NPR
College of Engineering
and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
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Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes and Program Outcomes

Batch 2021-2025

NPR COLLEGE OF ENGG & TECHNOLOGY NATHAM

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Department of Civil Engineering Regulation 2021

Program Outcomes and Course Outcomes

Date: 25.11.2025

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DEPARTMENT OF CIVIL ENGINEERING

Course Code & Title:

As per Anna University Regulation 2021, the lists of courses are given in the Table.

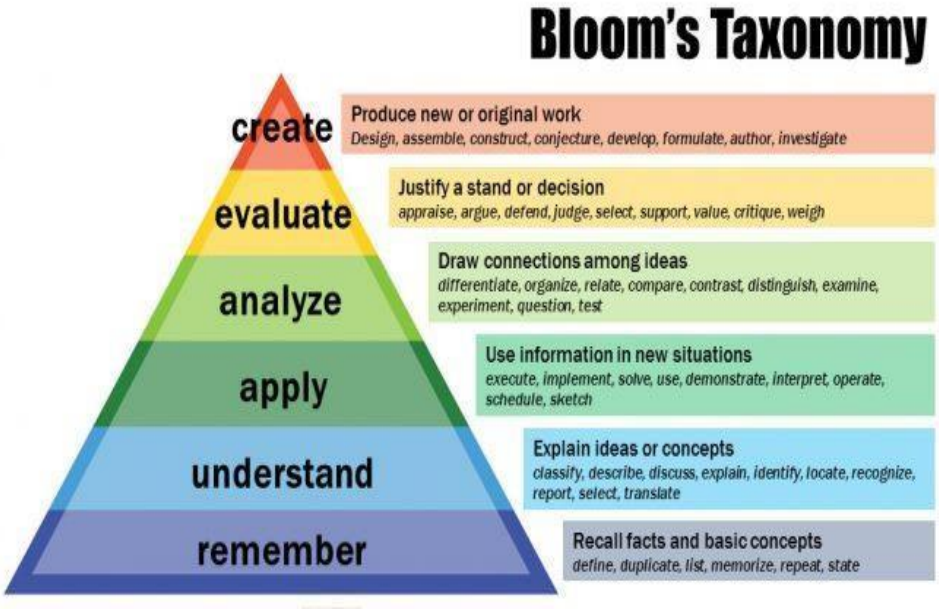
S/N	COURSE CODE (NBA)	COURSE CODE (UNIVERSITY)	TITLE OF THE COURSE
Semester – I			
1.	C101	HS3152	Professional English - I
2.	C102	MA3151	Matrices and Calculus
3.	C103	PH3151	Engineering Physics
4.	C104	CY3151	Engineering Chemistry
5.	C105	GE3151	Problem Solving and Python Programming
6.	C106	GE3171	Problem Solving and Python Programming Laboratory
7.	C107	BS3171	Physics and Chemistry Laboratory
8.	C108	GE3172	English Laboratory[$]
Semester – II			
9.	C109	HS3252	Professional English - II
10.	C110	MA3251	Statistics and Numerical Methods
11.	C111	PH3201	Physics for Civil Engineering
12.	C112	BE3252	Basic Electrical, Electronics and Instrumentation Engineering
13.	C113	GE3251	Engineering Graphics
14.	C114	GE3271	Engineering Practices Laboratory
15.	C115	BE3272	Basic Electrical, Electronics and Instrumentation Engineering Laboratory
16.	C116	GE3272	Communication Laboratory / Foreign Language [$]
Semester – III			
17.	C201	MA3351	Transforms and Partial Differential Equations
18.	C202	ME3351	Engineering Mechanics
19.	C203	CE3301	Fluid Mechanics
20.	C204	CE3302	Construction Materials and Technology
21.	C205	CE3303	Water Supply and Wastewater Engineering
22.	C206	CE3351	Surveying and Levelling
23.	C207	CE3361	Surveying and Levelling Laboratory

24.	C208	CE3311	Water and Wastewater Analysis Laboratory
25.	C209	GE3361	Professional Development
Semester –IV			
26.	C210	CE3401	Applied Hydraulics Engineering
27.	C211	CE3402	Strength of Materials
28.	C212	CE3403	Concrete Technology
29.	C213	CE3404	Soil Mechanics
30.	C214	CE3405	Highway and Railway Engineering
31.	C215	GE3451	Environmental Sciences and Sustainability
32.	C216	CE3411	Hydraulic Engineering Laboratory
33.	C217	CE3412	Materials Testing Laboratory
34.	C218	CE3413	Soil Mechanics Laboratory
Semester – V			
35.	C301	CE3501	Design of Reinforced Concrete Structural Elements
36.	C302	CE3502	Structural Analysis I
37.	C303	CE3503	Foundation Engineering
38.	C304	CE3005	Rehabilitation / Heritage Restoration
39.	C305	CE3022	Remote Sensing Concepts
40.	C306	CE3030	Pavement Engineering
41.	C307	MX3084	Disaster Risk Reduction and Management
42.	C308	CE3511	Highway Engineering Laboratory
43.	C309	CE3512	Survey Camp (2 weeks)
Semester – VI			
44.	C310	CE3601	Design of Steel Structural Elements
45.	C311	CE3602	Structural Analysis II
46.	C312	AG3601	Engineering Geology
47.	C313	CE3003	Prefabricated Structures
48.	C314	CE3015	Geoenvironmental Engineering
49.	C315	GI3491	Cartography and GIS
50.	C316	OCS352	IoT Concepts and Applications
51.	C317	MX3089	Industrial Safety
52.	C318	CE3611	Building Drawing and Detailing Laboratory
Semester – VII			
53.	C401	CE3701	Estimation, Costing and Valuation Engineering
54.	C402	AI3404	Hydrology and Water Resources Engineering
55.	C403	GE3791	Human Values and Ethics
56.	C404	GE3752	Total Quality Management
57.	C405	OHS352	Project Report Writing
58.	C406	OCS353	DATA SCIENCE FUNDAMENTALS

59.	C407	OAI351	Urban Agriculture
Semester – VIII			
60.	C408	CE3811	Project Work/Internship

According to revised Bloom's taxonomy, the levels in the cognitive domain are as follows:

Level	Descriptor	Level of Attainment
1	Remember	Recalling from the memory of the previously learned material
2	Understand	Explaining ideas or concepts
3	Apply	Using the information in another familiar situation
4	Analyze	Breaking information into the part to explore understandings and relationships
5	Evaluate	Justifying a decision or course of action
6	Create	Generating new ideas, products or new ways of viewing things



Bloom's taxonomy is hierarchical, meaning that learning at the higher level requires that skills at a lower level are attained.

Course Outcomes:

Course Outcomes with K – Level Mapping for all Courses (Regulation 2021)

Course Code & Name: C101 & HS3152 PROFESSIONAL ENGLISH I		
	CO Statements	Knowledge Level
The students should be able to		
C101.1	To use appropriate words in a professional context	K2
C101.2	To gain understanding of basic grammatical structures and use them in right context.	K2
C101.3	To read and infer the denotative and connotative meanings of technical texts	K3
C101.4	To read and interpret information presented in tables, charts and other graphic forms	K4
C101.5	To write definitions, descriptions, narrations and essays on various topics	K4

Course Code &Name: C102 & MA3151 MATRICES AND CALCULUS		
	CO Statements	Knowledge Level
The students should be able to		
C102.1	Use the matrix algebra methods for solving practical problems.	K4
C102.2	Apply differential calculus tools in solving various application problems.	K5
C102.3	Able to use differential calculus ideas on several variable functions.	K6
C102.4	Apply different methods of integration in solving practical problems.	K4
C102.5	Apply multiple integral ideas in solving areas, volumes and other practical problems.	K3

Course Code &Name: C103 & PH3151 ENGINEERING PHYSICS		
	CO Statements	Knowledge Level
The students should be able to		
C103.1	Understand the importance of mechanics.	K4
C103.2	Express their knowledge in electromagnetic waves.	K2
C103.3	Demonstrate a strong foundational knowledge in oscillations, optics and lasers.	K3
C103.4	Understand the importance of quantum physics.	K2
C103.5	Comprehend and apply quantum mechanical principles towards the formation of energy bands.	K2

Course Code &Name: C104 & CY3151 ENGINEERING CHEMISTRY		
	CO Statements	Knowledge Level
The students should be able to		
C104.1	To infer the quality of water from quality parameter data and propose suitable treatment methodologies to treat water.	K3
C104.2	To identify and apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nanomaterials for engineering and technology applications.	K2
C104.3	To apply the knowledge of phase rule and composites for material selection requirements.	K2
C104.4	To recommend suitable fuels for engineering processes and applications.	K4
C104.5	To recognize different forms of energy resources and apply them for suitable applications in energy sectors.	K2

Course Code &Name: C105 &GE3151 Problem Solving and Python Programming		
	CO Statements	Knowledge Level
The students should be able to		
C105.1	Develop algorithmic solutions to simple computational problems.	K2
C105.2	Develop and execute simple Python programs.	K3
C105.3	Write simple Python programs using conditionals and looping for solving problems.	K3
C105.4	Decompose a Python program into functions.	K2
C105.5	Represent compound data using Python lists, tuples, dictionaries etc.	K3

Course Code and Name: C107 & GE3171 Problem Solving and Python Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C106.1	Develop algorithmic solutions to simple computational problems	K3
C106.2	Develop and execute simple Python programs.	K3
C106.3	Implement programs in Python using conditionals and loops for solving problems..	K2
C106.4	Deploy functions to decompose a Python program.	K3
C106.5	Process compound data using Python data structures.	K6

Course Code and Name: C108 & BS3171 Physics and Chemistry Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C107.1	Understand the functioning of various physics laboratory equipment.	K3
C107.2	Use graphical models to analyze laboratory data.	K3
C107.3	Use mathematical models as a medium for quantitative reasoning and describing physical reality.	K2
C107.4	Access, process and analyze scientific information.	K3
C107.5	Solve problems individually and collaboratively.	K3

Course Code and Name: C108 & GE3172 ENGLISH LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C108.1	To listen to and comprehend general as well as complex academic information	K3
C108.2	To listen to and understand different points of view in a discussion	K3
C108.3	To speak fluently and accurately in formal and informal communicative contexts	K2
C108.4	To describe products and processes and explain their uses and purposes clearly and accurately	K3
C108.5	To express their opinions effectively in both formal and informal discussions	K3

Course Code and Name: C109 & HS3252 PROFESSIONAL ENGLISH II		
	CO Statements	Knowledge Level
The students should be able to		
C109.1	To compare and contrast products and ideas in technical texts.	K3
C109.2	To identify and report cause and effects in events, industrial processes through technical texts	K2
C109.3	To analyse problems in order to arrive at feasible solutions and communicate them in the written format.	K3
C109.4	To present their ideas and opinions in a planned and logical manner	K6
C109.5	To draft effective resumes in the context of job search.	K4

Course Code and Name: C110 & MA3251 STATISTICS AND NUMERICAL METHODS		
	CO Statements	Knowledge Level
The students should be able to		
C110.1	Apply the concept of testing of hypothesis for small and large samples in real life problems.	K4
C110.2	Apply the basic concepts of classifications of design of experiments in the field of agriculture.	K3
C110.3	Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.	K2
C110.4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.	K4
C110.5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.	K6

Course Code and Name: C111 & PH3201 PHYSICS FOR CIVIL ENGINEERING		
	CO Statements	Knowledge Level
The students should be able to		
C111.1	Acquire knowledge about heat transfer through different materials, thermal performance of building and thermal insulation.	K2
C111.2	Gain knowledge on the ventilation and air conditioning of buildings	K3
C111.3	Understand the concepts of sound absorption, noise insulation and lighting designs	K2
C111.4	Now about the processing and applications of composites, metallic glasses, shape memory alloys and ceramics	K3
C111.5	Get an awareness on natural disasters such as earth quake, cyclone, fire and safety measures	K2

Course Code and Name: C112 & BE3252 - BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING		
	CO Statements	Knowledge Level
The students should be able to		
C112.1	Compute the electric circuit parameters for simple problems	K2
C112.2	Explain the concepts of domestics wiring and protective devices	K3
C112.3	Explain the working principle and applications of electrical machines	K2
C112.4	Analyze the characteristics of analog electronic devices	K2
C112.5	Explain the types and operating principles of sensors and transducers	K2

