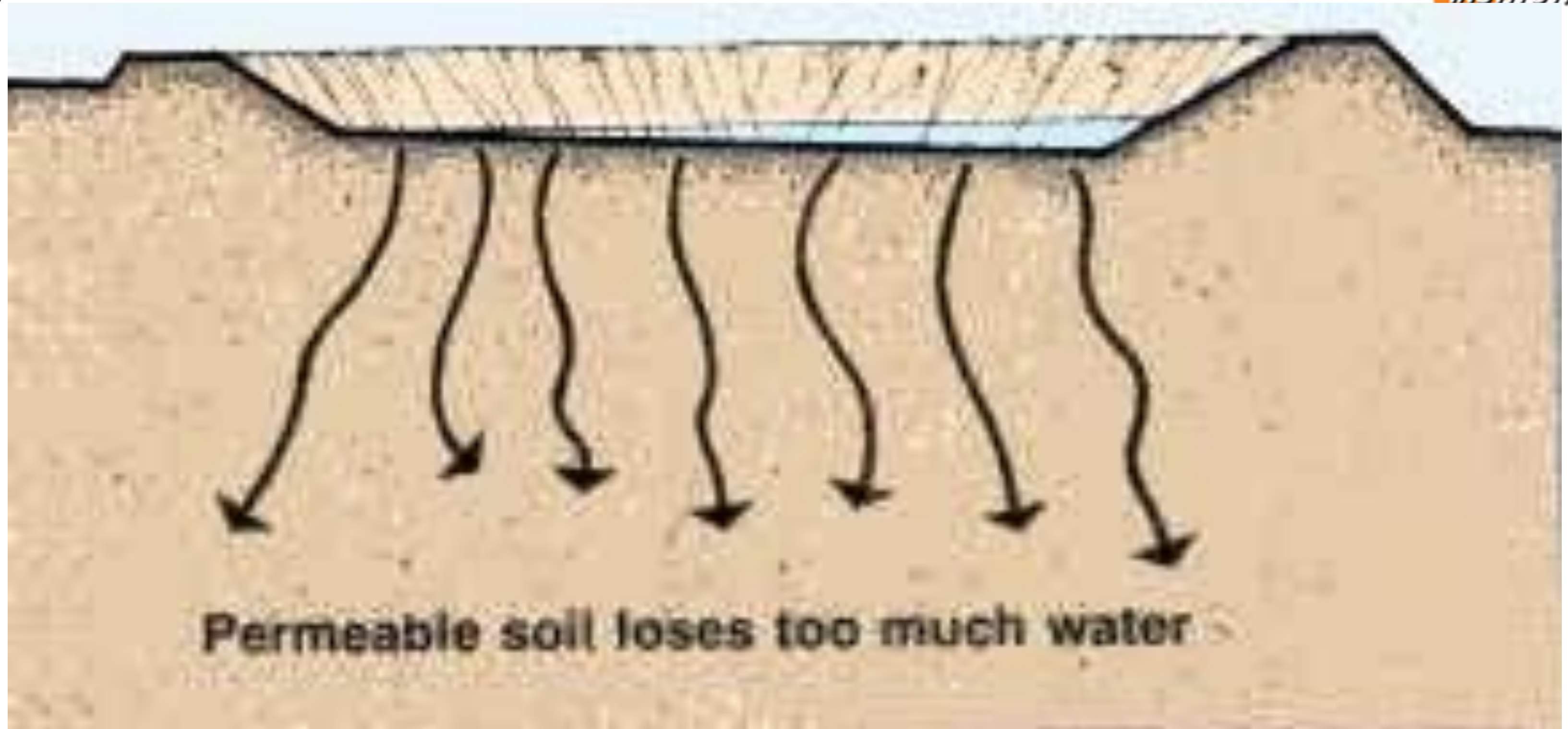
## **DEPARTMENT OF CIVIL ENGINEERING**

### **19CEB301- SOIL MECHANICS**

III YEAR V SEM

#### **UNIT 2 – SOIL WATER AND WATER FLOW**

Topic 4 : Permeability

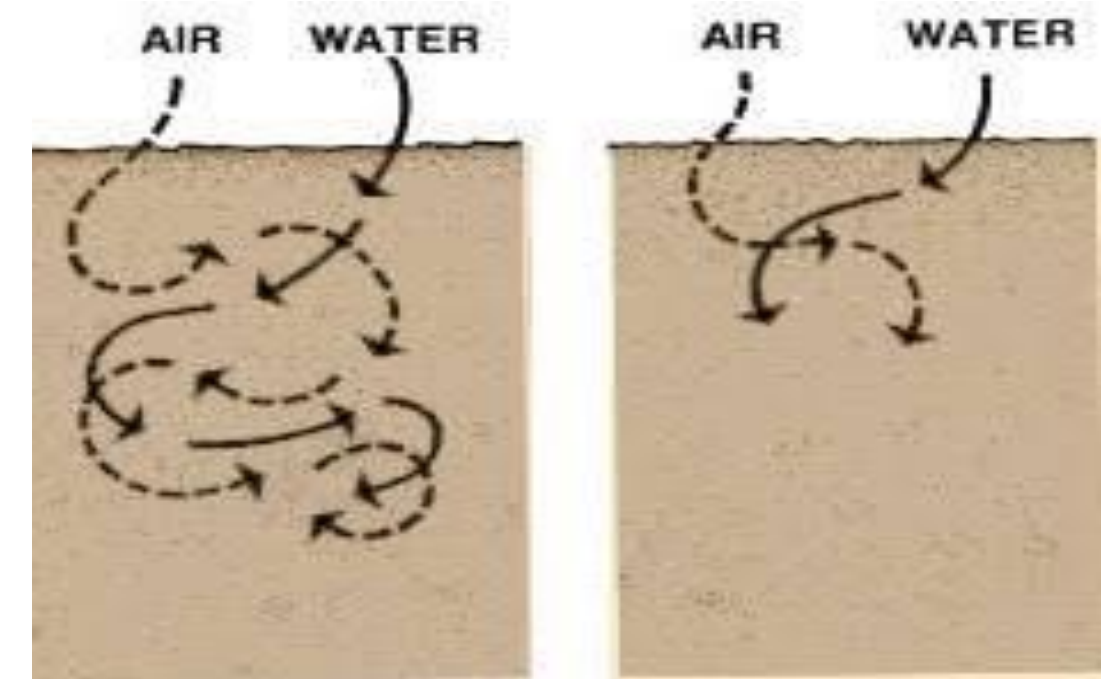




# DEFINITION



- ❖ 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





# PERMEABILITY OF VARIOUS SOILS



Infiltration Variations by Soil Texture



Sand



Silt



Clay

(The COMET Program)

# APPLICATIONS



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



# ASSESSMENT



- ❖ 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