



DEMAND

PAVIATH INTEGRATED SOLUTION

CIVIL ENGG

CIVIL UNIV

WATER RESOURCES SYSTEMS ANALYSIS

Paviath ONLINE

◆ CIVIL UNIVERSITY ◆ FOURTH YEAR I SEMESTER ◆ CODE A70I44

UNIT - I  
INTRODUCTION: DEFINITION OF SYSTEM, TYPES OF SYSTEMS, SYSTEM APPROACH, SYSTEM ANALYSIS AND TYPES OF SYSTEMS, TECHNIQUES OF WATER RESOURCES SYSTEM ANALYSIS, SYSTEMS TECHNIQUES IN WATER RESOURCES: OBJECTIVE FUNCTION AND CONSTRAINTS, OPTIMIZATION USING CALCULUS, OPTIMIZATION OF A FUNCTION OF SINGLE VARIABLE, OPTIMIZATION OF A FUNCTION OF MULTIPLE VARIABLES, CONSTRAINED OPTIMIZATION, KUHN - TUCKER CONDITIONS.

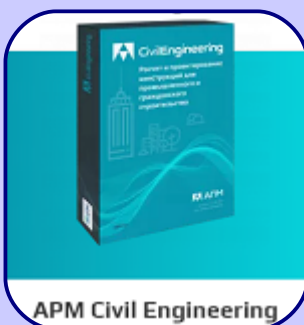
UNIT - II  
LINEAR PROGRAMMING -I: FORMULATION OF LINEAR PROGRAMMING MODELS, GRAPHICAL METHOD, SIMPLEX METHOD, APPLICATION OF LINEAR PROGRAMMING IN WATER RESOURCES.

UNIT - III  
LINEAR PROGRAMMING -II: REVISED SIMPLEX METHOD, DUALITY IN LINEAR PROGRAMMING, SENSITIVITY AND POST OPTIMALITY ANALYSIS.

UNIT - IV  
DYNAMICS PROGRAMMING: BELMAN'S PRINCIPLES OF OPTIMALITY FORWARD AND BACKWARD RECURSIVE DYNAMIC PROGRAMMING, CURSE OF DIMENSIONALITY, APPLICATION OF DYNAMIC PROGRAMMING FOR RESOURCE ALLOCATION.

UNIT - V  
WATER RESOURCES ECONOMICS: BASICS OF ENGINEERING ECONOMICS, DISCOUNT FACTORS, UNIFORM ANNUAL SERIES, AMORTIZATION, COMPARISON OF ALTERNATE PLANS, PRINCIPLES OF ECONOMICS ANALYSIS, CONDITIONS OF PROJECT OPTIMALITY, BENEFIT COST ANALYSIS SOCIO ECONOMIC INTUITIONAL AND PRICING OF WATER RESOURCES.

TEXT BOOKS:  
1 WATER RESOURCES SYSTEM ANALYSIS - VEDULA & MUJUMDAR - TATA MC. GRAW HILL COMPANY LTD.  
2 WATER RESOURCES ECONOMICS - JAMES & LEE. OXFORD PUBLISHERS 2005.  
REFERENCES:  
1 OPERATIONAL RESEARCH BY TAHA, PRINTICE HALL OF INDIA PUBLISHERS.  
2. WATER RESOURCES PROJECT ECONOMIC BY KUIPER, E.  
3. ENGINEERING OPTIMIZATION: THEORY AND PRACTICE, RAD, SINGIRESU S. NEW AGE INTERNATIONAL.



APM Civil Engineering

STC APM

SYLLABUS COACHING  
TRAINING - 2/UNIT TRAINING  
SELF - 4/UNIT ASSIGNMENT  
PRESENTATION - 2/UNIT  
SHOWTIME - 2/UNIT



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SYLLABUS PERIOD  
TRAINING - 2/2 HRS/UNIT  
REMOTE - 2/2 HRS/UNIT  
DURATION - SEMESTER  
ONLINE/REMOTE ACCESS



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FEATURES  
TRAINING BY IND. PROFESSIONAL  
INDUSTRY APPLICATION  
TRAINER OPPORTUNITY  
CERTIFICATION