Course Code and Name: C113 & GE3251 ENGINEERING GRAPHICS		
	CO Statements	Knowledge Level
The students should be able to		
C113.1	Use BIS conventions and specifications for engineering drawing.	K3
C113.2	Construct the conic curves, involutes and cycloid.	K2
C113.3	Solve practical problems involving projection of lines.	K2
C113.4	Draw the orthographic, isometric and perspective projections of simple solids.	K2
C113.5	Draw the development of simple solids.	K3

Course Code and Name: C114 & GE3272 COMMUNICATION LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C114.1	Speak effectively in group discussions held in ~~a~~ formal/semi formal contexts.	K3
C114.2	Discuss, analyse and present concepts and problems from various perspectives to arrive at suitable solutions	K4
C114.3	Write emails, letters and effective job applications.	K5
C114.4	Write critical reports to convey data and information with clarity and precision	K3
C114.5	Give appropriate instructions and recommendations for safe execution of tasks	K3

Course Code and Name: C115 & GE3271 ENGINEERING PRACTICES LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C115.1	Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work.	K6
C115.2	Wire various electrical joints in common household electrical wire work.	K3
C115.3	Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipments; Make a tray out of metal sheet using sheet metal work.	K6
C115.4	Solder and test simple electronic circuits; Assemble and test simple electronic components on PCB	K3

Course Code and Name: C116 & BE3272 BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C116.1	Use experimental methods to verify the Ohm's law and Kirchhoff's Law and to measure three phase power	K3
C116.2	Analyze experimentally the load characteristics of electrical machines	K3
C116.3	Analyze the characteristics of basic electronic devices	K3
C116.4	Use LVDT to measure displacement	K4

Course Code and Name: C201 & MA3351 TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS		
	CO Statements	Knowledge Level
The students should be able to		
C201.1	Understand how to solve the given standard partial differential equations.	K3
C201.2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.	K4
C201.3	Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations.	K3
C201.4	Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.	K3
C201.5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.	K3

Course Code and Name: C202 & ME3351 ENGINEERING MECHANICS		
	CO Statements	Knowledge Level
The students should be able to		
C202.1	Illustrate the vectorial and scalar representation of forces and moments	K2
C202.2	Analyse the rigid body in equilibrium	K4
C202.3	Evaluate the properties of distributed forces	K4
C202.4	Determine the friction and the effects by the laws of friction	K3
C202.5	Calculate dynamic forces exerted in rigid body	K4

Course Code and Name: C203 & CE3301 - FLUID MECHANICS		
	CO Statements	Knowledge Level
The students should be able to		
C203.1	Demonstrate the difference between solid and fluid, its properties and behaviour in static conditions.	K2
C203.2	Apply the conservation laws applicable to fluids and its application through fluid kinematics and dynamics.	K3
C203.3	Formulate the relationship among the parameters involved in the given fluid phenomenon and to predict the performance of prototypes by model studies.	K3
C203.4	Estimate the losses in pipelines for both laminar and turbulent conditions and analysis of pipes connected in series and parallel.	K2
C203.5	Explain the concept of boundary layer and its application to find the drag force excreted by the fluid on the flat solid surface.	K3

Course Code and Name: C204 & CE3302 CONSTRUCTION MATERIALS AND TECHNOLOGY		
	CO Statements	Knowledge Level
The students should be able to		
C204.1	Identify the good quality brick, stone and blocks for construction.	K2
C204.2	Recognize the market forms of timber, steel, aluminum and applications of various composite materials.	K3
C204.3	Identify the best construction and service practices such as thermal insulations and air conditioning of the building	K2
C204.4	Select various equipments for construction works conditioning of building	K3
C204.5	Understand the construction planning and scheduling techniques	K2

Course Code and Name: C205 & CE3303 WATER SUPPLY AND WASTEWATER ENGINEERING		
	CO Statements	Knowledge Level
The students should be able to		
C205.1	Understand the various components of water supply scheme and design of intake structure and conveyance system for water transmission	K2
C205.2	Understand on the characteristics and composition of sewage, ability to estimate sewage generation and design sewer system including sewage pumping stations	K2
C205.3	Understand the process of conventional treatment and design of water and wastewater treatment system and gain knowledge of selection of treatment process and biological treatment process	K2
C205.4	Ability to design and evaluate water distribution system and water supply in buildings and understand the self-purification of streams and sludge and septage disposal methods.	K2
C205.5	Able to understand and design the various advanced treatment system and knowledge about the recent advances in water and wastewater treatment process and reuse of sewage	K2

Course Code and Name: C206 & CE3351 SURVEYING AND LEVELLING		
	CO Statements	Knowledge Level
The students should be able to		
C206.1	Introduce the rudiments of various surveying and its principles.	K2
C206.2	Imparts knowledge in computation of levels of terrain and ground features	K2
C206.3	Imparts concepts of Theodolite Surveying for complex surveying operations	K2
C206.4	Understand the procedure for establishing horizontal and vertical control	K2
C206.5	Imparts the knowledge on modern surveying instruments	K2

Course Code and Name: C207 & CE3361 SURVEYING AND LEVELLING LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C207.1	Impart knowledge on the usage of basic surveying instruments like chain/tape, compass and levelling instruments	K4
C207.2	Able to use levelling instrument for surveying operations	K4
C207.3	Able to use theodolite for various surveying operations	K4
C207.4	Able to carry out necessary surveys for social infrastructures	K3
C207.5	Able to prepare planimetric maps	K3

Course Code and Name: C208 & CE3311 WATER AND WASTEWATER ANALYSIS LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C208.1	Calibrate and standardize the equipment	K4
C208.2	Collect proper sample for analysis	K4
C208.3	To know the sample preservation methods	K4
C208.4	To perform field oriented testing of water, wastewater	K2
C208.5	To perform coliform analysis	K3

Course Code and Name: C209 & GE3361 PROFESSIONAL DEVELOPMENT		
	CO Statements	Knowledge Level
The students should be able to		
C209.1	Use MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements	K2
C209.2	Use MS EXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding	K4
C209.3	Use MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs, interlinking other elements, and using media objects.	K2

Course Code and Name: C210 & CE3401 APPLIED HYDRAULICS ENGINEERING		
	CO Statements	Knowledge Level
The students should be able to		
C210.1	Describe the basics of open channel flow, its classification and analysis of uniform flow in steady state conditions with specific energy concept and its application	K3
C210.2	Analyse steady gradually varied flow, water surface profiles and its length calculation using direct and standard step methods with change in water surface profiles due to change in grades.	K3
C210.3	Derive the relationship among the sequent depths of steady rapidly varied flow and estimating energy loss in hydraulic jump with exposure to positive and negative surges.	K3
C210.4	Design turbines and explain the working principle	K3
C210.5	Differentiate pumps and explain the working principle with characteristic curves and design centrifugal and reciprocating pumps.	K3

Course Code and Name: C211 & CE3402 STRENGTH OF MATERIALS		
	CO Statements	Knowledge Level
The students should be able to		
C211.1	Understand the concepts of stress and strain, principal stresses and principal planes.	K2
C211.2	Determine Shear force and bending moment in beams and understand concept of theory of simple bending.	K2
C211.3	Calculate the deflection of beams by different methods and selection of method for determining slope or deflection.	K3
C211.4	Analyze propped cantilever, fixed beams and continuous beams for external loadings and support settlements.	K3
C211.5	Determine the stresses due to Unsymmetrical bending of beams, locate the shear center, and study the various theories of failure	K3

Course Code and Name: C212 & CE3403 CONCRETE TECHNOLOGY		
	CO Statements	Knowledge Level
The students should be able to		
C212.1	Understand the requirements of cement, aggregates and water for concrete	K4
C212.2	Select suitable admixtures for enhancing the properties of concrete	K4
C212.3	Design concrete mixes as per IS method of mix design	K4
C212.4	Determine the properties of concrete at fresh and hardened state.	K4
C212.5	Know the importance of special concretes for specific requirements	K3

Course Code and Name: C213 & CE3404 SOIL MECHANICS		
	CO Statements	Knowledge Level
The students should be able to		
C213.1	Demonstrate an ability to identify various types of soils and its properties, formulate and solve engineering Problems	K3
C213.2	Show the basic understanding of flow through soil medium and its impact of engineering solution	K3
C213.3	Understand the basic concept of stress distribution in loaded soil medium and soil settlement due to consolidation	K3
C213.4	Show the understanding of shear strength of soils and its impact of engineering solutions to the loaded soil medium and also will be aware of contemporary issues on shear strength of soils.	K3
C213.5	Demonstrate an ability to design both finite and infinite slopes, component and process as per needs and specifications.	K3

Course Code and Name: C214 & CE3405 HIGHWAY AND RAILWAY ENGINEERING		
	CO Statements	Knowledge Level
The students should be able to		
C214.1	Plan a highway according to the principles and standards adopted in various institutions in India.	K2
C214.2	Design the geometric features of road network and components of pavement.	K2
C214.3	Test the highway materials and construction practice methods and know its properties and able to perform pavement evaluation and management.	K2
C214.4	Understand the methods of route alignment and design elements in railway planning and constructions	K2
C214.5	Understand the construction techniques and maintenance of track laying and railway stations	K2

Course Code and Name: C215 & GE3451 ENVIRONMENTAL SCIENCES AND SUSTAINABILITY		
	CO Statements	Knowledge Level
The students should be able to		
C215.1	To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation.	K2
C215.2	To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society.	K2
C215.3	To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations.	K2
C215.4	To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development.	K3
C215.5	To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.	K4

Course Code and Name: C216 & CE3411 HYDRAULIC ENGINEERING LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C216.1	Apply Bernoulli equation for calibration of flow measuring devices	K4
C216.2	Measure friction factor in pipes and compare with Moody diagram	K3
C216.3	Determine the performance characteristics of rotodynamic pumps.	K4
C216.4	Determine the performance characteristics of positive displacement pumps.	K4
C216.5	Determine the performance characteristics of turbines.	K3

Course Code and Name: C217 & CE3412 MATERIALS TESTING LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C217.1	Determine the mechanical properties of steel.	K4
C217.2	Determine the physical properties of cement	K4
C217.3	Determine the physical properties of fine and coarse aggregate	K3
C217.4	Determine the workability and compressive strength of concrete.	K3
C217.5	Determine the strength of brick and wood.	

Course Code and Name: C218 & CE3413 SOIL MECHANICS LABORATORY		
	CO Statements	Knowledge Level
The students should be able to		
C218.1	Conduct tests to determine the index properties of soils	K2
C218.2	Determine the in-situ density and compaction characteristics	K3
C218.3	Conduct tests to determine the compressibility, permeability and shear strength of soils	K4
C218.4	Understand the various tests on Geosynthetics	K4

Course Code and Name: C301& CE3501 Design of Reinforced Concrete Structural Elements		
	CO Statements	Knowledge Level
The students should be able to		
C301.1	The students will be able to understand the various design concepts and design the RC rectangular beams by working stress and limit state methods.	K3
C301.2	The students will be able to analyze and design the flanged beam, design for shear, bending and torsion.	K4
C301.3	The students will be able to analyze and design the RC slab, staircase by limit state method.	K4
C301.4	The students will be able to analyze and design the RC column for axial, uniaxial and bi-axial bending by limit state method.	K4
C301.5	The students will be able to analyze and design the wall footing, isolated footing and combined footing by limit state method.	K4

Course Code and Name: C302 & CE3502 Structural Analysis I		
	CO Statements	Knowledge Level
The students should be able to		
C302.1	Students will be able to analyze the pin-jointed plane and space frames.	K4
C302.2	Students will be able to analyse the continuous beams and rigid frames by slope deflection method.	K4
C302.3	Students will be able to understand the concept of moment distribution and analysis of continuous beams and rigid frames with and without sway.	K4
C302.4	Students will be able to analyse the indeterminate pin jointed plane frames continuous beams and rigid frames using matrix flexibility method.	K4
C302.5	Students will be able to understand the concept of matrix stiffness method and analysis of continuous beams, pin jointed trusses and rigid plane frames.	K4

Course Code and Name: C303 & CE3503 Foundation Engineering		
	CO Statements	Knowledge Level
The students should be able to		
C303.1	The students will be able to demonstrate an ability to plan and execute a detailed site investigation to select type of foundation and design parameters.	K2
C303.2	The students will able to design shallow foundations and compute the bearing capacity of soils.	K3
C303.3	The students will be able to design combined footings and raft foundations as per the needs and specifications.	K3
C303.4	The student will be able to demonstrate and ability to design pile foundations, its component as per the needs and specifications.	K3
C303.5	The students will be able to design retaining walls, its component or process as per the needs and specifications.	K3

