

V. V. P. Engineering College, Rajkot
Department of Civil Engineering
Course Outcomes & PO/PSO Mapping

Semester:	4
Subject Name:	Structural Analysis-I
Subject Code:	3140603

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3140603.1	Determine reactions & internal forces in statically determinate structures.	Ap
C3140603.2	Calculate strain energy due to axial load and flexure stored in a body.	Ap
C3140603.3	Calculate slope and deflection of statically determinate beams.	Ap
C3140603.4	Evaluate stability checks for chimney, retaining wall and dam, subjected to gravity and lateral loading.	E
C3140603.5	Distinguish the buckling behaviour of columns & struts with different end conditions.	An
C3140603.6	Calculate fixed end actions for propped cantilever, fixed and continuous beams using manual method and software.	Ap

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Semester:	4
Subject Name:	Civil Engineering - Societal & Global Impact
Subject Code:	3140609

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3140609.1	Discuss the role of Civil engineering in the evolution of mankind and the development of the infrastructure of India.	U
C3140609.2	Describe the level of resource utilization for present and future infrastructural projects.	U
C3140609.3	Explain the necessity of different conventional as well as futuristic infrastructural projects.	U
C3140609.4	Explain the goal of sustainable development to minimize the potential impacts on the global environment.	U
C3140609.5	Apply appropriate measures for improving quality of life of the occupants of buildings and infrastructures.	Ap
C3140609.6	Apply the potential of Civil Engineering for employment creation and its contribution to the GDP.	Ap

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Semester:	4
Subject Name:	Complex Variables and Partial Differential Equations
Subject Code:	3140610

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3140610.1	Explain with examples the properties of complex number, continuity and differentiability for complex functions and conformal mapping.	U
C3140610.2	Apply Cauchy-Riemann equations and Laplace equation for analyticity, harmonic and entire functions.	Ap
C3140610.3	Calculate the complex contour integrals.	Ap
C3140610.4	Apply power series for analytic functions, singularities and residues for complex integrals.	Ap
C3140610.5	Solve first order linear and nonlinear partial differential equations.	Ap
C3140610.6	Solve problems related to Heat, Wave and Laplace equations using partial differential equations.	Ap

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Semester:	4
Subject Name:	Fluid Mechanics & Hydraulics
Subject Code:	3140611

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3140611.1	Explain fluid properties with its relation, flow net, types of fluid and flow.	U
C3140611.2	Analyse hydrostatic, hydrodynamic and buoyant forces.	An
C3140611.3	Measure flow parameter using Venturi meter, Orifice meter, Notches, Orifice, Mouth pieces, Pitot tube.	E
C3140611.4	Design pipes and open channel.	C
C3140611.5	Apply energy principles in the problems of fluid mechanics.	Ap
C3140611.6	Apply dimensional analysis to predict physical parameters that influence the flow in fluid mechanics.	Ap

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Semester:	4
Subject Name:	Design Engineering 1 B
Subject Code:	3140005

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3140005.1	Recognize branch specific artefact or solution	U
C3140005.2	Apply reverse engineering to artefact or solution as per user's need	Ap
C3140005.3	Analyse learning needs for solution	An
C3140005.4	Evaluate solution using props	E
C3140005.5	Construct rough prototype	C

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Semester:	4
Subject Name:	Surveying
Subject Code:	3140601

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3140601.1	Perform plane table, traverse, trigonometric & tacheometric surveying.	Ap
C3140601.2	Practice setting out curves.	Ap
C3140601.3	Calculate the area and volumes of engineering works	Ap
C3140601.4	Explain (with example) aspects of geodetic surveying.	U
C3140601.5	Apply theory of errors for calculate the most probable value and distribution of error	Ap
C3140601.6	Describe modern tools for surveying.	U

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