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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : ADVANCED STRUCTURAL MECHANICS
Course Code : 2212011
Course Coordinator : DR. SARAVANAN MURUGESAN

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Interpret bending stresses and deflections in beams subjected to unsymmetrical bending.	2.60	2.00	2.48	2.10	Attained
2	Apply concepts to calculate stresses and deflections in curved beams and beams on elastic foundations.	2.00	2.00	2.00	2.10	Not Attained
3	Evaluate the buckling behavior of columns under various loading and boundary conditions.	3.00	3.00	3.00	2.10	Attained
4	Analyze stiffness matrices and structural systems using matrix methods.	2.60	3.00	2.68	2.10	Attained
5	Demonstrate the application of the direct stiffness method to analyze trusses, beams, and frames.	3.00	3.00	3.00	2.10	Attained
		Final CO		**2.63**	2.10	Attained

Action Taken: 1. Introduce step-by-step derivations with physical interpretation of stress distribution. 2. Provide solved example sheets with different boundary and loading cases. 3. Demonstrate beam-on-elastic-foundation behaviour using structural analysis software / MATLAB-based models for visualization.

M.S.R
Faculty

M.S.R
Course Coordinator

M.S.R
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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : THEORY OF ELASTICITY AND PLASTICITY
Course Code : 2212012
Course Coordinator : THAMBISETTY JAYAKRISHNA

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Explain the concepts of stress tensors, equilibrium equations, and stress transformations in 2D and 3D.	2.40	0.00	1.92	2.10	Not Attained
2	Classify strain components and compatibility conditions in different coordinate systems.	3.00	2.00	2.80	2.10	Attained
3	Analyze stress-strain relationships, material symmetries, and related idealizations in elasticity problems.	2.60	2.00	2.48	2.10	Attained
4	Compare stress-strain relationships and material symmetries in elasticity problems.	2.60	1.00	2.28	2.10	Attained
5	Evaluate stress-strain relationships and material symmetries in elasticity problems.	2.00	2.00	2.00	2.10	Not Attained
		Final CO		**2.30**	2.10	Attained

Action Taken: 1.Additional classes were conducted to reinforce fundamentals of stress tensors, equilibrium equations, and stress transformation, using step-by-step derivations and visual Mohr's circle demonstrations. 2.To improve analytical and evaluation skills in elasticity and material symmetry, students were given advanced numerical problems and conceptual assignments requiring interpretation and comparison of material behavior.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : STRUCTURAL STABILITY
Course Code : 2212043
Course Coordinator : DR. MURALI KALLEMPUDI

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Explain the criteria for structural design including stability, strength, and stiffness, and differentiate between linear and nonlinear behavior in discrete and continuous systems.	2.40	2.00	2.32	2.10	Attained
2	Demonstrate the stability behavior of columns under axial, flexural, and torsional buckling with and without lateral bracing.	2.00	1.00	1.80	2.10	Not Attained
3	Investigate the global and local stability of frame structures by examining slenderness ratios and buckling interactions.	2.40	2.00	2.32	2.10	Attained
4	Assess the susceptibility of beams and plates to different buckling modes under axial, shear, and combined loads.	2.40	2.00	2.32	2.10	Attained
5	Illustrate the concepts of inelastic and dynamic buckling through examples of structural behavior beyond the elastic limit.	3.00	3.00	3.00	2.10	Attained
		Final CO		**2.35**	2.10	Attained

Action Taken: 1. Demonstrations were conducted to help students to understand buckling modes using mode shape sketches and physical interpretation Also, use comparison tables for Euler, inelastic, and torsional buckling. 2.Progress to columns with different end conditions and bracing

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : ADVANCED REINFORCED CONCRETE DESIGN
Course Code : 2212044
Course Coordinator : DR. DSVSMRK CHEKRAVARTY