Course Code and Name: C304 & **CE3005 Rehabilitation / Heritage Restoration**		
	CO Statements	Knowledge Level
The students should be able to		
C304.1	The students will be able to know the importance of inspection and maintenance.	K3
C304.2	The students will be able to Study the Impacts of cracks, corrosion and climate on structures.	K3
C304.3	The students will be able to understand about various special concretes.	K2
C304.4	The students will be able to Understand the testing techniques and various protection measures.	K2
C304.5	The students will be able to Know the Repair of structures and Restoration of Heritage structure.	K3

Course Code and Name: C306 & **CE3022 Remote Sensing Concepts**		
	CO Statements	Knowledge Level
The students should be able to		
C305.1	Understand and remember the basic concepts, definitions and laws related to remote sensing.	K2
C305.2	Illustrate energy interaction with atmosphere and object on earth surface.	K2
C305.3	Acquire knowledge of sensor characteristics of various RS system.	K2
C305.4	Understand functioning, data acquisition and orbit operations of missions.	K2
C305.5	Obtain knowledge of different missions and analyze their utility.	K2

Course Code and Name: C307 & CE3030 Pavement Engineering		
	CO Statements	Knowledge Level
The students should be able to		
C306.1	Students will able to comprehend the material specifications and types of pavements.	K3
C306.2	Students will able to understand the guidelines and design of flexible pavements as per IRC-37.	K4
C306.3	Students will able to design the rigid pavement as per the guidelines of IRC 58.	K4
C306.4	Students will able acquire knowledge about the construction and maintenance of flexible and rigid pavements.	K3
C306.5	Students will able comprehend the concept of strengthening of existing pavements, testing and field control of pavements.	K4

Course Code and Name: C307 & **MX3084 Disaster Risk Reduction and Management**		
	CO Statements	Knowledge Level
The students should be able to		
C307.1	Understand the concepts of Disaster, Vulnerability & Disaster Risk Reduction.	K2
C307.2	Enhance understanding on hazards, Vulnerability and Disaster Risk Assessment prevention & risk reduction	K2
C307.3	Develop disaster response skills by adopting relevant tools and technology.	K2
C307.4	Enhance awareness of institutional process for Disaster response in the country.	K2
C307.5	Develop rudimentary ability to respond to their surroundings with potential disaster response in areas where they live with due sensitivity.	K2

Course Code and Name: C308 & **CE3511 Highway Engineering Laboratory**		
	CO Statements	Knowledge Level
The students should be able to		
C308.1	Students will able to characterize the pavement aggregate through relevant test.	K3
C308.2	Students will able to ascertain the Quality of Bitumen.	K4
C308.3	Students will able to determine the Optimum Binder Content Using Marshall Method.	K3
C308.4	Students will able to evaluate the consistency and properties of bitumen.	K4
C308.5	Students will able to determine the bitumen content in the bituminous mixes.	K4

Course Code and Name: C309 & **CE3512 Survey Camp**		
	CO Statements	Knowledge Level
The students should be able to		
C309.1	Handle modern surveying instruments like Total Station and GPS.	K3
C309.2	Apply modern surveying techniques in field to establish horizontal control.	K3
C309.3	Understand the surveying techniques in field to establish vertical control.	K3
C309.4	Apply different survey adjustment techniques.	K3
C309.5	Carry out different setting out works in the field.	K5

Course Code and Name: C310 & **CE3601 Design of Steel Structural Elements**		
	CO Statements	Knowledge Level
The students should be able to		
C310.1	Understand the design philosophy behind steel structures, distinguish various failure modes in bolted and welded connections, and ascertain their respective design strengths.	K3
C310.2	Choose the optimal section shape and dimensions for tension and compression members as well as beams, adhering to specific design criteria.	K3
C310.3	Implement principles, procedures, and current code requirements in the analysis and design of steel tension members, columns, column bases, and beams.	K3
C310.4	Identify and calculate the design loads acting on industrial structures and gantry girders.	K3
C310.5	Determine the ultimate load-bearing capacity of steel beams and portal frames through the application of plastic analysis techniques.	K3

Course Code and Name: C311 & **CE3602 Structural Analysis II**		
	CO Statements	Knowledge Level
The students should be able to		
C311.1	Students will be able to analyze the pin-jointed plane and space frames.	K4
C311.2	Students will be able to analyse the continuous beams and rigid frames by slope deflection method.	K4
C311.3	Students will be able to understand the concept of moment distribution and analysis of continuous beams and rigid frames with and without sway.	K4
C311.4	Students will be able to analyse the indeterminate pin jointed plane frames continuous beams and rigid frames using matrix flexibility method.	K4
C311.5	Students will be able to understand the concept of matrix stiffness method and analysis of continuous beams, pin jointed trusses and rigid plane frames.	K4

Course Code and Name: C312 & **AG3601 Engineering Geology**		
	CO Statements	Level
The students should be able to		
C312.1	Knowing the internal structure of earth and its relation to earthquakes. Landforms created by various geological agents and their importance in civil engineering	K2
C312.2	Getting knowledge on various minerals and rocks that can be used as construction materials and road aggregates. In addition, testing the suitability of rocks for foundation purposes	K2
C312.3	Studying various geological structures and their impact in engineering constructions. Further, learning the geo mechanical properties of rocks and their significance in engineering projects.	K2
C312.4	Gaining knowledge on the role of geological mapping, remote sensing and geophysics for surface and subsurface investigations. In addition, students will also gain knowledge on borehole logging techniques and their applications in civil engineering	K2
C312.5	Applying geological knowledge for designing and constructing major civil engineering structures, and also mitigating various geological hazards such as earthquakes, landslides and tsunamis.	K2

Course Code and Name: C313 & **CE3003 Prefabricated Structures**		
	CO Statements	Knowledge Level
The students should be able to		
C313.1	The students will be able to understand concepts about principles of prefabrication, production, transportation and erection.	K2
C313.2	The students will be able to explain the panel systems, slabs, beams, shear walls and columns used in precast construction.	K2
C313.3	The students will be able to interpret the design of cross-section, joint flexibility.	K2
C313.4	The students will be able to choose the appropriate joints and connections for precast construction.	K3
C313.5	The students will be able to apply the concept of structural stability in precast construction.	K3

Course Code and Name: C314 & CE3015 Geoenvironmental Engineering		
	CO Statements	Knowledge Level
The students should be able to		
C314.1	Understand the various causes and consequences of waste interaction with soil and their modification.	K2
C314.2	CO2 Understand the various mechanism of transport of contaminants into the subsurface and characterization of contaminated sites and their risk analysis.	K2
C314.3	Understand on how to decontaminate the site so as to reuse the site for human settlement	K2
C314.4	Understand how to safely dispose the waste through different containment process.	K2
C314.5	Expose on how to convert the waste into a resource material through soil waste stabilization techniques with or without chemical stabilization	K2

Course Code and Name: C315 & **GI3491 Cartography and GIS**		
	CO Statements	Knowledge Level
The students should be able to		
C315.1	Be familiar with appropriate map projection and co-ordinate system for production of Maps and shall able to compile and design maps for their required purpose.	K2
C315.2	Be familiar with co-ordinate and Datum transformations	K2
C315.3	Understand the basic concepts and components of GIS, the techniques used for storage of spatial data and data compression	K2
C315.4	Understand the concepts of spatial data quality and data standard	K2
C315.5	Understand the concept of spatial data inputs	K2

Course Code and Name: C316 & **OCS352 IoT Concepts and Applications**		
	CO Statements	Knowledge Level
The students should be able to		
C316.1	Explain the concept of IoT.	K2
C316.2	Understand the communication models and various protocols for IoT.	K2
C316.3	Design portable IoT using Arduino/Raspberry Pi /open platform.	K6
C316.4	Apply data analytics and use cloud offerings related to IoT.	K3
C316.5	Analyze applications of IoT in real-time scenarios.	K4

Course Code and Name: C317 & **MX3089 Industrial Safety**		
	CO Statements	Knowledge Level
The students should be able to		
C317.1	Understand the basic concept of safety.	K2
C317.2	Obtain knowledge of Statutory Regulations and standards.	K2
C317.3	Know about the safety Activities of the Working Place.	K2
C317.4	Analyze on the impact of Occupational Exposures and their Remedies	K2
C317.5	Obtain knowledge of Risk Assessment Techniques.	K2

Course Code and Name: C317 & CE3611 Building Drawing and Detailing Laboratory		
	CO Statements	Knowledge Level
The students should be able to		
C318.1	The students will be able to draft the plan, elevation and sectional view of the load-bearing and framed buildings.	K4
C318.2	The students will be able to draw the structural detailing of RCC elements.	K4
C318.3	The students will be able to draw the structural detailing of RCC footings.	K4
C318.4	The students will be able to draw the structural detailing of steel structures.	K4
C318.5	The students will be able to draw building information modelling.	K4

Course Code and Name: C401 & CE3701 ESTIMATION , COSTING AND VALUATION ENGINEERING		
	CO Statements	Knowledge Level
The students should be able to		
C401.1	Gain knowledge on types of contracts.	K3
C401.2	Understand types of specifications, principles for report preparation, tender notices types.	K3
C401.3	Rate Analysis for all Building works, canals, and Roads and Cost Estimate.	K2
C401.4	Estimate the quantities for buildings.	K2
C401.5	Evaluate valuation for building and land.	K3

Course Code and Name: C402 & AI3404 HYDROLOGY AND WATER RESOURCES ENGINEERING		
	CO Statements	Knowledge Level
The students should be able to		
C402.1	Define the hydrological processes and their integrated behaviour in catchments	K2
C402.2	Apply the knowledge of hydrological processes to address basin characteristics, runoff and hydrograph	K2
C402.3	Explain the concept of hydrological extremes and its management strategies	K3
C402.4	Describe the principles of storage reservoirs	K3
C402.5	Understand and apply the concepts of groundwater management	K2

Course Code and Name: C403 & GE3791 HUMAN VALUES AND ETHICS		
	CO Statements	Knowledge Level
The students should be able to		
C403.1	Identify the importance of democratic, secular and scientific values in harmonious functioning of social life	K3
C403.2	Practice democratic and scientific values in both their personal and professional life. CO3: Find rational solutions to social problems.	K3
C403.3	Behave in an ethical manner in society	K3
C403.4	Practice critical thinking and the pursuit of truth.	K3
C403.5	Identify the importance of democratic, secular and scientific values in harmonious functioning of social life	K3

Course Code and Name: C404 & GE3752 TOTAL QUALITY MANAGEMENT		
	CO Statements	Knowledge Level
The students should be able to		
C404.1	Ability to apply TQM concepts in a selected enterprise.	K2
C404.2	Ability to apply TQM principles in a selected enterprise.	K2
C404.3	Ability to understand Six Sigma and apply Traditional tools, New tools, Benchmarking and FMEA.	K2
C404.4	Ability to understand Taguchi's Quality Loss Function, Performance Measures and apply QFD, TPM, COQ and BPR.	K2
C404.5	Ability to apply QMS and EMS in any organization.	K2

Course Code and Name: C405.1 & OHS352 PROJECT REPORT WRITING		
	CO Statements	Knowledge Level
The students should be able to		
C405.1	Write effective project reports.	K2
C405.2	Use statistical tools with confidence.	K2
C405.3	Explain the purpose and intension of the proposed project coherently and with clarity.	K2
C405.4	Create writing texts to suit achieve the intended purpose.	K2
C405.5	Master the art of writing winning proposals and projects.	K2

Course Code and Name: C406 & OCS353 DATA SCIENCE FUNDAMENTALS		
	CO Statements	Knowledge Level
The students should be able to		
C406.1	Gain knowledge on data science process.	K4
C406.2	Perform data manipulation functions using Numpy and Pandas.	K4
C406.3	Understand different types of machine learning approaches.	K3
C406.4	Perform data visualization using tools.	K5
C406.5	Handle large volumes of data in practical scenarios.	K4

Course Code and Name: C407 & OAI351 URBAN AGRICULTURE		
	CO Statements	Knowledge Level
The students should be able to		
C407.1	Demonstrate the principles behind crop production and various parameters that influences the crop growth on roof tops	K4
C407.2	Explain different methods of crop production on roof tops	K4
C407.3	Explain nutrient and pest management for crop production on roof tops	K3
C407.4	Illustrate crop water requirement and irrigation water management on roof tops	K5
C407.5	Explain the concept of waste management on roof tops	K4

Course Code and Name: C408 & CE3811 PROJECT WORK/INTERNSHIP		
	CO Statements	Knowledge Level
The students should be able to		
C411.1	Identify civil engineering problems reviewing available literature.	K3
C411.2	Identify appropriate techniques to analyse complex civil engineering problems.	K3
C411.3	Apply engineering and management principles through efficient handling of Project have a clear idea of his/her area of work and they are in a position to carry out the work in a systematic way.	K3

