

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

Semester:	6
Subject Name:	Design Engineering II B
Subject Code:	3160001

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160001.1	Determine problems related to community or society	Ap
C3160001.2	Deduce the problem using design engineering methodology	An
C3160001.3	Evaluate solution using props	E
C3160001.4	Construct working model of the product	C
C3160001.5	Validate developed product in real world	E

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Semester:	6
Subject Name:	Integrated Personality Development Course-2
Subject Code:	3160003

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160003.1	Apply techniques of making failure insignificant and practicing faith in daily life.	Ap
C3160003.2	Analyse factors responsible for family bonding and power of leading with humility.	An
C3160003.3	Exhibit strong passion and pride for nation.	Ap
C3160003.4	Analyze the process of remaking oneself with responsibility, accountability, honesty and integrity.	
C3160003.5	Apply the virtues of self – confidence and humbleness.	Ap

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Semester:	6
Subject Name:	Urban Transportation Planning
Subject Code:	3160608

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160608.1	Explain basics of urban transportation planning and existing system.	U
C3160608.2	Assess mass transportation system in urban area with performance measurement.	E
C3160608.3	Collect the data and analyze for travel demand forecasting for horizon year by four stage modeling.	Ap
C3160608.4	Explain trip generation and trip distribution models for study area.	U
C3160608.5	Explain goods/freight movement in urban area.	U

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Semester:	6
Subject Name:	Water Resources Engineering and Hydrology
Subject Code:	3160610

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160610.1	Calculate annual rainfall, evaporation, evapotranspiration infiltration, using hydrological data.	Ap
C3160610.2	Calculate hydrological parameters using hyetograph and hydrograph.	Ap
C3160610.3	Explain (with example) ground water, well - losses, yields & tests.	U
C3160610.4	Explain types of dam, reservoir and hydel schemes.	U
C3160610.5	Evaluate hydrological analysis and management of flood.	E
C3160610.6	Explain drought management, water harvesting technique and concepts of water resources planning and its environmental aspects	U

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Semester:	6
Subject Name:	Environmental Engineering
Subject Code:	3160611

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160611.1	Design components of water supply scheme	C
C3160611.2	Design components of wastewater treatment plant.	C
C3160611.3	Design components of sewage system	C
C3160611.4	Explain the major pollutants and their abatement devices, environmental management and sustainable development	U
C3160611.5	Illustrate components of house drainage systems.	U
C3160611.6	Describe objects and applicability of acts related to environment.	U

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Semester:	6
Subject Name:	Design of Reinforced Concrete structures
Subject Code:	3160612

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160612.1	Design of RC framed structure up to G+3.	C
C3160612.2	Design reinforced concrete structure like Retaining wall, water tank and flat slab.	C
C3160612.3	Apply the concept of earthquake resistant design in the building.	Ap
C3160612.4	Generate detailing of reinforcement for Ground + 3 storey building, Retaining wall, water tank and flat slab.	C

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Semester:	6
Subject Name:	Contracts Management
Subject Code:	3160614

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160614.1	Explain contract and its legal status.	U
C3160614.2	Judge best form of contracts for a given project scenario, design performance parameters and stakeholders of contract.	E
C3160614.3	Summarize tender processing and involve various contractual provisions in a tender documents and develop bidding strategy.	U
C3160614.4	Formulate contract management processes involved in construction projects .	C

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Semester:	6
Subject Name:	Traffic Engineering and Management
Subject Code:	3160615

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160615.1	Determine the traffic flow parameters for traffic management	Ap
C3160615.2	Predict the future traffic demand for the urban and rural area	E
C3160615.3	Plan the parking plots as per the traffic availability in the urban area	An
C3160615.4	Design the various types of intersection in the urban area.	C
C3160615.5	Explain different types of traffic system management.	U
C3160615.6	Evaluate the capacity and level of service on the streets of rural and urban area.	E

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Semester:	6
Subject Name:	Foundation Engineering
Subject Code:	3160616

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160616.1	Select appropriate soil investigation/testing technique/method and get true sub soil parameters used for selection of type of foundation as per codal guidelines.	E
C3160616.2	Select and design appropriate (Shallow/ Deep) foundation system for different structures, that satisfy the allowable bearing capacity and settlement requirements based on soil properties,	E
C3160616.3	Design vertical piles and pile groups for various types of loading, soil conditions and settlement requirements.	C
C3160616.4	Design and analyze retaining walls, sheet piles and diaphragm walls under static loads	C
C3160616.5	Explain engineering behavior of expansive soils and selection of suitable foundation type for such soils, suggest suitable type of geosynthetics for various foundation issues and its proper implications.	U

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Semester:	6
Subject Name:	Construction Equipment and Automation
Subject Code:	3160617

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160617.1	Evaluate feasibility of construction equipment for different project conditions	E
C3160617.2	Recommend automation techniques in construction industry	E
C3160617.3	Select suitable Drone technology for surveying and project management	E
C3160617.4	Analyse benefits of robotics versus conventional construction equipment	An
C3160617.5	Describe applications of Virtual Reality, Augmented Reality and BIM in construction industry	U

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Semester:	6
Subject Name:	Soft Computing Techniques
Subject Code:	3160619

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160619.1	Describe soft computing techniques with applications.	U
C3160619.2	Explain the fuzzy logic sets, membership function and defuzzification techniques.	U
C3160619.3	Explain the artificial neural networks with applications	U
C3160619.4	Solve single-objective optimization problems using Genetic Algorithm	Ap
C3160619.5	Use the hybrid system for solving the real-life problem of civil engineering	Ap

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Semester:	6
Subject Name:	Earthquake Engineering
Subject Code:	3160621

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160621.1	Calculate natural frequency and response of free and forced vibration.	Ap
C3160621.2	Calculate lateral load distribution of frames using approximate methods.	Ap
C3160621.3	Design Earthquake Resistant building.	C
C3160621.4	Illustrate ductile detailing in RC structures.	U
C3160621.5	Explain Soil Liquefaction, masonry structures, Structural controls and Seismic strengthening	U

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Semester:	6
Subject Name:	Disaster Management
Subject Code:	3160622

After learning the course the students will be able to:

CO Number	Course Outcomes	CL
C3160622.1	Explain types, trends, causes consequences and control of disaster	U
C3160622.2	Explain disaster management cycle and frame work	U
C3160622.3	Summarize disaster management agencies and their roles in India	U
C3160622.4	Relate applications of sciences and technology for disaster management and mitigation	An

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