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Describe the various loads, load combinations, design methods and key concepts such as plastic hinges and moment redistribution in limit state design.	3.00	2.00	2.80	2.10	Attained
2	Illustrate IS code provisions by working out bending moment envelopes for fixed, continuous, deep beams, and corbels.	3.00	1.00	2.60	2.10	Attained
3	Investigate slab behavior using yield line and equilibrium methods and determine reinforcement requirements for ribbed and flat slabs.	3.00	1.00	2.60	2.10	Attained
4	Critique design approaches for shear, bond, and torsion failures and recommend effective reinforcement detailing according to limit state principles.	3.00	1.00	2.60	2.10	Attained
5	Design short and slender columns including applying the additional moment method and slenderness criteria.	3.00	1.00	2.60	2.10	Attained
		Final CO		**2.64**	2.10	Attained

Action Taken: 1.More emphasis was placed on reinforcement detailing for beams, slabs, and columns, including common site issues and detailing errors, to connect design theory with field practice. 2.Class discussions and assignments encouraged students to compare alternate design solutions and choose economical and safe reinforcement layouts considering strength and serviceability.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : COMPUTER AIDED DESIGN LABORATORY
Course Code : 2212071
Course Coordinator : DR. MURALI KALLEMPUDI

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Analyze determinate and indeterminate beams, plane frames, and space frames using computational tools.	3.00	1.00	2.60	2.40	Attained
2	Design structural elements including beams, frames, and gantry girders based on applied loads and relevant codes.	3.00	1.00	2.60	2.40	Attained
3	Develop Excel templates and spreadsheets for structural analysis and design of various components such as beams, frames, and roof trusses.	3.00	2.00	2.80	2.40	Attained
4	Evaluate the structural response of multi-storeyed buildings subjected to different load combinations like dead load, live load, wind load, and earthquake load.	3.00	2.00	2.80	2.40	Attained
5	Interpret analysis results and optimize the design of structural systems for safety and serviceability.	3.00	1.00	2.60	2.40	Attained
		Final CO		**2.68**	2.40	Attained

Action Taken: 1.More hands-on sessions using structural analysis software and Excel tools were integrated to improve students' ability to analyze beams, frames, and multi-storeyed structures efficiently. 2.Students were encouraged to develop and refine Excel templates for analysis and design, promoting computational thinking and reducing manual calculation errors.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : STRUCTURAL ENGINEERING LABORATORY
Course Code : 2212072
Course Coordinator : DR. DSVSMRK CHEKRAVARTY

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Perform mix design and conduct workability and material characterization tests on fresh concrete.	3.00	1.00	2.60	2.40	Attained
2	Conduct compression and flexure tests on hardened concrete specimens to assess strength characteristics.	3.00	0.00	2.40	2.40	Attained
3	Evaluate the durability of concrete through permeability, chloride permeability, carbonation, and half-cell potential tests.	3.00	1.00	2.60	2.40	Attained
4	Utilize non-destructive testing techniques such as rebound hammer and ultrasonic pulse velocity for assessing concrete quality.	3.00	1.00	2.60	2.40	Attained
5	Interpret test results to determine concrete properties and suggest improvements for mix design and structural performance.	3.00	2.00	2.80	2.40	Attained
		Final CO		**2.60**	2.40	Attained

Action Taken: 1. Demonstrations were conducted on correct loading rates, specimen handling, and equipment calibration to reduce experimental errors in strength and durability tests. 2. Students were guided to analyse test results critically, compare them with codal limits, and suggest mix or performance improvements, strengthening analytical and reporting skills.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : DISASTER MANAGEMENT
Course Code : 2210002
Course Coordinator : DR. VAJJA VARALAKSHMI

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Classify different types of disasters and summarize disaster-prone regions in India.	3.00	2.00	2.80	2.40	Attained
2	Illustrate the impacts of natural and manmade disasters on the economy, environment, and society.	3.00	2.00	2.80	2.40	Attained
3	Examine methods of disaster preparedness and the role of monitoring and community involvement.	3.00	2.00	2.80	2.40	Attained
4	Critique different disaster risk assessment techniques and their effectiveness in global and national contexts.	3.00	3.00	3.00	2.40	Attained
5	Implement disaster mitigation strategies using both structural and non-structural methods based on Indian programs.	3.00	2.00	2.80	2.40	Attained
		Final CO		**2.84**	2.40	Attained