Course Outcomes and POs / PSOs Mapping

HS3152 - Professional English – I	Mapping													
C101	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	1	1	1	1	1	3	3	3	1	3	0	3	0	0
	CO2	1	1	1	1	1	3	3	3	1	3	0	3	0	0
	CO3	1	2	3	1	2	3	3	3	2	3	3	3	0	0
	CO4	2	3	2	3	2	3	3	3	2	3	3	3	0	0
	CO5	2	3	3	3	0	3	3	3	2	3	0	3	0	0
	Avg	1.60	2.20	1.80	2.20	1.50	3.00	3.00	3.00	1.60	3.00	3.00	3.00	0.00	0.00
MA3151 - Matrices and Calculus	Mapping													
C102	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO 1	3	3	1	1	0	0	0	0	2	0	2	3	0	0
	CO 2	3	3	1	1	0	0	0	0	2	0	2	3	0	0
	CO 3	3	3	1	1	0	0	0	0	2	0	2	3	0	0
	CO 4	3	3	1	1	0	0	0	0	2	0	2	3	0	0
	CO 5	3	3	1	1	0	0	0	0	2	0	2	3	0	0
	Avg	3	3	1	1	0	0	0	0	2	0	2	3	0	0
PH3151 -	Mapping													

Engineering Physics														
C103	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	3	2	1	1	1	0	0	0	0	0	0	0	0
	CO2	3	3	2	1	2	1	0	0	0	0	0	0	0	0
	CO3	3	3	2	1	2	1	0	0	0	0	0	1	0	0
	CO4	3	3	1	2	2	1	0	0	0	0	0	0	0	0
	CO5	3	3	1	1	2	1	0	0	0	0	0	0	0	0
	Avg	3	3	1.6	1.2	1.8	1	0	0	0	0	0	1	0	0
CY3151 - Engineering Chemistry	Mapping														
C104	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	2	2	1	0	1	1	0	0	0	0	1	0	0
	CO2	2	0	0	1	0	2	2	0	0	0	0	0	0	0
	CO3	3	1	0	0	0	0	0	0	0	0	0	0	0	0
	CO4	3	1	1	0	0	1	2	0	0	0	0	0	0	0
	CO5	3	1	2	1	0	2	2	0	0	0	0	2	0	0
	Avg	2.8	1.3	1.6	1	0	1.5	1.8	0	0	0	0	1.5	0	0
GE3151- Problem Solving and Python	Mapping														

Programming															
C105	CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO2
	CO 1	3	3	3	3	2	0	0	0	0	0	2	2	0	0
	CO 2	3	3	3	3	2	0	0	0	0	0	2	2	0	0
	CO 3	3	3	3	3	2	0	0	0	0	0	2	0	0	0
	CO 4	2	2	0	3	2	0	0	0	0	0	1	0	0	0
	CO 5	1	2	0	0	1	0	0	0	0	0	1	0	0	0
	Avg	2.4	3	3	3	1.8	0	0	0	0	0	1.6	2	0	0
GE3171-Problem Solving and Python Programming Laboratory	Mapping														
C106	CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO2
	CO 1	3	3	3	3	3	0	0	0	0	0	3	2	0	0
	CO 2	3	3	3	3	3	0	0	0	0	0	3	2	0	0
	CO 3	3	3	3	3	2	0	0	0	0	0	2	0	0	0
	CO 4	3	2	0	3	2	0	0	0	0	0	1	0	0	0
	CO 5	1	2	0	0	1	0	0	0	0	0	1	0	0	0
	Avg	2.4	3	3	3	1.8	0	0	0	0	0	1.6	2	0	0
Physics and Chemistry	Mapping														

Laboratory															
C107	CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO2
	CO 1	3	2	3	1	1	0	0	0	0	0	0	0	0	0
	CO 2	3	3	2	1	1	0	0	0	0	0	0	0	0	0
	CO 3	3	2	3	1	1	0	0	0	0	0	0	0	0	0
	CO 4	3	3	2	1	1	0	0	0	0	0	0	0	0	0
	CO 5	3	2	3	1	1	0	0	0	0	0	0	0	0	0
	Avg	3	2.4	2.6	1	1	0	0	0	0	0	0	0	0	0
GE3172 - English Laboratory	Mapping														
C108	CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	0	1	0	0	2	2	0	0	0	0	2	0	0
	CO2	3	1	2	0	0	1	2	0	0	0	0	1	0	0
	CO3	3	2	1	1	0	0	1	0	0	0	0	0	0	0
	CO4	2	1	2	0	0	2	2	0	0	0	0	0	0	0
	CO5	2	1	2	0	1	2	2	0	0	0	0	1	0	0
	Average	2.6	1.3	1.6	1	1	1.4	1.8	0	0	0	0	1.3	0	0
HS3252 - Professional English – II	Mapping														
C109	CO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO1	PO1	PO1	PSO	PSO

		1	2	3	4	5	6	7	8	9	0	1	2	1	2
	CO 1	3	3	3	3	3	3	3	3	2	3	3	3	0	0
	CO 2	3	3	3	3	3	3	3	3	2	3	3	3	0	0
	CO 3	3	3	3	3	3	3	3	3	2	3	3	3	0	0
	CO 4	3	3	3	3	2	3	3	3	2	3	3	3	0	0
	CO 5	0	0	0	0	0	0	0	0	3	3	3	3	0	0
	Avg	3	3	3	3	2.75	3	3	3	2.2	3	3	3	0	0
MA3251 - Statistics and Numerical Methods	Mapping														
C110	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO 1	3	3	1	1	1	0	0	0	2	0	2	3	0	0
	CO 2	3	3	1	1	1	0	0	0	2	0	2	3	0	0
	CO 3	3	3	1	1	1	0	0	0	2	0	2	3	0	0
	CO 4	3	3	1	1	1	0	0	0	2	0	2	3	0	0
	CO 5	3	3	1	1	1	0	0	0	2	0	2	3	0	0
	Avg	3	3	1	1	1	0	0	0	2	0	2	3	0	0
PH3201 - Physics for Civil Engineering	Mapping														
C111	CO	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO1	PO1	PO1	PSO	PSO

		1	2	3	4	5	6	7	8	9	0	1	2	1	2
	CO1	3	0	1	0	0	0	0	0	0	0	0	0	0	0
	CO2	3	2	1	2	0	2	0	0	0	0	0	0	0	0
	CO3	3	2	2	0	2	0	0	0	0	0	0	0	0	0
	CO4	3	0	1	0	3	2	3	0	0	0	0	1	0	0
	CO5	3	0	2	1	0	2	0	0	0	0	0	1	0	0
	Avg	3	2	1.4	1.5	2.5	2	3	0	0	0	0	1	0	0
BE3254 - Electrical and Instrumentation Engineering	Mapping														
C112	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	1	1	0	0	0	0	1	0	0	0	0	0	0
	CO2	2	1	1	0	0	0	0	1	0	0	0	0	0	0
	CO3	2	1	1	0	0	0	0	1	0	0	0	0	0	0
	CO4	2	1	1	0	0	0	0	1	0	0	0	0	0	0
	CO5	2	1	1	0	0	0	0	1	0	0	0	0	0	0
	Avg	2	1	1	0	0	0	0	1	0	0	0	0	0	0
GE3251- Engineering Graphics	Mapping														
C113	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

	CO 1	3	1	2	0	2	0	0	0	0	3	0	2	0	0
	CO 2	3	1	2	0	2	0	0	0	0	3	0	2	0	0
	CO 3	3	1	2	0	2	0	0	0	0	3	0	2	0	0
	CO 4	3	1	2	0	2	0	0	0	0	3	0	2	0	0
	CO 5	3	1	2	0	2	0	0	0	0	3	0	2	0	0
	Avg	3	1	2	0	2	0	0	0	0	3	0	2	0	0
MA3351 - Transforms and Partial Differential Equations	Mapping														
C201	CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
	O1	2	3	3	3	1	3	3	3	3	3	3	3	0	0
	CO2	2	3	3	3	1	3	3	3	3	3	3	3	0	0
	CO3	2	2	3	3	1	3	3	3	3	3	3	3	0	0
	CO4	3	3	3	3	3	3	3	3	3	3	3	3	0	0
	CO5	3	3	3	3	3	3	3	3	3	3	3	3	0	0
	Average	2.4	2.8	3	3	1.8	3	3	3	3	3	3	3	0	0
ME3351 - Engineering Mechanics	Mapping														
C202	CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2

	CO1	3	3	1	1	0	0	0	0	2	0	0	3	0	0
	CO2	3	3	1	1	0	0	0	0	2	0	0	3	0	0
	CO3	3	3	1	1	0	0	0	0	2	0	0	3	0	0
	CO4	3	3	1	1	0	0	0	0	2	0	0	3	0	0
	CO5	3	3	1	1	0	0	0	0	2	0	0	3	0	0
	Average	3	3	1	1	0	0	0	0	2	0	0	3	0	0
CE3301 - Fluid Mechanics	Mapping														
C203	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	3	2	1	1	2	0	0	0	2	0	0	0	2	3
	CO2	3	2	1	1	2	0	0	0	2	0	0	0	2	3
	CO3	3	2	3	1	2	0	0	0	2	0	0	0	2	3
	CO4	3	2	3	1	2	0	0	0	2	0	0	0	2	3
	CO5	3	2	3	1	2	0	0	0	2	0	0	0	2	3
	Average	3	2	2.2	1	2	0	0	0	2	0	0	0	2	3
CE3302 - Construction Materials and Technology	Mapping														
C204	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	2	0	3	0	0	2	0	1	1	1	0	3	2

	CO2	3	0	0	2	0	0	0	0	1	1	1	0	3	2
	CO3	3	3	2	2	2	1	2	1	1	1	1	2	3	3
	CO4	2	0	1	0	1	1	0	0	1	1	1	0	3	3
	CO5	2	0	0	2	1	2	0	0	1	1	1	0	3	3
	Average	2.4	2	1.5	2.2	1.3	1.3	1.3	0.5	1	1	1	1	3	2.6
CE3303 - Water Supply and Wastewater Engineering	Mapping														
C205	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	3	3	2	0	3	2	1	1	0	2	0	3	0
	CO2	2	3	3	2	2	3	3	1	1	0	2	0	3	3
	CO3	3	3	3	0	2	3	3	2	2	2	2	3	3	3
	CO4	3	3	3	2	2	3	3	2	3	2	2	3	3	2
	CO5	3	3	3	2	2	3	3	2	3	2	2	3	3	3
	Average	2.6	3	3	2	2	3	2.8	1.6	2	2	2	3	3	2.6
CE3351 - Surveying and Levelling	Mapping														
C206	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	2	3	3	2	0	3	2	1	1	0	2	0	3	2

	CO2	2	3	2	2	2	3	2	1	1	0	2	0	3	2
	CO3	3	3	3	0	2	3	3	2	2	2	2	2	3	2
	CO4	3	3	3	2	2	3	3	2	3	2	2	2	3	2
	CO5	3	3	3	2	2	3	3	2	3	2	2	3	3	2
	Average	2.6	3	2.8	2	2	3	2.6	1.6	2	2	2	2	3	2
CE3361 - Surveying and Levelling Laboratory	Mapping														
C207	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	3	2	3	3	2	3	2	3	3	3	2	1	3	3
	CO2	3	2	3	3	3	3	2	3	3	3	2	1	3	3
	CO3	3	1	2	3	3	2	2	2	3	3	2	2	3	3
	CO4	3	3	2	2	2	3	3	2	3	3	2	1	3	3
	CO5	3	3	3	3	3	3	3	2	3	3	2	1	3	3
	Average	3	2.2	2.6	2.8	2.6	2.8	2.4	2.4	3	3	2	1.2	3	3
CE3311 - Water and Wastewater Analysis Laboratory	Mapping														
C208	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2

