



DEMAND

PAVIATH INTEGRATED SOLUTION

CIVIL ENGG

CIVIL UNIV

CONCRETE TECHNOLOGY

Paviath ONLINE

◆ CIVIL UNIVERSITY ◆ THIRD YEAR I SEMESTER ◆ CODE A50116

UNIT I

CEMENT: PORTLAND CEMENT - CHEMICAL COMPOSITION  
 - HYDRATION OF CEMENT - STRUCTURE OF HYDRATE CEMENT - TEST ON PHYSICAL PROPERTIES - DIFFERENT GRADES OF CEMENT. ADMIXTURES: TYPES OF ADMIXTURES - MINERAL AND CHEMICAL ADMIXTURES - PROPERTIES - DOSAGES - EFFECTS - USAGE.  
 AGGREGATES: CLASSIFICATION OF AGGREGATE - PARTICLE SHAPE & TEXTURE - BOND STRENGTH & OTHER MECHANICAL PROPERTIES OF AGGREGATE - SPECIFIC GRAVITY, BULK DENSITY, POROSITY, ADSORPTION & MOISTURE CONTENT OF AGGREGATE - BULKING OF SAND - DELETERIOUS SUBSTANCE IN AGGREGATE - SOUNDNESS OF AGGREGATE - ALKALI AGGREGATE REACTION - THERMAL PROPERTIES - SIEVE ANALYSIS - FINENESS MODULUS - GRADING CURVES - GRADING OF FINE & COARSE AGGREGATES - GAP GRADED AGGREGATE - MAXIMUM AGGREGATE SIZE.

UNIT - II

FRESH CONCRETE: WORKABILITY - FACTORS AFFECTING WORKABILITY - MEASUREMENT OF WORKABILITY BY DIFFERENT TESTS - SETTING TIMES OF CONCRETE - EFFECT OF TIME AND TEMPERATURE ON WORKABILITY - SEGREGATION & BLEEDING - MIXING AND VIBRATION OF CONCRETE - STEPS IN MANUFACTURE OF CONCRETE - QUALITY OF MIXING WATER.

UNIT - III

HARDENED CONCRETE: WATER / CEMENT RATIO - ABRAM'S LAW - GELSPADE RATIO - NATURE OF STRENGTH OF CONCRETE - MATURITY CONCEPT - STRENGTH IN TENSION & COMPRESSION - FACTORS AFFECTING STRENGTH - RELATION BETWEEN COMPRESSION & TENSILE STRENGTH - CURING. TESTING OF HARDENED CONCRETE: COMPRESSION TESTS - TENSION TESTS - FACTORS AFFECTING STRENGTH - FLEXURE TESTS - SPLITTING TESTS - PULL-OUT TEST, NONDESTRUCTIVE TESTING METHODS - CODAL PROVISIONS FOR NOT. ELASTICITY, CREEP & SHRINKAGE - MODULUS OF ELASTICITY - DYNAMIC MODULUS OF ELASTICITY - POSISSON'S RATIO - CREEP OF CONCRETE - FACTORS INFLUENCING CREEP - RELATION BETWEEN CREEP & TIME - NATURE OF CREEP - EFFECTS OF CREEP - SHRINKAGE - TYPES OF SHRINKAGE.

UNIT - IV

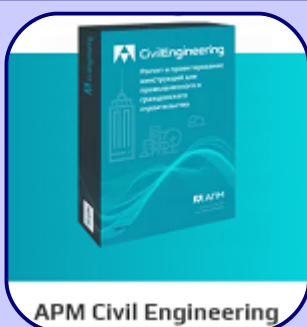
MIX DESIGN: FACTORS IN THE CHOICE OF MIX PROPORTIONS - DURABILITY OF CONCRETE  
 - QUALITY CONTROL OF CONCRETE - STATISTICAL QUALITY CONTROL - ACCEPTANCE CRITERIA  
 - PROPORTIONING OF CONCRETE MIX BY NORMAL AND PUMPABLE CONCRETES BY - BIS METHOD OF MIX DESIGN.

UNIT - V

SPECIAL CONCRETES: LIGHT WEIGHT CONCRETE - LIGHT WEIGHT AGGREGATE CONCRETE  
 - CELLULAR CONCRETE - NO-FINES CONCRETE - FIBRE REINFORCED CONCRETE - POLYMER CONCRETE - TYPES OF POLYMER CONCRETE - SELF COMPACTING CONCRETE.

TEXT BOOKS:

1. PROPERTIES OF CONCRETE BY A.M. NEVILLE - LOW PRICED EDITION - 4TH EDITION.
  2. CONCRETE TECHNOLOGY BY M.S. SHETTY. - S.CHAND & CO.
- REFERENCES:
1. CONCRETE TECHNOLOGY BY JOB THOMAS, CENGAGE LEARNING.
  2. CONCRETE TECHNOLOGY BY M.L. GAMBHIR. - TATA MC. GRAW HILL PUBLISHERS, NEW DELHI.
  3. CONCRETE TECHNOLOGY BY A.R. SANTHA KUMAR, OXFORD UNIVERSITY PRESS, NEW DELHI.
  4. CONCRETE: MICRO STRUCTURE, PROPERTIES AND MATERIALS - P.K.MEHTA AND J.M.MONTEIRO, MC-GRAW HILL PUBLISHERS.



APM Civil Engineering

STC APM



ASCON RENG



ARCADIA BIM

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

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

FEATURES  
 TRAINING BY IND. PROFESSIONAL  
 INDUSTRY APPLICATION  
 TRAINER OPPORTUNITY  
 CERTIFICATION