Action Taken: 1.Teaching incorporated analysis of recent national and international disaster events to strengthen students' understanding of causes, impacts, and mitigation strategies. 2.Demonstrations and presentations on GIS, remote sensing, early warning systems, and communication technologies were included to enhance technological understanding.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : Research Methodology and IPR
Course Code : 2212021
Course Coordinator : MIRZA SUBHAN BAIG

Year / Sem : I-I
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Identify and formulate research problems based on defined criteria and objectives.	1.20	2.00	1.36	2.40	Not Attained
2	Evaluate research literature critically to ensure ethical integrity and avoid plagiarism.	1.20	2.00	1.36	2.40	Not Attained
3	Write research proposals and technical reports for effective communication and presentation.	1.20	3.00	1.56	2.40	Not Attained
4	Explain key concepts and procedures related to patents, copyrights, and intellectual property protection.	1.20	2.00	1.36	2.40	Not Attained
5	Assess the scope and application of patent rights, licensing, and emerging trends in intellectual property.	1.20	3.00	1.56	2.40	Not Attained
		Final CO		**1.44**	2.40	Attained

Action Taken: 1) Focus was given to research proposal writing, technical report preparation, paper organization, and presentation of research outcomes in a professional format. 2) Assignments, literature review exercises, proposal development tasks, and IPR case analyses were strengthened to improve continuous engagement and outcome attainment.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : FINITE ELEMENT ANALYSIS
Course Code : 2222013
Course Coordinator : THAMBISETTY JAYAKRISHNA

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Identify different types of materials, forces, and deformation problems and apply equilibrium equations in 2-D and 3-D continua	2.40	2.00	2.32	2.10	Attained
2	Formulate finite element models for 1-D and 2-D problems using variational principles and approximation methods.	2.40	2.00	2.32	2.10	Attained
3	Construct shape functions and stiffness matrices for linear and quadratic isoparametric quadrilateral elements using natural coordinates.	3.00	2.00	2.80	2.10	Attained
4	Explain finite element formulations for 3-D tetrahedral and hexahedral elements and apply Galerkin's method to structural problems.	3.00	2.00	2.80	2.10	Attained
5	Analyze 1-D, 2-D, and 3-D finite element models and interpret results using commercial FEA software.	3.00	2.00	2.80	2.10	Attained
		Final CO		**2.61**	2.10	Attained

Action Taken: 1.Additional problem-solving sessions were conducted on derivation of element equations, shape functions, and stiffness matrices to reinforce theoretical understanding. 2.Emphasis was placed on understanding stress contours, deformation patterns, and convergence behaviour to avoid common modelling and interpretation errors.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : STRUCTURAL DYNAMICS
Course Code : 2222014
Course Coordinator : DR. MURALI KALLEMPUDI

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Formulate equations of motion for vibratory systems using Newton's laws, D'Alembert's principle, virtual work, and Hamilton's principle.	1.80	3.00	2.04	2.10	Not Attained
2	Analyze the dynamic response of single-degree-of-freedom systems under various loading conditions including damping and periodic forces.	2.40	2.00	2.32	2.10	Attained
3	Evaluate natural frequencies and mode shapes of undamped multi-degree-of-freedom systems using eigenvalue analysis.	2.60	3.00	2.68	2.10	Attained
4	Apply Stodola and Holzer methods for fundamental and higher mode vibration analysis.	2.40	2.00	2.32	2.10	Attained
5	Derive governing differential equations for beam vibrations and determine natural frequencies and mode shapes for various end conditions.	2.40	2.00	2.32	2.10	Attained
		Final CO		**2.34**	2.10	Attained