	O1	2	1	1	1	2	1	2	2	1	1	1	3	1	2
	CO2	2	1	1	1	1	2	2	2	1	1	2	3	2	2
	CO3	1	1	1	1	1	2	2	2	2	2	2	2	2	2
	CO4	3	3	3	3	3	2	2	3	3	2	3	2	3	3
	CO5	2	3	3	3	3	2	2	3	2	2	2	3	2	2
	Average	2	1.8	1.8	1.8	2	1.8	2	2.4	1.8	1.6	2	2.6	2	2.2
GE3361 - Professional Development	Mapping														
C209	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	1	1	1	2	1	2	2	1	1	1	3	1	2
	CO2	2	1	1	1	1	2	2	2	1	1	2	3	2	2
	CO3	1	1	1	1	1	2	2	2	2	2	2	2	2	2
	Average	1.6	1	1	1	1.3	1.6	2	2	1.3	1.3	1.6	2.6	1.6	2
CE3401 - Applied Hydraulics Engineering	Mapping														
C210	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	3	3	2	3	1	2	2	1	2	1	1	3	3	2
	CO2	3	3	2	3	2	2	2	1	2	1	1	3	3	2

	CO3	3	3	2	3	1	2	2	1	2	1	1	3	3	2
	CO4	3	3	3	3	1	2	2	1	2	1	1	3	3	2
	CO5	3	3	3	3	1	2	2	1	2	1	1	3	3	2
	Average	3	3	2.4	3	1.2	2	2	1	2	1	1	3	3	2.00
CE3402 - Strength of Materials	Mapping														
C211	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	3	3	2	3	1	2	2	1	2	1	1	3	3	2
	CO2	3	3	2	3	2	2	2	1	2	1	1	3	3	2
	CO3	3	3	2	3	1	2	2	1	2	1	1	3	3	2
	CO4	3	3	3	3	1	2	2	1	2	1	1	3	3	2
	CO5	3	3	3	3	1	2	2	1	2	1	1	3	3	2
	Average	3	3	2.4	3	1.2	2	2	1	2	1	1	3	3	2
CE3403 - Concrete technology	Mapping														
C212	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	3	3	3	2	3	1	3	2	3	1	3	3	3
	CO2	3	3	3	3	2	3	1	3	2	3	1	3	3	3
	CO3	3	3	3	3	2	3	1	3	2	3	1	3	3	3

	CO4	3	3	3	3	2	3	1	3	2	3	1	3	3	3
	CO5	3	3	3	3	2	3	1	3	2	3	1	3	3	3
	Average	3	3	3	3	2	3	1	3	2	3	1	3	3	3
CE3404 - Soil Mechanics	Mapping														
C213	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	3	3	3	1	2	1	1	1	1	1	3	3	2
	CO2	2	3	3	3	1	2	2	1	1	1	1	3	2	3
	CO3	2	3	3	3	1	2	1	1	1	1	2	3	2	3
	CO4	3	3	3	3	1	1	1	1	1	1	2	3	3	3
	CO5	3	3	3	3	1	2	1	1	1	1	2	3	3	3
	Average	2.4	3	3	3	1	1.8	1.2	1	1	1	1.4	3	2.6	2.8
CE3405 - Highway and Railway Engineering	Mapping														
C214	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	3	2	2	3	1	1	1	2	1	2	3	3	3
	CO2	3	2	3	2	3	1	1	1	2	1	2	3	2	2
	CO3	3	3	2	2	2	2	1	1	2	1	2	3	2	2
	CO4	2	3	3	2	2	1	1	1	1	1	2	3	2	2

	CO5	3	3	2	2	2	1	1	1	2	1	1	3	2	3
	Average	2.6	2.8	2.4	2	2.4	1.2								
GE3451 - Environmental Sciences and Sustainability	Mapping														
C215	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	3	0	0	3	0	2	0	1	0	0	0	2	0	0
	CO2	2	0	3	0	0	2	0	0	0	0	0	2	1	2
	CO3	2	0	3	3	0	0	0	1	0	0	0	2	2	2
	CO4	2	0	3	3	0	0	0	1	0	0	0	2	2	2
	CO5	3	0	2	3	0	0	0	2	0	0	0	2	0	2
	Average	2.4	0	2.6	3	0	2	0	1.2	0	0	0	2	1.6	2
CE3411 - Hydraulic Engineering Laboratory	Mapping														
C216	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	2	1	3	1	2	2	1	2	1	1	2	2	1
	CO2	3	2	1	3	1	2	2	1	2	1	1	2	3	1
	CO3	3	3	2	3	1	2	2	1	3	1	1	2	3	2
	CO4	3	3	2	3	1	2	2	1	3	1	1	2	3	2

	CO5	3	3	2	3	1	2	2	1	3	1	1	2	3	2
	Average	2.8	2.6	1.6	3	1	2	2	1	2.6	1	1	2	2.8	1.6
CE3412 - Materials Testing Laboratory	Mapping														
C217	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	3	2	3	1	2	2	1	3	1	1	2	3	2
	CO2	3	3	2	3	1	2	2	1	3	1	1	2	3	2
	CO3	3	3	2	3	1	2	2	1	3	1	1	2	3	2
	CO4	3	3	2	3	1	2	2	1	3	1	1	2	3	2
	CO5	3	3	2	3	1	2	2	1	3	1	1	2	3	2
	Average	3	3	2	3	1	2	2	1	3	1	1	2	3	2
CE3413 - Soil Mechanics Laboratory	Mapping														
C218	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	2	1	3	1	2	2	1	3	1	1	3	2	2
	CO2	3	2	2	3	1	2	2	1	3	1	1	3	3	3
	CO3	3	3	3	3	1	2	2	1	3	1	1	3	3	3
	CO4	3	3	2	3	1	2	2	1	3	1	1	3	3	3

	Average	2.8	2.5	2	3	1	2	2	1	3	1	1	3	2.8	2.8
CE3501 - Design of Reinforced Concrete Structural Elements	Mapping														
C301	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	3	3	3	1	1	1	1	3	2	1	2	3	3
	CO2	3	3	3	3	1	1	1	1	3	2	1	2	3	3
	CO3	3	3	3	3	1	1	1	1	3	2	1	2	3	3
	CO4	3	3	3	3	1	1	1	1	3	2	1	2	3	3
	CO5	3	3	3	3	1	1	1	1	3	2	1	2	3	3
	Average	3	3	3	3	1	1	1	1	3	2	1	2	3	3
CE3502 - Structural Analysis I	Mapping														
C302	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	3	3	3	1	3	1	1	3	2	1	2	3	3
	CO2	3	3	3	3	1	3	1	1	3	2	1	1	3	3
	CO3	3	3	3	3	1	3	1	1	3	2	1	1	3	3
	CO4	3	3	3	3	1	3	1	1	3	2	1	1	3	3

	CO5	3	3	3	3	1	3	1	1	3	2	1	1	3	3
	Average	3	3	3	3	1	3	1	1	3	2	1	1.2	3	3
CE3503 - Foundation Engineering	Mapping														
C303	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	3	3	3	3	1	3	1	1	3	2	1	2	3	3
	CO2	3	3	3	3	1	3	1	1	3	2	1	2	3	3
	CO3	3	3	3	3	1	3	1	1	3	2	1	2	3	3
	CO4	3	3	3	3	1	3	1	1	3	2	1	2	3	3
	CO5	3	3	3	3	1	3	1	1	3	2	1	2	3	3
	Average	3	3	3	3	1	3	1	1	3	2	1	2	3	3
CE3005 - REHABILITATION / HERITAGE RESTORATION	Mapping														
C304	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	2	3	1	1	1	1	2	1	1	1	2	3	1
	CO2	3	2	3	1	1	1	1	2	1	1	1	2	3	3
	CO3	3	2	3	1	1	1	1	2	1	1	1	2	3	3
	CO4	2	2	3	1	1	1	1	2	1	1	1	2	3	2

	CO5	2	2	3	1	1	1	1	2	1	1	1	2	3	3
	Average	2.6	2	3	1	1	1	1	2	1	1	1	2	3	2.4
CE3022 - REMOTE SENSING CONCEPTS	Mapping														
C305	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	2	2	2	3	2	0	0	1	0	0	2	3	3
	CO2	3	2	3	2	3	3	0	0	1	0	0	2	3	3
	CO3	3	2	2	2	3	2	0	0	1	0	0	2	3	3
	CO4	3	2	3	3	3	3	0	0	1	0	0	2	3	3
	CO5	3	3	3	3	3	3	0	0	2	0	0	2	3	3
	Average	3	2.2	2.6	2.4	3	2.6	0	0	1.2	0	0	2	3	3
CE3030 - PAVEMENT ENGINEERING	Mapping														
C306	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	1	1	2	3	2	2	1	3	1	2	2	2	2
	CO2	2	2	2	3	3	2	2	2	3	2	3	3	2	2
	CO3	2	1	1	2	3	1	1	1	3	2	1	1	3	2
	CO4	2	2	1	3	3	2	1	1	3	1	3	2	3	3

	CO5	3	2	2	3	3	2	2	2	3	2	3	3	3	2
	Average	2.2	1.6	1.4	2.6	3	1.8	1.6	1.4	3	1.6	2.4	2.2	2.6	2.2
CE3511 - Highway Engineering Laboratory	Mapping														
C307	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	1	3	2	1	1	1	1	3	3	1	3	3	3
	CO2	3	1	3	2	1	1	1	1	3	3	1	3	3	3
	CO3	3	1	3	2	1	1	1	1	3	3	1	3	3	3
	CO4	3	1	3	2	1	1	1	1	3	3	1	3	3	3
	CO5	3	1	3	2	1	1	1	1	3	3	1	3	3	3
	Average	3	1	3	2	1	1	1	1	3	3	1	3	3	3
CE3512 - Survey Camp (2 weeks)	Mapping														
C308	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	3	2	3	3	2	2	2	2	2	2	3	3	3
	CO2	3	3	2	3	3	2	2	2	2	2	2	3	3	3
	CO3	3	3	2	3	3	2	2	2	2	2	2	3	3	3
	CO4	3	3	2	3	3	2	2	2	2	2	2	3	3	3

	CO5	3	3	2	3	3	2	2	2	2	2	2	3	3	3
	Average	3	3	2	3	3	2	2	2	2	2	2	3	3	3
CE3601 - Design of Steel Structural Elements	Mapping														
C309	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	2	3	2	2	2	2	2	2	1	2	2	2	2
	CO2	2	2	3	2	2	2	2	2	2	1	2	2	2	2
	CO3	2	2	3	2	2	2	2	2	2	1	2	2	2	2
	CO4	2	2	3	2	2	2	2	2	2	1	2	2	2	2
	CO5	2	2	3	2	2	2	2	2	2	1	2	2	2	2
	Average	2	2	3	2	2	2	2	2	2	1	2	2	2	2
CE3602 - Structural Analysis II	Mapping														
C310	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	2	3	0	2	0	2	0	0	0	0	2	3	2
	CO2	2	2	3	0	2	0	0	0	0	0	0	2	2	2
	CO3	2	2	3	0	2	0	2	0	0	0	0	2	2	2
	CO4	3	2	3	2	2	2	2	2	2	1	2	3	2	2

	CO5	2	3	3	2	2	2	2	2	2	1	2	3	2	2
	Average	2.2	2.2	3	2	2	2	2	2	2	1	2	2.4	2.2	2
AG3601 - Engineering Geology	Mapping														
C311	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	2	0	0	2	0	0	0	2	0	0	0	0	2	0
	CO2	2	2	3	3	2	0	0	0	2	0	2	2	2	2
	CO3	2	2	3	3	2	0	0	2	2	0	2	2	2	2
	CO4	2	3	3	3	2	0	1	2	2	1	2	2	2	2
	CO5	2	2	3	3	2	0	1	2	2	1	2	2	2	2
	Average	2	2.2	3	2.8	2	0	1	2	2	1	2	2	2	2
CE3003 - PRE-FABRICATED STRUCTURES	Mapping														
C312	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	2	1	0	2	0	0	1	0	2	1	2	3	2
	CO2	3	2	1	0	2	0	1	1	1	1	0	1	3	2
	CO3	3	3	2	2	2	0	1	2	1	1	0	1	3	3
	CO4	3	2	2	1	2	1	2	2	2	1	1	2	3	3
	CO5	3	3	2	1	2	1	2	2	1	1	1	2	3	3

	Average	3	2.4	1.6	1.3	2	1	1.5	1.6	1.2	1.2	0.6	1.6	3	2.6
CE3015 - GEO ENVIRONMENTAL ENGINEERING	Mapping														
C313	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	1	1	1	1	2	2	3	3	0	0	1	3	2	2
	CO2	3	1	2	2	2	2	3	3	2	2	0	3	2	2
	CO3	2	1	3	2	1	3	3	3	2	2	1	3	2	2
	CO4	1	3	3	2	0	2	3	3	3	2	1	3	3	2
	CO5	2	2	2	3	1	2	3	3	3	2	1	3	1	2
	Average	1.8	1.6	2.2	2	1.5	2.2	3	3	2.5	2	1	3	2	2
GI3491 - CARTOGRAPHY AND GIS	Mapping														
C314	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	O1	3	1	2	2	3	3	3	3	3	3	3	2	3	3
	CO2	3	1	2	2	3	3	3	3	3	3	3	2	3	3
	CO3	3	1	2	2	3	3	3	3	3	3	3	2	3	3
	CO4	3	1	2	2	3	3	3	3	3	3	3	2	3	3
	CO5	3	1	2	2	3	3	3	3	3	3	3	2	3	3

