

SILVER OAK COLLEGE OF ENGINEERING AND TECHNOLOGY
CIVIL ENGINEERING DEPARTMENT
SEMESTER IV

SUBJECT: STRUCTURAL ANALYSIS-I

SUBJECT CODE: 2140603

MID SEM-II SYLLABUS

CHAPTER-2

Displacement of Determinate Beams and Plane Truss:

Differential equation of elastic curve, relation between moment, slope and deflection, Macaulay's method, Moment Area Method, Conjugate Beam Method applied to beams.

Joint displacement of determinate plane truss using unit load method.

CHAPTER-3

Direct and Bending stresses:

Members subjected to eccentric loads, middle third rule, kernel of section, chimney subjected to wind pressure, retaining walls, dams subjected to hydraulic pressure.

CHAPTER-7

Fixed Beams

Computation of fixed-end actions for various types of loads and secondary

Effects using basic principles, beams of varying moment of inertia.

CHAPTER-8

Strain Energy

Resilience, strain energy due to axial loads & flexure, proof resilience, modulus of resilience, impact loads, and sudden loads.

Asst.Prof. Hasumati Patel

Asst.Prof. Hardik Gohel

Subject Co-ordinator

Subject Co- Coordinator

SILVER OAK COLLEGE OF ENGINEERING AND TECHNOLOGY
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SEMESTER IV

SUBJECT: CONCRETE TECHNOLOGY

SUBJECT CODE: 2140608

MID SEM-II SYLLABUS

MODULE 4

Hardened concrete: Strengths of hardened concrete (Tensile & Compressive strength, Flexural & Bond strength), Standard test methods as per IS and ASTM, Failure mechanism under compression & tension, Stress- strain behavior of concrete, Overview of Modulus of elasticity, Dimensional stability – Creep & Shrinkage

MODULE 5

Durability & Permeability of concrete: Causes of deterioration in concrete and durability problems, Factors affecting durability, Transport mechanism of gases & fluids in concrete, Cracking & causes of cracking, Carbonation induced & corrosion induced cracking, Alkali-aggregate reaction, Degradation by freeze & thaw, Sulphate attack, Durability under sea-water (marine environment).

MODULE 6

Mix design of concrete: Principles of concrete mix design, Parameters and factors influencing mix design, Indian Standard methods of mix design, Acceptability criteria, variability of results, Various provisions of IS code for sound concrete.

MODULE 7

Special concrete: Advanced cement based composites, Fiber reinforced concrete, Polymer modified concrete, Self-compacting concrete, light weight concrete, and High strength concrete, Light- weight & heavy weight concrete, and High volume fly ash concrete.

Concreting methods: Pumped concrete, ready mix concrete, Under-water concreting, Hot & cold weather concreting, Precast concrete.

Prof. Reecha Panchal

Prof. Ganesh Sutar

Subject Co-ordinator

Subject Co- Coordinator

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CIVIL ENGINEERING DEPARTMENT
SEMESTER IV

SUBJECT: BUILDING AND TOWN PLANNING

SUBJECT CODE: 2140607

MID SEM-II SYLLABUS

BUILDING PLANNING

Planning of earthquake resistant building considering symmetry, simplicity, continuity, consideration of locating staircase and overhead water tank, most sensitive to earthquake

Preparing working drawing of residential building,

Elements of perspective views, Types of views such as one point, two point perspective etc

Building services like water supply, drainage, electrification etc. for modern buildings

TOWN PLANNING

Necessity of Civic surveys for Planning purpose, types, data and its presentation and analysis, Fundamental principles of Town Planning

Land use Planning and percentage of different Land uses as per category of town.

Components of town such as Zones, Road Network, CBD, Neighbour hood planning, Development controls for new town planning schemes for growth negotiation

Introduction to smart city, its Characteristics as per present scenario.

Prof. Viranchi Shah

Subject Co-ordinator

Prof. Ninaad Athalye

Subject Co- Coordinator

SILVER OAK GROUP OF INSTITUTIONS
SILVER OAK COLLEGE OF ENGINEERING & TECHNOLOGY
CIVIL ENGINEERING DEPARTMENT

4TH SEMESTER

Subject: Advanced Surveying

Subject Code: 2140601

MID SEM-II: SYLLABUS

Module-II:

Geodetic Surveying:

Principle and Classification of triangulation system- Selection of base line and stations- Orders of triangulation- Triangulation figures- Station marks and signals- marking signals- Extension of base, Reduction of Centre, Selection and marking of stations

Module-III:

Theory of Errors:

Introduction, types of errors, definitions, laws of accidental errors, laws of weights, theory of least squares, rules for giving weights and distribution of errors to the field observations, determination of the most probable values of quantities.

Module-V:

Aerial Photogrammetry:

Introduction, Principle, Uses, Aerial camera, Aerial photographs, Definitions, Scale of vertical and tilted photograph,

Module-VII:

Remote Sensing:

Introduction, Principles of energy interaction in atmosphere and earth surface features, Image interpretation techniques, visual interpretation, Digital image processing, Global Positioning system

Asst. Prof. Anuj Bhatt
Subject Co-ordinator

Asst. Prof. Ninaad Athalye/ Asst. Prof. Mrunalini Rana
H.O.D Civil Engg. Dept.