DEMAND

# PAVIATH INTEGRATED SOLUTION

CIVIL ENGG

**CIVIL UNIV** 

## ADVANCED FUUNDATION ENGINEERING

## **Paviath ONLINE**

## ◆ CIVIL UNIVERSITY ◆ FOURTH YEAR I SEMESTER ◆ CODE A70134

#### UNIT – I

TEGRATA

INTRODUCTION-BEARING CAPACITY OF FOOTINGS SUBJECTED TO ECCENTRIC AND INCLINED LOADING – MEYERHOFF'S, HANSEN'S, VESIC THEORIES – FOUNDATIONS ON LAYERED SOILS - ELASTIC SETTLEMENT OF FOOTINGS EMBEDDED IN SANDS AND CLAYS OF INFINITE THICKNESS – FOOTINGS ON SOILS OF FINITE THICKNESS – SCHMERTAMAUNN'S METHOD, JANBU METHOD.

#### UNIT – II

PILE FOUNDATIONS – PILE GROUPS- SETTLEMENT OF PILE GROUPS RESTING IN SANDS AND CLAYS - NEGATIVE SKIN FRICTION-UNDER REAMED PILES-LATERALLY LOADED PILES – ULTIMATE LATERAL CAPACITY - BROMS METHOD -REESE AND MATLOCK APPROACH.

#### UNIT - IV

CANTILEVER AND ANCHORED SHEET PILES -Earth Pressure Diagram - Determination of Depth of Embedment in Sands and Clays – Braced Cuts - Earth Pressure Diagrams – Forces in Struts.

#### UNIT – V

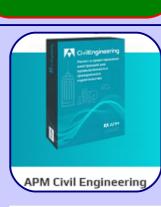
FOUNDATIONS IN EXPANSIVE SDILS – PROBLEMS IN EXPANSIVE SDILS – MECHANISM OF SWELLING – SWELL PRESSURE AND SWELLING POTENTIAL – HEAVE – FOUNDATION PRACTICES – SAND CUSHION – CNS TECHNIQUE – UNDER-REAMED PILE FOUNDATIONS – GRANULAR PILE ANCHOR TECHNIQUE, STABILIZATION OF EXPANSIVE SOILS.

#### linit – III

LATERAL EARTH PRESSURES THEORIES – RANKINE'S AND COULOMB'S THEORIES – GRAPHICAL METHODS, CULMANN'S, TRIAL WEDGE METHODS - STABILITY CHECKS OF CANTILEVER AND GRAVITY RETAINING WALLS.

#### TEXT BOOKS:

1) DAS, B.M., - (1999) PRINCIPLES OF FOUNDATION ENGINEERING -4TH EDITION PWS PUBLISHING, SINGAPORE 2) BOWLES, J.E., (1988) FOUNDATION ANALYSIS AND DESIGN - 4TH EDITION, MCGRAW-HILL INTERNATIONAL 3) SOIL MECHANICS AND FOUNDATION ENGINEERING BY V N S MURTHY, CBS PUBLSIHERS AND DISTRIBUTORS REFERENCE BOOKS 1) GEOTECHNICAL ENGINEERING PRINCIPLES AND PRACTICES BY CUDUTO, PHI INTRERNATIONAL. 2). GEOTECHNICAL ENGINEERING BY C. VENKATARAMAH. NEWAGE INTERNATIONAL PVT.LTD, PUBLISHERS (2002). 3) ANALYSIS AND DESIGN OF SUBSTRUCTURES -Swami Saran, dxford & Ibh PUBLISHING COMPANY PVT.LTD (1998). 4) BASICS AND APPLIED SOIL MECHANICS BY GOPAL RANJAN & ASR RAD, NEW AGE INTERNATIONAL PVT.LTD, PUBLISHERS (2002)



### STC APM

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