	Average	3	1	2	2	3	3	3	3	3	3	3	2	3	3
OCS352 - IOT CONCEPTS AND APPLICATIONS	Mapping														
C315	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	2	2	1	3	0	0	0	1	2	0	2	3	2
	CO2	3	2	2	2	3	0	0	0	1	2	0	2	3	2
	CO3	3	2	3	2	3	0	0	0	2	2	0	2	3	3
	CO4	3	3	3	2	3	0	0	0	2	2	0	2	3	3
	CO5	3	3	3	3	3	0	0	0	2	2	0	2	3	3
	Average	3	2.4	2.6	2	3	0	0	0	1.6	2	0	2	3	2.6
CE3611 - Building Drawing and Detailing Laboratory	Mapping														
C316	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	0	0	0	2	0	0	1	0	0	0	1	3	2
	CO2	3	2	0	0	2	3	0	2	3	2	0	2	3	2
	CO3	3	2	0	2	2	3	0	2	3	2	0	2	3	2
	CO4	3	2	0	2	2	3	0	1	3	2	0	2	3	2

	CO5	3	2	0	2	2	3	0	2	3	2	0	2	3	2
	Average	3	2	0	2	2	3	0	1.6	3	2	0	1.8	3	2
CE3701 - Estimation, Costing and Valuation Engineering	Mapping														
C401	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	2	3	3	3	3	2	2	3	2	2	3	3	3
	CO2	3	2	3	3	3	3	2	2	3	2	2	3	3	3
	CO3	3	2	3	3	3	3	2	2	3	2	2	3	3	3
	CO4	3	2	3	3	3	3	2	2	3	2	2	3	3	3
	CO5	3	2	3	3	3	3	2	2	3	2	2	3	3	3
	Avg	3	2	3	3	3	3	2	2	3	2	2	3	3	3
AI3404 - Hydrology and Water Resources Engineering	Mapping														
C402	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	3	3	3	3	3	3	2	3	2	3	3	3	3
	CO2	3	2	3	3	3	3	3	2	3	2	3	3	3	3
	CO3	3	1	2	3	1	3	2	2	3	2	2	3	3	3

	CO4	3	1	1	3	1	3	2	2	3	2	2	3	3	3
	CO5	3	2	2	3	3	3	2	2	3	2	2	3	3	3
	Avg	3	1.8	2.2	3	2.2	3	2.4	2	3	2	2.4	3	3	3
GE3791 - Human Values and Ethics	Mapping														
C403	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	3	2	2	1	2	2	2	2	2	0	2	2	2
	CO2	2	3	2	2	1	2	2	2	3	2	0	2	2	2
	CO3	2	2	1	1	1	2	2	2	2	2	2	2	2	2
	CO4	2	2	1	1	1	3	2	2	2	2	0	3	2	2
	CO5	2	2	1	1	1	2	2	2	2	2	1	2	2	2
	Average	2	2.4	1.4	1.4	1	2.2	2	2	2.2	2	1.5	2.2	2	2
GE3752 - Total Quality Management	Mapping														
C404	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	0	0	0	3	0	0	0	0	0	0	0	3	2
	CO2	0	0	3	0	0	0	0	0	0	0	0	0	3	2
	CO3	0	0	3	0	3	0	0	0	0	0	0	0	2	3
	CO4	0	2	0	3	2	0	3	3	0	2	0	0	3	3
	CO5	0	0	3	0	3	0	3	0	0	3	0	0	2	0

	Average	2.5	3	3	2.6	3	2	3	0	3	2.5	2	3	0	0
OCS353 - DATA SCIENCE FUNDAMENTALS	Mapping														
C405	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	2	2	3	3	2	2	2	2	3	3	3	3	3
	CO2	3	3	3	3	3	2	2	2	2	3	3	3	3	3
	CO3	3	2	3	3	3	2	2	2	2	3	3	3	3	3
	CO4	3	3	3	3	3	2	2	2	2	3	3	3	3	3
	CO5	3	3	3	3	3	2	2	2	2	3	3	3	3	3
	Average	3	2.6	2.8	3	3	2	2	2	2	3	3	3	3	3
OHS353 - PROJECT REPORT WRITING	Mapping														
C406	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	2	1	1	1	1	3	2	2	3	3	3	3	0	0
	CO2	2	2	2	1	1	1	2	1	2	3	2	3	0	0
	CO3	2	2	3	3	2	3	2	2	2	3	2	3	0	0
	CO4	3	3	3	3	3	3	3	3	3	3	3	3	0	0
	CO5	3	3	3	3	3	3	3	3	3	3	3	3	0	0

	Average	2.4	2.2	2.4	2.2	2	2.6	2.4	2.2	2.6	3	2.6	3	0	0
OAI351 - URBAN AGRICULTURE	Mapping														
C407	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	1	1	1	1	1	1	1	2	1	1	1	1	1	2
	CO2	2	1	2	1	2	2	2	1	1	2	1	2	2	1
	CO3	1	1	1	2	1	1	1	1	2	1	1	1	1	2
	CO4	1	1	1	2	1	2	1	1	1	1	1	1	1	1
	CO5	2	1	3	1	1	1	2	2	1	2	1	3	2	1
	Average	1.4	1	1.6	1.4	1.2	1.4	1.4	1.4	1.2	1.4	1	1.6	1.4	1.4
CE3811 - Project Work/Internship	Mapping														
C408	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3	1	1	3	0	3	2	2	2	1	1	3	0	0
	CO2	3	3	1	3	0	3	0	0	0	1	1	3	0	0
	CO3	2	2	2	3	0	2	2	2	2	1	1	3	0	0
	Avg	2.6	2	1.3	3	0	2.6	2	2	2	1	1	3	0	0

CO – POs/ PSOs Mapping average for all courses

Course Code	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
C101	1.6	2.2	1.8	2.2	1.5	3	3	3	1.6	3	3	3	0	0
C102	3	3	1	1	0	0	0	0	2	0	2	3	0	0
C103	3	3	1.6	1.2	1.8	1	0	0	0	0	0	1	0	0
C104	2.8	1.25	1	0.6	0	1.2	1.4	0	0	0	0	0.6	0	0
C105	2.4	2.6	1.8	2.4	1.8	0	0	0	0	0	1.6	1.2	0	0
C106	2.6	2.6	1.8	2.4	2.2	0	0	0	0	0	2	0.8	0	0
C107	3	2.4	2.6	1	1	0	0	0	0	0	0	0	0	0
C108	2.6	1	1.6	0.2	0.2	1.4	1.8	0	0	0	0	0.8	0	0
C109	2.4	2.4	2.4	2.4	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	0	0
C110	3	3	1	1	1	0	0	0	2	0	2	3	0	0
C111	3	1	1.4	0.6	1	1.2	0.6	0	0	0	0	0.4	0	0
C112	2	1	1	0	0	0	0	1	0	0	0	0	0	0
C113	3	1	2	0	2	0	0	0	0	3	0	2	0	0
C201	2.4	2.8	3	3	1.8	3	3	3	3	3	3	3	0	0
C202	3	3	1	1	0	0	0	0	2	0	0	3	0	0
C203	3	2	2.2	1	2	0	0	0	2	0	0	0	2	3
C204	2.4	1	0.6	1.8	0.8	0.8	0.8	0.2	1	1	1	0.4	3	2.6
C205	2.6	3	3	1.6	1.6	3	2.8	1.6	2	1.2	2	1.8	3	2.2
C206	2.6	3	2.8	1.2	1.6	3	2.6	1.6	2	1.2	2	1.4	3	2
C207	3	2.2	2.6	2.8	2.6	2.8	2.4	2.4	3	3	2	1.2	3	3
C208	2	1.8	1.8	1.8	2	1.8	2	2.4	1.8	1.6	2	2.6	2	2.2
C209	1.67	1	1	1	1.33	1.67	2	2	1.33	1.33	1.67	2.67	1.67	2
C210	3	3	2.4	3	1.2	2	2	1	2	1	1	3	3	2
C211	3	3	2.4	3	1.2	2	2	1	2	1	1	3	3	2
C212	3	3	3	3	2	3	1	3	2	3	1	3	3	3
C213	2.4	3	3	3	1	1.8	1.2	1	1	1	1.6	3	2.6	2.8
C214	2.6	2.8	2.4	2	2.4	1.2	1	1	1.8	1	1.8	3	2.2	2.4
C215	2.4	0	2.2	2.4	0	0.8	0	1	0	0	0	2	1	1.6
C216	2.8	2.6	1.6	3	1	2	2	1	2.6	1	1	2	2.8	1.6
C217	3	3	2	3	1	2	2	1	3	1	1	2	3	2
C218	2.75	2.5	2	3	1	2	2	1	3	1	1	3	2.75	2.75
C301	3	3	3	3	1	1	1	1	3	2	1	2	3	3

C302	3	3	3	3	1	3	1	1	3	2	1	1.2	3	3
C303	3	3	3	3	1	3	1	1	3	2	1	2	3	3
C304	2.6	2	3	1	1	1	1	2	1	1	1	2	3	2.4
C305	3	2.2	2.6	2.4	3	2.6	0	0	1.2	0	0	2	3	3
C306	2.2	1.6	1.4	2.6	3	1.8	1.6	1.4	3	1.6	2.4	2.2	2.6	2.2
C307	3	1	3	2	1	1	1	1	3	3	1	3	3	3
C308	3	3	2	3	3	2	2	2	2	2	2	3	3	3
C309	2	2	3	2	2	2	2	2	2	1	2	2	2	2
C310	2.2	2.2	3	0.8	2	0.8	1.2	0.8	0.8	0.4	0.8	2.2	2.2	2
C311	2	1.8	2.4	2.8	1.6	0	0.4	1.6	1.6	0.4	1.6	1.6	2	1.6
C312	3	2.4	1.6	0.8	2	0.4	1.2	1.6	1	1.2	0.6	1.6	3	2.6
C313	1.8	1.6	2.2	2	1.2	2.2	3	3	2	1.6	0.8	3	2	2
C314	3	1	2	2	3	3	3	3	3	3	3	2	3	3
C315	3	2.4	2.6	2	3	0	0	0	1.6	2	0	2	3	2.6
C316	3	1.6	0	1.2	2	2.4	0	1.6	2.4	1.6	0	1.8	3	2
C401	3	2	3	3	3	3	2	2	3	2	2	3	3	3
C402	3	1.8	2.2	3	2.2	3	2.4	2	3	2	2.4	3	3	3
C403	2	2.4	1.4	1.4	1	2.2	2	2	2.2	2	0.6	2.2	2	2
C404	0.6	0.4	1.8	0.6	2.2	0	1.2	0.6	0	1	0	0	2.6	2
C405	3	2.6	2.8	3	3	2	2	2	2	3	3	3	3	3
C406	2.4	2.2	2.4	2.2	2	2.6	2.4	2.2	2.6	3	2.6	3	0	0
C407	1.4	1	1.6	1.4	1.2	1.4	1.4	1.4	1.2	1.4	1	1.6	1.4	1.4
C408	2.67	2	1.33	3	0	2.67	1.33	1.33	1.33	1	1	3	0	0

Internal Examination and University examination:

The 80% of students had scored equal to or more than the 50 marks in Internal Examination, making the attainment level as 3.

The 80% of students had scored B grade and above in university examination, making the attainment level as 3.

CO Attainment Calculations:

CO Attainment is calculated from the 80% of marks in university examination and 20% of marks in internal examination.

