

DEPARTMENT OF CIVIL ENGINEERING

Basic Civil Engineering (2nd Semester)

Course Outcomes:

1. Able to understand the basics of civil engineering and fundamental aspects of building.
2. Able to get the brief overview of general aspect of building material
3. Able to get brief idea about transportation modes and planning.
4. Able to get brief idea about drinking water standards and water treatment plant.
5. Able to get brief idea about irrigation network system.

CO&PO MATRIX:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	-	1	2	1	-	1	1	-	1
CO2	3	2	2	1	2	2	2	-	-	1	-	1
CO3	3	2	2	1	1	2	2	-	-	1	-	1
CO4	3	3	2	2	1	3	3	1	-	1	-	1
CO5	3	3	2	2	1	3	3	1	-	1	-	2

CIPC2002 ENGINEERING SURVEY (3-0-0)

3RD SEMESTER

Course Outcome:

After this course the student shall:

1. Apply the concepts of linear distance measurement for establishing the position of a point on ground.
2. Able to find the angular measurement.
3. Apply the concepts of height measurement to establish the vertical coordinate of a point on earth and prepare the contour map.
4. Able to use theodolite to establish the spatial coordinates of a point on ground.
5. Understand and apply modern equipment and technique for engineering survey.

CO & PO Mapping matrix:-

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	1	2	-	-	-	-	-	-	1
CO2	3	2	1	2	2	-	-	-	-	-	-	1
CO3	3	3	2	2	2	-	1	-	-	-	-	1
CO4	3	3	2	3	3	-	-	-	-	-	-	1
CO5	3	2	2	2	3	-	1	-	1	1	-	2

3RD SEM - MECHANICS OF SOLIDS (MOS)

Course Outcomes (COs)

After successful completion of the course, students will be able to:

1. Understand the concept of stress, strain and elastic constants in engineering materials.
2. Analyze shear force and bending moment in beams under different loading conditions.
3. Determine bending and shear stresses in beams and columns.
4. Analyze torsion in circular shafts and stresses in springs.
5. Apply theories of failure and stability concepts for engineering structures.

CO–PO Mapping Matrix												
COs \ POs	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012
C01	3	2	1	1	2	–	–	–	–	–	–	1
C02	3	3	2	2	2	–	–	–	–	–	–	1
C03	3	3	2	2	2	–	–	–	–	–	–	1
C04	3	2	2	2	2	–	–	–	–	–	–	1
C05	3	3	3	2	2	1	1	–	–	–	–	1

CIPC2006 GEOTECHNICAL ENGINEERING (3-0-0) 4TH Semester

- Course Outcomes:**
- 1. To Classify soil and solve three phase soil system**
 - 2. To Solve any practical problems related to soil stresses estimation, permeability and seepage including flow net diagram.**
 - 3. To Formulate practical problems related to consolidation settlement and time rate of settlement.**
 - 4. To Validate problem related to compaction in the field.**
 - 5. To Use stabilization techniques for soft and expansive soil by using various method.**

CO & PO MATRIX:

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	–	–	1	–	–	–	–	–	–	1
CO2	3	3	2	2	1	–	–	–	–	–	–	1
CO3	3	3	2	2	1	–	–	–	–	–	–	1
CO4	3	2	2	2	2	–	–	–	1	–	–	1
CO5	3	3	3	2	2	1	1	–	1	–	–	2

STRUCTURAL ANALYSIS(4th sem)

1. Understand the basics of structural analysis and determine reactions in determinate structures.
2. Analyze beams and frames using various analytical methods.
3. Determine deflection and slope of beams and frames using classical methods.
4. Analyze indeterminate structures using force and displacement methods.
5. Apply structural analysis concepts for practical civil engineering structures.

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	-	1	-	-	-	-	-	-	1
CO2	3	3	2	2	2	-	-	-	-	1	-	1
CO3	3	3	2	2	2	-	-	-	-	1	-	1
CO4	3	3	3	2	2	-	-	-	1	1	-	1
CO5	3	3	3	2	2	1	1	-	1	1	1	2

Water supply and sanitary engineering(4th sem)

1. Understand sources of water, water demand, and collection systems for water supply engineering.
2. Analyze water quality parameters and design water treatment processes for potable water supply.
3. Understand sewerage systems, sewer appurtenances, and wastewater collection methods.
4. Design and analyze sewage treatment units and disposal methods as per environmental standards.
5. Apply principles of water supply and sanitation engineering for sustainable public health protection.

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	-	1	2	2	-	-	1	-	1
CO2	3	3	2	2	2	3	3	-	-	1	-	1
CO3	3	3	2	2	1	3	3	-	1	1	-	1
CO4	3	3	3	2	2	3	3	1	1	1	-	1
CO5	3	3	3	2	2	3	3					

5th Sem - TRANSPORTATION ENGINEERING

Course Outcomes (COs)

After successful completion of the course, students will be able to:

1. Understand the importance and classification of transportation systems and highway engineering.
2. Analyze traffic characteristics, surveys and traffic control systems.
3. Design geometric elements of highways and intersections.
4. Understand pavement materials, construction and maintenance of highways.
5. Apply concepts of railway, airport and harbor engineering in transportation projects.

CO–PO Mapping Matrix

COs \ POs	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012
C01	3	2	1	1	2	–	1	–	–	–	–	1
C02	3	3	2	2	2	–	1	–	–	–	–	1
C03	3	3	3	2	2	–	1	–	–	–	–	1
C04	3	3	2	2	3	1	1	–	–	–	–	1
C05	3	2	2	2	2	1	1	–	1	1	–	1

DESIGN OF STEEL STRUCTURE(6TH SEM)

1. Understand the properties and behavior of steel structures and design philosophies.
2. Design tension and compression members as per IS codes.
3. Design beams, columns, and beam-column connections.
4. Analyze and design welded and bolted connections.
5. Design steel roof trusses and industrial steel structures.

COs \ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C01	3	2	1	-	1	1	1	-	-	1	-	1
C02	3	3	3	2	2	1	1	-	-	1	-	1
C03	3	3	3	2	2	2	1	-	1	1	1	1
C04	3	3	3	2	2	2	1	1	1	1	1	1
C05	3	3	3	2	2	2	2					