Action Taken: 1. Additional tutorial sessions were conducted focusing on step-by-step derivation of equations of motion using Newton's laws, D'Alembert's principle, virtual work, and Hamilton's principle to strengthen conceptual clarity. 2. More solved examples and practice problems on SDOF and MDOF vibration systems were introduced to improve analytical confidence and reduce errors in dynamic modelling.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : ADVANCED STRUCTURAL STEEL DESIGN
Course Code : 2222047
Course Coordinator : DR. SARAVANAN MURUGESAN

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Describe the behavior and failure modes of bolted and welded connections, including load transfer, slip-critical connections, and design of fillet and groove welds.	3.00	2.00	2.80	2.10	Attained
2	Perform plastic analysis of beams and frames to determine collapse loads and plastic hinge formations for various structural systems.	3.00	2.00	2.80	2.10	Attained
3	Examine different types of eccentric and moment-resisting connections, including bolted and welded framed, bracket, and seat connections.	2.00	2.00	2.00	2.10	Not Attained
4	Assess the design requirements for industrial buildings under dead, live, and wind loads, and evaluate the design of trusses, purlins, bracings, and related components.	3.00	2.00	2.80	2.10	Attained
5	Apply design principles to steel truss girder bridges including members under compression and tension, and wind effects on bracings.	1.80	2.00	1.84	2.10	Not Attained
		Final CO		**2.45**	2.10	Attained

Action Taken: 1. Additional problem-solving sessions and detailing exercises were introduced for eccentric, moment-resisting, bracket, and seat connections to improve understanding of load transfer and connection behavior. 2. Extra numerical examples and design assignments were given on steel truss girder bridges, emphasizing member force evaluation, compression member checks, and wind bracing design.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : ADVANCED PRESTRESSED CONCRETE DESIGN
Course Code : 2222050
Course Coordinator : DR. DSVSMRK CHEKRAVARTY

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Explain various prestressing systems, losses of prestress, and the concepts of resultant stresses and load balancing in prestressed concrete.	2.40	2.00	2.32	2.10	Attained
2	Calculate short-term and long-term deflections of prestressed concrete members and determine the ultimate flexural strength of beams using simplified methods.	1.80	3.00	2.04	2.10	Not Attained
3	Examine the behavior of composite beams, including flexural and shear strengths, differential shrinkage, and deflections, and design composite sections accordingly.	2.60	2.00	2.48	2.10	Attained
4	Design prestressed one-way and two-way slabs, as well as prestressed concrete pipes, considering their types and specific design requirements.	2.00	3.00	2.20	2.10	Attained
5	Analyze the effects of prestressing on continuous beams, secondary moments, and anchorage zone stresses using relevant methods and IS code provisions	1.80	3.00	2.04	2.10	Not Attained
		Final CO		**2.22**	2.10	Attained

Action Taken: 1.Use step-by-step simplified methods with real examples and provide practice problems with incremental difficulty on short-term and long-term deflection calculations and ultimate flexural strength 2.Enhance Understanding of Continuous Beams &Anchorage Zones Introduce visualization tools and software simulations to demonstrate secondary moments and anchorage zone stresses in prestressed continuous beams. Supplement with IS code-based design assignments and interactive doubt-clearing sessions.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : NUMERICAL ANALYSIS LABORATORY
Course Code : 2222073
Course Coordinator : NANDITHA MANDAVA

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Perform basic matrix operations and implement numerical techniques using MATLAB for solving engineering problems.	3.00	2.00	2.80	2.40	Attained
2	Analyze structural systems using methods for solving linear equations like Gauss Elimination, Gauss-Seidel, and Gauss-Jordan.	3.00	3.00	3.00	2.40	Attained
3	Analyze structural systems using methods for solving linear equations like Gauss Elimination, Gauss-Seidel, and Gauss-Jordan.	3.00	2.00	2.80	2.40	Attained
4	Apply curve fitting and numerical integration techniques to model data and compute areas or volumes.	3.00	2.00	2.80	2.40	Attained
5	Implement numerical methods for solving ordinary differential equations such as Euler's and Runge-Kutta methods.	3.00	1.00	2.60	2.40	Attained
		Final CO		**2.80**	2.40	Attained