The Internal Examination attainment level for the course **Environment and Agriculture** is 1.80 and it is converted into 20% i.e., **0.36.**

In the university examination 78.12 % of the students scored more than the set attainment level of B grade in the corresponding course so the University Examination attainment level is 3.00 and it is converted into 80% i.e., **2.40.**

Internal Examination (20%)	0.36
University Examination (80%)	2.40
Final CO Attainment	**2.76**

Therefore, the CO attainment for the course **Environment and Agriculture** is **2.76**

CO Attainment

CODE	AU CODE	COURSE NAME	CO1	CO2	CO3	CO4	CO5	CO	% ATTAINMENT
C101	HS3151	Professional English - I	1.80	1.80	1.80	1.80	1.80	1.80	60.00
C102	MA3151	Matrices and Calculus	1.20	1.20	1.20	1.20	1.20	1.20	40.00
C103	PH3151	Engineering Physics	1.20	1.20	0.80	1.20	1.20	1.12	37.33
C104	CY3151	Engineering Chemistry	1.20	1.20	0.80	1.20	1.20	1.12	37.33
C105	GE3151	Problem Solving and Python Programming	2.00	1.90	2.00	2.00	2.00	1.98	66.00
C106	GE3171	Problem Solving and Python Programming Laboratory	2.40	2.40	2.40	2.40	2.40	2.40	80.00
C107	BS3171	Physics and Chemistry Laboratory	2.40	2.40	2.40	2.40	2.40	2.40	80.00
C108	GE3172	English Laboratory	2.40	2.40	2.40	2.40	2.40	2.40	80.00
C109	HS3252	Professional English - II	1.20	1.10	1.20	1.20	1.20	1.18	39.33
C110	MA3251	Statistics and Numerical Methods	1.90	2.00	2.00	2.00	2.00	1.98	66.00
C111	PH3201	Physics for Civil Engineering	1.60	1.60	1.60	1.50	2.00	1.66	55.33
C112	BE3252	Basic Electrical, Electronics and Instrumentation Engineering	1.60	1.60	2.00	2.00	1.90	1.82	60.67

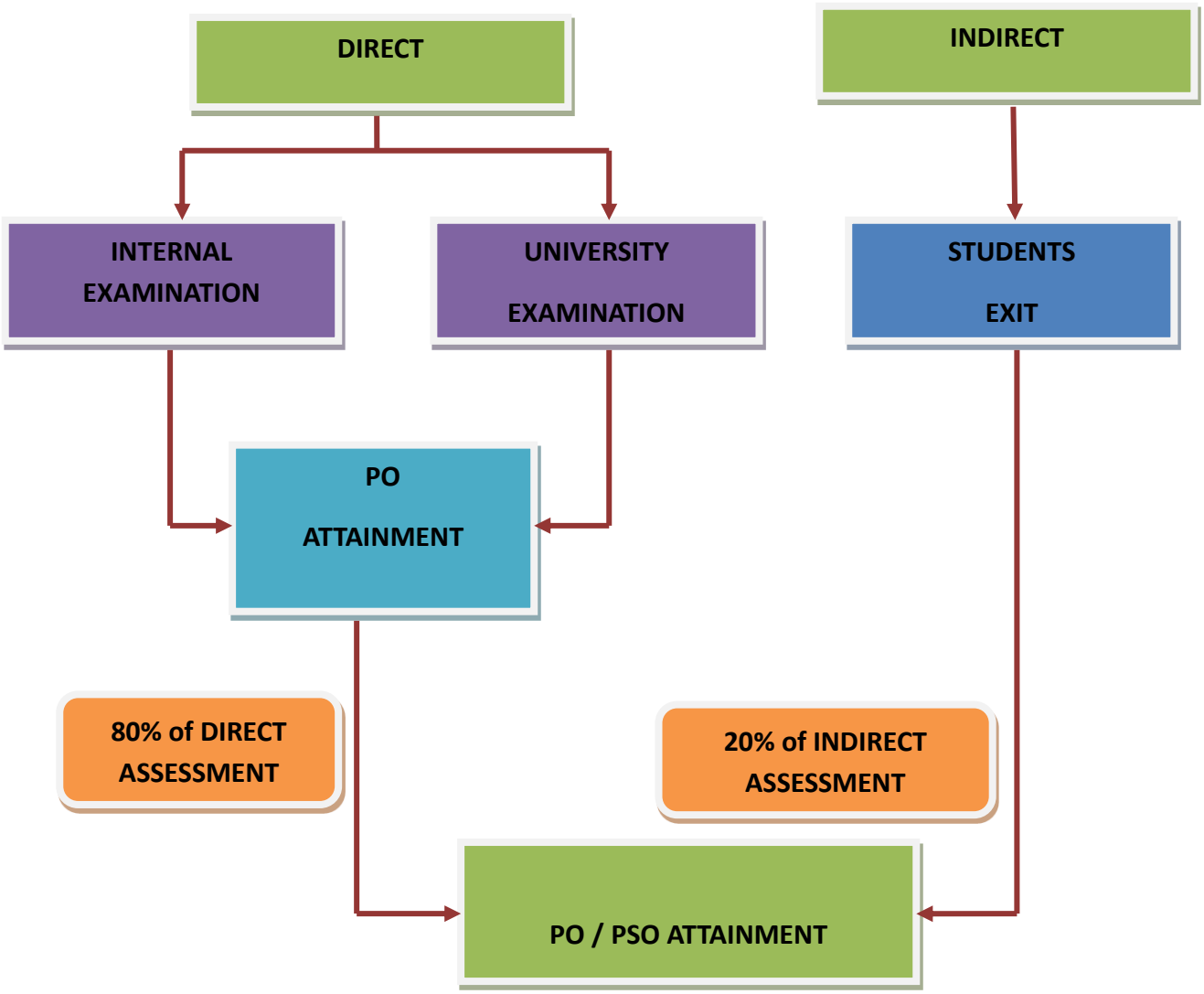
C113	GE3251	Engineering Graphics	2.00	2.00	2.00	1.90	2.00	1.98	66.00
C114	GE3271	Engineering Practices Laboratory	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C115	BE3272	Basic Electrical, Electronics and Instrumentation Engineering Laboratory	2.40	2.40	2.40	2.40	-	2.40	80.00
C201	MA3351	Transforms and Partial Differential Equations	1.60	1.60	2.00	1.90	2.00	1.82	60.67
C202	ME3351	Engineering Mechanics	1.90	2.00	2.00	1.90	2.00	1.96	65.33
C203	CE3301	Fluid Mechanics	1.60	1.60	2.00	2.00	1.90	1.82	60.67
C204	CE3302	Construction Materials and Technology	2.00	1.90	2.00	2.00	2.00	1.98	66.00
C205	CE3303	Water Supply and Wastewater Engineering	2.00	2.00	1.90	2.00	2.00	1.98	66.00
C206	CE3351	Surveying and Levelling	3.00	3.00	3.00	2.90	3.00	2.98	99.33
C207	CE3361	Surveying and Levelling Laboratory	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C208	CE3311	Water and Wastewater Analysis Laboratory	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C209	GE3361	Professional Development	3.00	3.00	3.00	-	-	3.00	100.00
C210	CE3401	Applied Hydraulics Engineering	1.20	1.20	2.00	1.90	2.00	1.66	55.33
C211	CE3402	Strength of	2.00	2.00	1.90	2.00	2.00	1.98	66.00

		Materials							
C212	CE3403	Concrete technology	2.00	2.00	2.00	1.90	1.90	1.96	65.33
C213	CE3404	Soil Mechanics	2.00	2.00	2.00	1.90	2.00	1.98	66.00
C214	CE3405	Highway and Railway Engineering	2.00	1.90	2.00	2.00	2.00	1.98	66.00
C215	GE3451	Environmental Sciences and Sustainability	1.60	1.50	2.00	2.00	2.00	1.82	60.67
C216	CE3411	Hydraulic Engineering Laboratory	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C217	CE3412	Materials Testing Laboratory	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C218	CE3413	Soil Mechanics Laboratory	3.00	3.00	3.00	3.00	-	3.00	100.00
C301	CE3501	Design of Reinforced Concrete Structural Elements	1.20	1.20	1.10	1.20	1.20	1.18	39.33
C302	CE3502	Structural Analysis I	1.20	1.10	1.20	1.20	1.20	1.18	39.33
C303	CE3503	Foundation Engineering	1.20	1.20	1.20	1.10	1.20	1.18	39.33
C304	CE3005	REHABILITATION / HERITAGE RESTORATION	1.20	1.20	1.10	1.20	1.20	1.18	39.33
C305	CE3022	REMOTE SENSING CONCEPTS	1.20	1.20	1.10	1.20	1.20	1.18	39.33
C306	CE3030	PAVEMENT ENGINEERING	1.20	1.20	1.10	1.20	1.20	1.18	39.33
C307	CE3511	Highway Engineering Laboratory	3.00	3.00	3.00	3.00	3.00	3.00	100.00

C308	CE3512	Survey Camp (2 weeks)	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C309	CE3601	Design of Steel Structural Elements	1.20	1.10	1.20	1.20	1.20	1.18	39.33
C310	CE3602	Structural Analysis II	1.20	1.10	1.20	1.20		1.18	39.17
C311	AG3601	Engineering Geology	1.20	1.20	1.20	1.10	1.20	1.18	39.33
C312	CE3003	PRE-FABRICATED STRUCTURES	1.20	1.10	1.20	1.20	1.10	1.16	38.67
C313	CE3015	GEO ENVIRONMENTAL ENGINEERING	1.20	1.10	1.20	1.10	1.20	1.16	38.67
C314	GI3491	CARTOGRAPHY AND GIS	1.20	1.20	1.10	1.10	1.20	1.16	38.67
C315	OCS352	IOT CONCEPTS AND APPLICATIONS	2.00	2.90	3.00	3.00	3.00	2.78	92.67
C316	CE3611	Building Drawing and Detailing Laboratory	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C401	CE3701	Estimation, Costing and Valuation Engineering	1.60	2.00	2.00	2.00	2.00	1.92	64.00
C402	AI3404	Hydrology and Water Resources Engineering	3.00	3.00	3.00	3.00	3.00	3.00	100.00
C403	GE3791	Human Values and Ethics	3.00	3.00	2.60	3.00	3.00	2.92	97.33
C404	GE3752	Total Quality Management	3.00	3.00	3.00	3.00	3.00	3.00	100.00

C405	OCS353	DATA SCIENCE FUNDAMENTALS	3.00	3.00	3.00	3.00	2.90	2.98	99.33
C406	OHS353	PROJECT REPORT WRITING	3.00	3.00	2.60	2.60	3.00	2.84	94.67
C407	OAI351	URBAN AGRICULTURE	2.50	2.50	2.00	2.50	2.50	2.40	80.00
C408	CE3811	Project Work/ Internship	2.98	2.99	2.98	-	-	2.98	99.44

Flow Chart for PO and PSO Attainment



Calculation of POs and PSOs Attainment

Attainment Level through Direct Assessment	=	**(0.6 x Attainment level based on University Examination Marks) + (0.4 x Attainment level based on Internal Assessment Marks)**

PO Attainment Level for a Course

$$\text{PO Attainment} = \frac{\text{CO Vs PO Average of the course}}{\text{Maximum Attainment Value}} \times \text{CO Attainment of the Course}$$

Overall PO Attainment

Overall PO Attainment	=	**(80% of Direct Assessment) + (20% of Indirect Assessment)**

