



Department of Civil Engineering

2020-21

Program Outcomes (PO)		
PO1: Engineering Knowledge	PO5: Modern Tool Usage	PO9: Individual and team work
PO2: Problem Analysis	PO6: The engineer and Society	PO10: Communication
PO3: Design/Development of solutions	PO7: Environment and Sustainability	PO11: Project Management and Finance
PO4: Conduct Investigations of Complex Problems	PO8: Ethics	PO12: Life-long learning

Program Specific Outcomes (PSO)	
PSO1	Carry out projects in the field of real estate and infrastructural engineering
PSO2	Provide solution for environmental and social issues through sustainable approach
PSO3	Substantiate professionalism through leadership qualities and moral values

Subject: Environmental Engineering II

Course Outcomes:

On completion of the course, learner will be able to:

1. Understand the Physical, chemical and biological characteristics of sewage and design of sewer
2. Comprehend Stream sanitation and Able to design the primary sewage treatment units
3. Capable to design secondary treatment units such as Activated sludge process, trickling filter, etc.
4. Able to design of low cost wastewater treatment units.
5. Understand theory and design of anaerobic treatment units.
6. Know the waste water treatment flow sheet for various industries.

Subject: Environmental Engineering II

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2							1		1	1				1
CO2	2	2	2	1		2	2		1			1	1	2	
CO3	2	2	2	1		2			1			1	1	2	
CO4	2	2	2	1	2		2		1			1	1	2	
CO5	2	2	2	1	2	2						1	1	2	1
CO6	2				2	2	2	1		1	1				1



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Subject: Structural Design and Drawing III

On completion of the course, learner will be able to:

1. explain the concept of Prestressed concrete
2. analyse and design Precrressed concrete girder, one way two way slabs
3. analyse and design Prestressed concrete flat slab
4. analyse and design of Retaining wall
5. analyse and design of Water tank
6. describe basic concept of structural vibration and to be able to apply Seismic coefficient method

Subject: Structural Design III															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3				1		2	2	1			1	1	1
CO2	3	3	3			1		2	2	1			2	1	1
CO3	3	3	3	2		1		2	2	1			2	1	1
CO4	3	3	3	2		1		2	2	1			2	1	1
CO5	3	3	3	2		1		2	2	1			2	1	1
CO6	3	3	3	2	2	1		2	2	1			2	1	1



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Subject: Transportation Engineering

At the end of the course, the learners will be able to

1. Understand history of road development, roads classification, traffic Engineering and controlling devices in India.
2. Design of highway geometrics.
3. Understand Traffic engineering & control
4. Determine the quality of Materials used for pavements
5. Design of flexible and rigid pavements.
6. Understand the modern trends in construction and maintenance of highways

Subject: Transportation Engineering

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2		1			1	1			1	2				
CO2	3	2	3	1						1		1	1		
CO3	2	3		2	1	1	1	1	1	2		1	1		1
CO4	3	2		3	1	2		1	1	2	1			1	
CO5	3	2	3	2	1	1				1			2		1
CO6	2		1	2	1	1	2			1			1		



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Subject: Systems Approach in Civil Engineering

At the end of the course, the learners will be able to

1. To learn concepts of systems approach and application to Civil Engineering
2. Applications of non linear programming methods.
3. Understanding and applying stochastic methods to live construction and other problems
4. Application of Dynamic Programming methods for resource allocation
5. To learn and apply linear programming methods and linear models for construction applications.
6. Application of assignment model and transportation model for problem of material management in civil engineering.

Subject: Elective I: Systems Approach in Civil Engineering															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1				1						1					
CO2	1	1	1	1	1					1					
CO3		1		1	1					1					
CO4		2	1	1	1					1					
CO5	1	1		1	1					1					
CO6		2		1	1					1					



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Subject: TQM and MIS in Civil Engineering

At the end of the course, the learners will be able to

1. To understand concepts of TQM & contribution of various Quality Gurus.
2. To understand construction defects and measures to prevent them
3. To study quality manuals and prepare checklist for construction activities
4. To understand benchmarking and other quality certifications
5. To understand concept of Kaizen and zero defects
6. Application of MIS in construction.

Subject: Elective II: TQM & MIS in Civil Engineering

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1				1				1					1		
CO2			1	1				1					1		
CO3			1					1					1		
CO4				1	1	2		1					1		
CO5				1		2		1					1		
CO6			2	2		2		1					1		



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Subject: Dams and Hydraulic Structures

At the end of the course, the learners will be able to

1. Understand properties of fluid and dimensional Analysis.
2. Understand concept of pressure and principle of buoyancy and able to solve fluid statics problem.
3. Student should be able to understand fluid kinematics.
4. Student should get knowledge of fluid Dynamic and Bernoulli's theorem.
5. Understand various types of fluid flow and find the fluid velocity.
6. Student should be able to understand turbulent flow and flow through pipe and able to design pipes to carry particular amount of discharge.

Subject: Dams and Hydraulics Structures

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3						1					2	1	2	3
CO2	2	2	2	2		2			2	2		2			2
CO3	1	2	2	2	2	2			2	1		1	1	2	2
CO4	2	2	2			2	1		2			2	1		2
CO5	1	2	2	2		2		1		2	1	1	1	2	3
CO6	3	2				2	2	2		2	2	2		2	3



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Subject: Quantity Surveying Contracts and Tenders

At the end of the course, the learners will be able to

Understand the different methods of Estimations.

Determine task Quantities and estimation of civil engineering project.

Understand the specifications of tasks and Able to Rate analysis of tasks.

Ability to determine Valuation of Building and Land.

Understand the Tendering, and work Execution of Civil Engineering Project.

Understand the Contracting, and Arbitration process of Civil Engineering Project.

Subject: Quantity Surveying Contracts and Tenders															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1								1				1		
CO2	2	1			1	1			2		3		1	1	1
CO3	2	1		2				2	2		2				
CO4	1	1											2		
CO5	1				2			2	1	1			1	1	
CO6			1			2			1	1		1	1	2	



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Subject: Air Pollution and Control

At the end of the course, the learners will be able to
Apply knowledge of meteorological parameters and their influence on air pollution.
Understand the various air sampling techniques and NAAQS.
Analyse, evaluate and infer from all causes and effects of Indoor Air pollution
Remembering thoroughly equipped with design of various air pollution control equipment
Distinguish land use planning, economics of APC and the legislative acts
Evaluate and able to design an environmental impact assessment and management scheme.

Subject: Air Pollution and Control															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1					1		1					1		
CO2	2	1			1	1	1						1	1	1
CO3	1														
CO4	1	1				2							2		
CO5	1									1			1	1	
CO6			1			2	2	3		1	2	1	1	2	



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Subject: Construction Management

- At the end of the course, the learners will be able
- To enrich themselves with the concepts and applications of Management.
 - To make the learners understand the concepts of construction scheduling and work study.
 - To facilitate the students with the fundamentals of Labour laws and financial aspects of construction projects.
 - To enhance the understanding of risk management and value engineering.
 - To impart the importance of Human Resources in the organizational context and material management.
 - To gain knowledge related to artificial intelligence and applications.

Subject: Construction Management

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1						1				1		1	1		1
CO2					2					1	2	1	2		2
CO3	1					1		2		1	2	1	1		1
CO4	1									1		1	1		
CO5	1									1		1	1		1
CO6	1									1		1	1		