PO / PSO Attainment

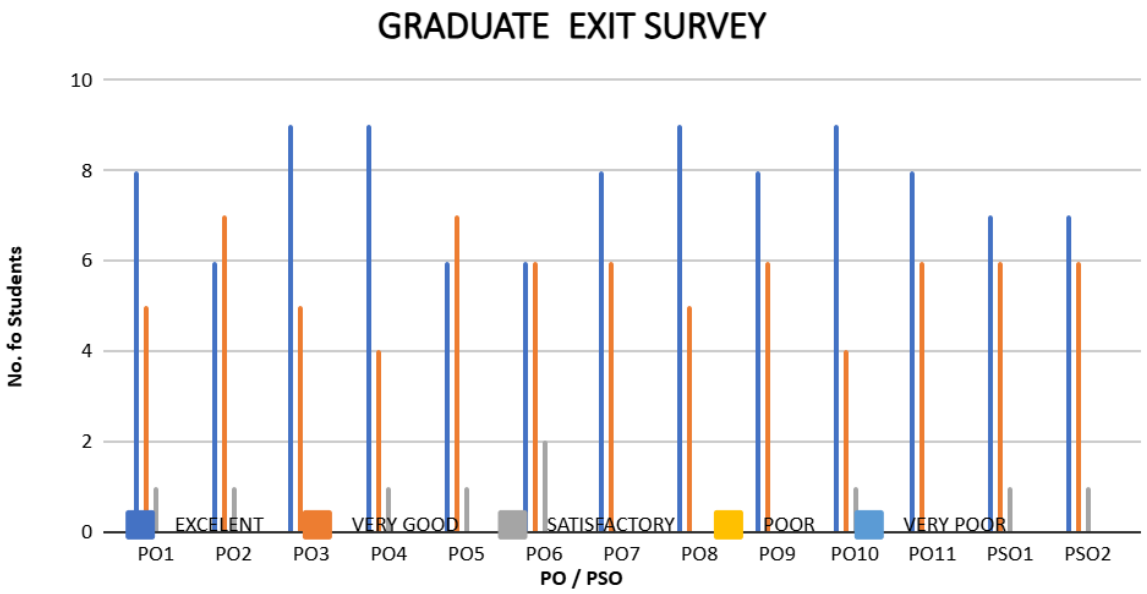
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C101	0.84	1.20	1.20	1.08	0.90	1.80	1.80	1.80	0.96	1.80	1.80	1.80	0.00	0.00
C102	1.20	1.20	0.40	0.40	0.00	0.00	0.00	0.00	0.80	0.00	0.80	1.20	0.00	0.00
C103	1.12	1.12	0.59	0.45	0.67	0.37	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00
C104	1.04	0.47	0.67	0.40	0.00	0.60	0.70	0.00	0.00	0.00	0.00	0.60	0.00	0.00
C105	1.58	1.71	1.97	1.98	1.19	0.00	0.00	0.00	0.00	0.00	1.05	1.30	0.00	0.00
C106	2.08	2.08	2.40	2.40	1.76	0.00	0.00	0.00	0.00	0.00	1.60	1.60	0.00	0.00
C107	2.40	1.92	2.08	0.80	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C108	2.08	1.00	1.28	0.80	0.80	1.40	1.44	0.00	0.00	0.00	0.00	1.07	0.00	0.00
C109	1.18	1.18	1.18	1.18	1.08	1.18	1.18	1.18	1.18	0.87	1.18	1.18	1.18	0.00
C110	1.98	1.98	0.66	0.66	0.66	0.00	0.00	0.00	1.32	0.00	1.32	1.98	0.00	0.00
C111	1.66	1.07	0.79	0.87	1.28	1.13	1.50	0.00	0.00	0.00	0.00	0.58	0.00	0.00
C112	1.21	0.61	0.61	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00
C113	1.98	0.66	1.32	0.00	1.32	0.00	0.00	0.00	0.00	1.98	0.00	1.32	0.00	0.00
C114	3.00	2.00	1.00	1.00	1.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	2.00
C115	2.40	1.60	0.00	0.80	0.80	0.80	0.00	0.00	1.60	1.60	0.80	0.80	0.00	0.00
C201	1.47	1.69	1.82	1.82	1.13	1.82	1.82	1.82	1.82	1.82	1.82	1.82	0.00	0.00
C202	1.96	1.96	0.65	0.65	0.00	0.00	0.00	0.00	1.31	0.00	0.00	1.96	0.00	0.00
C203	1.82	1.21	1.39	0.61	1.21	0.00	0.00	0.00	1.21	0.00	0.00	0.00	1.21	1.82
C204	1.58	1.67	1.00	1.48	0.89	0.89	1.33	0.67	0.66	0.66	0.66	1.33	1.98	1.72
C205	1.71	1.98	1.98	1.33	1.32	1.98	1.85	1.05	1.32	1.31	1.32	1.97	1.98	1.81

C206	2.58	2.98	2.78	1.98	1.98	2.98	2.58	1.59	1.98	1.98	1.99	2.31	2.98	1.99
C207	3.00	2.20	2.60	2.80	2.60	2.80	2.40	2.40	3.00	3.00	2.00	1.20	3.00	3.00
C208	2.00	1.80	1.80	1.80	2.00	1.80	2.00	2.40	1.80	1.60	2.00	2.60	2.00	2.20
C209	1.67	1.00	1.00	1.00	1.33	1.67	2.00	2.00	1.33	1.33	1.67	2.67	1.67	2.00
C210	1.66	1.66	1.37	1.66	0.63	1.11	1.11	0.55	1.11	0.55	0.55	1.66	1.66	1.11
C211	1.98	1.98	1.59	1.98	0.79	1.32	1.32	0.66	1.32	0.66	0.66	1.98	1.98	1.32
C212	1.96	1.96	1.96	1.96	1.31	1.96	0.65	1.96	1.31	1.96	0.65	1.96	1.96	1.96
C213	1.58	1.98	1.98	1.98	0.66	1.19	0.79	0.66	0.66	0.66	1.05	1.98	1.71	1.85
C214	1.71	1.85	1.58	1.32	1.58	0.79	0.66	0.66	1.19	0.66	1.19	1.98	1.45	1.59
C215	1.45	0.00	1.71	1.90	0.00	1.03	0.00	0.80	0.00	0.00	0.00	1.21	1.06	1.25
C216	2.80	2.60	1.60	3.00	1.00	2.00	2.00	1.00	2.60	1.00	1.00	2.00	2.80	1.60
C217	3.00	3.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	1.00	1.00	2.00	3.00	2.00
C218	2.74	2.49	1.99	2.99	1.00	1.99	1.99	1.00	2.99	1.00	1.00	2.99	2.74	2.74
C301	1.18	1.18	1.18	1.18	0.39	0.39	0.39	0.39	1.18	0.79	0.39	0.79	1.18	1.18
C302	1.18	1.18	1.18	1.18	0.39	1.18	0.39	0.39	1.18	0.79	0.39	0.47	1.18	1.18
C303	1.18	1.18	1.18	1.18	0.39	1.18	0.39	0.39	1.18	0.79	0.39	0.79	1.18	1.18
C304	1.02	0.79	1.18	0.39	0.39	0.39	0.39	0.79	0.39	0.39	0.39	0.79	1.18	0.94
C305	1.18	0.87	1.03	0.95	1.18	1.03	0.00	0.00	0.47	0.00	0.00	0.79	1.18	1.18
C306	0.87	0.63	0.55	1.03	1.18	0.71	0.63	0.55	1.18	0.63	0.95	0.87	1.02	0.87
C307	3.00	1.00	3.00	2.00	1.00	1.00	1.00	1.00	3.00	3.00	1.00	3.00	3.00	3.00
C308	3.00	3.00	2.00	3.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	3.00
C309	0.79	0.79	1.18	0.79	0.79	0.79	0.79	0.79	0.79	0.39	0.79	0.79	0.79	0.79

C310	0.87	0.87	1.18	0.80	0.79	0.80	0.80	0.80	0.80	0.40	0.80	0.95	0.87	0.79
C311	0.79	0.88	1.18	1.10	0.78	0.00	0.38	0.78	0.78	0.38	0.78	0.78	0.79	0.78
C312	1.16	0.93	0.62	0.52	0.77	0.38	0.58	0.62	0.48	0.47	0.39	0.62	1.16	1.01
C313	0.69	0.61	0.85	0.77	0.58	0.85	1.16	1.16	0.96	0.77	0.39	1.16	0.77	0.77
C314	1.16	0.39	0.77	0.77	1.16	1.16	1.16	1.16	1.16	1.16	1.16	0.77	1.16	1.16
C315	2.78	2.25	2.45	1.92	2.78	0.00	0.00	0.00	1.53	1.85	0.00	1.85	2.78	2.45
C316	3.00	2.00	0.00	2.00	2.00	3.00	0.00	1.60	3.00	2.00	0.00	1.80	3.00	2.00
C401	1.92	1.28	1.92	1.92	1.92	1.92	1.28	1.28	1.92	1.28	1.28	1.92	1.92	1.92
C402	3.00	1.80	2.20	3.00	2.20	3.00	2.40	2.00	3.00	2.00	2.40	3.00	3.00	3.00
C403	1.95	2.35	1.37	1.37	0.97	2.15	1.95	1.95	2.15	1.95	1.37	2.15	1.95	1.95
C404	3.00	2.00	3.00	3.00	2.75	0.00	3.00	3.00	0.00	2.50	0.00	0.00	2.60	2.50
C405	2.98	2.58	2.78	2.98	2.98	1.99	1.99	1.99	1.99	2.98	2.98	2.98	2.98	2.98
C406	2.27	2.07	2.24	2.04	1.87	2.44	2.27	2.07	2.47	2.84	2.47	2.84	0.00	0.00
C407	1.13	0.80	1.30	1.10	0.97	1.13	1.13	1.13	0.93	1.13	0.80	1.30	1.13	1.10
C408	2.99	1.99	1.00	2.99	0.00	2.99	1.99	1.99	1.99	1.00	1.00	2.99	0.00	0.00
Avg.	**1.85**	**1.56**	**1.50**	**1.53**	**1.25**	**1.48**	**1.40**	**1.26**	**1.54**	**1.36**	**1.17**	**1.61**	**1.85**	**1.73**
Exit	2.45	2.43	2.42	2.38	2.50	2.48	2.46	2.56	2.46	2.52	2.38	2.38	2.50	2.37
Alumni	2.41	2.19	2.35	2.30	2.36	2.28	2.39	2.36	2.28	2.37	2.33	2.26	2.40	2.30
Employer	2.40	2.40	2.28	2.16	2.40	2.52	2.16	2.40	2.64	2.28	2.40	2.16	2.40	2.52
Co curricular	2.46	2.22	2.53	2.22	2.56	2.66	2.35	2.12	2.33	2.66	2.44	2.30	2.20	2.60
Final	**1.97**	**1.71**	**1.68**	**1.68**	**1.49**	**1.68**	**1.58**	**1.48**	**1.72**	**1.58**	**1.42**	**1.74**	**1.96**	**1.88**

Survey Analysis

S/N	INDIRECT SURVEY	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	Graduate Survey	2.45	2.43	2.42	2.38	2.50	2.48	2.46	2.56	2.46	2.52	2.38	2.38	2.50	2.37
2	Alumni Survey	2.41	2.19	2.35	2.30	2.36	2.28	2.39	2.36	2.28	2.37	2.33	2.26	2.40	2.30
3	Employer Survey	2.40	2.40	2.28	2.16	2.40	2.52	2.16	2.40	2.64	2.28	2.40	2.16	2.40	2.52
4	co - crricular survey	2.46	2.22	2.53	2.22	2.56	2.66	2.35	2.12	2.33	2.66	2.44	2.30	2.20	2.60



Annexure -I - Department POs & PSOs

PROGRAM SPECIFIC OUTCOMES

At the end of the program students will be able to

- Identify, examine and solve problems in the domains of Civil Engineering that needs analytical and design requirements.
- Plan, analyze, design and prepare estimate for Civil Engineering projects with professional ethics.

PROGRAM OUTCOMES

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design / development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex

engineering activities with an understanding of the limitations.

6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to ones own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning** : Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

Annexure -II - EMPLOYER SURVEY

Name of the Organization:

Name of the Employer and Designation:

Name of the Employee:

Please provide your comments on the following:

1. The curriculum covers all the requisite knowledge content suitable for employment.
- Excellent
- Very Good
- Good
- Average
- Fair

2. Analysis of critical real time problems.
- Excellent
- Very Good
- Good
- Average
- Fair

3. Design and development of systems, models and processes.
- Excellent
- Very Good
- Good
- Average
- Fair

4. Research based knowledge including analysis and problem solving abilities to arrive at feasible solutions.
- Excellent
- Very Good
- Good
- Average
- Fair

5. The curriculum has ample scope for developing recruitee's ability to apply their knowledge, skills and modern tools and software for appropriate solutions in the assigned project domain

- Excellent
- Very Good
- Good
- Average
- Fair

6. The recruitee's sensitivity to social needs in bringing innovative proposal and ideas.

- Excellent
- Very Good
- Good
- Average
- Fair

7. The awareness to environmental issues, if any while implementing the project.

- Excellent
- Very Good
- Good
- Average
- Fair

8. The commitment and ethical values of the Recruitee

- Excellent
- Very Good
- Good
- Average
- Fair

9. The individual skills and contribution to the Recruitee's team in the project.

- Excellent
- Very Good
- Good
- Average
- Fair

10. Curricular components – projects, seminars help the students in gaining skills to prepare project proposals and reports.

- Excellent
- Very Good
- Good
- Average
- Fair

11. The curriculum has ample scope for developing recruitee's ability to apply managerial, administrative principles with financial literacy for successful project execution.

- Excellent
- Very Good
- Good
- Average
- Fair

12. Recruitee's enthusiasm to upgrade the skill set and knowledge for new assignments and professional development.

- Excellent
- Very Good
- Good
- Average
- Fair

13. Broad curricular areas help the student in gaining knowledge for securing a job and subsequent progression.

- Excellent
- Very Good
- Good
- Average
- Fair

14. Modern tools in curriculum are contemporary enough to suit the needs of the organization.

- Excellent
- Very Good
- Good
- Average
- Fair