Action Taken: 1.Additional lab exercises were introduced to strengthen matrix operations, numerical techniques, and programming skills for solving engineering problems efficiently. 2.Curve fitting and numerical integration tasks were linked with experimental and field data to help students understand practical data interpretation.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : ADVANCED STRUCTURAL ANALYSIS AND DESIGN LABORATORY
Course Code : 2222074
Course Coordinator : DR. MURALI KALLEMPUDI

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Analyze the behavior of bridge decks using grillage analogy.	3.00	2.00	2.80	2.40	Attained
2	Apply structural principles to pre-engineered building (PEB) structures for effective load management.	3.00	2.00	2.80	2.40	Attained
3	Evaluate gantry girders for strength and serviceability under applied loads.	3.00	3.00	3.00	2.40	Attained
4	Formulate analysis procedures for high-rise multi-storey buildings, including those with shear walls and flat slab systems.	3.00	3.00	3.00	2.40	Attained
5	Synthesize foundation designs for flat slab and beam slab raft foundations based on site and load requirements.	3.00	2.00	2.80	2.40	Attained
		Final CO		**2.88**	2.40	Attained

Action Taken: 1. Discussions included current industry practices in PEB construction, gantry girder design, and flat slab systems to bridge the gap between classroom learning and field applications. 2. Assignments and class discussions involved comparing alternative structural systems and foundation solutions to promote economical and safe design choices.

Faculty

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : MINI PROJECT WITH SEMINAR
Course Code : 2222075
Course Coordinator : THAMBISETTY JAYAKRISHNA

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Investigate complex structural engineering problems using core and interdisciplinary knowledge	3.00	3.00	3.00	2.10	Attained
2	Apply advanced analytical and design techniques to develop viable structural solutions	3.00	2.00	2.80	2.10	Attained
3	Evaluate the effectiveness and feasibility of proposed designs through simulations and modeling.	3.00	2.00	2.80	2.10	Attained
4	Communicate technical concepts and project results effectively through oral and written presentations.	3.00	3.00	3.00	2.10	Attained
5	Collaborate efficiently in teams to manage project tasks and integrate multidisciplinary insights.	3.00	3.00	3.00	2.10	Attained
		Final CO		**2.92**	2.10	Attained

Action Taken:
1.Greater use of modeling and simulation tools was incorporated to help students evaluate design feasibility and optimize structural solutions.
2.Regular technical presentations, report writing, and project reviews were conducted to improve clarity in conveying engineering concepts and results.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : PEDAGOGY STUDIES
Course Code : 2220006
Course Coordinator : SHAIK FIROZ KHAN

Year / Sem : I-II
Academic Year : 2022-2023
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Understand the foundational concepts, theories of learning, and methodologies related to curriculum, pedagogy, and teacher education in developing contexts.	3.00	2.00	2.80	2.10	Attained
2	Analyze various pedagogical practices used in formal and informal classroom settings and their relevance to curriculum and teacher education.	3.00	2.00	2.80	2.10	Attained
3	Evaluate the effectiveness of pedagogical strategies and teacher education models based on the strength and nature of available evidence.	3.00	2.00	2.80	2.10	Attained
4	Assess role of professional development, peer and community support, and classroom alignment enhancing teaching effectiveness and overcome learning barriers.	3.00	3.00	3.00	2.10	Attained
5	Identify research gaps and propose future directions related to pedagogy, teacher education, curriculum design, and research dissemination.	3.00	2.00	2.80	2.10	Attained
		Final CO		**2.84**	2.10	Attained

Action Taken: 1) Teaching and learning activities emphasized the practical application of learning theories, curriculum design principles, and classroom pedagogies to enhance conceptual understanding. 2) Students were engaged in discussions and case-based evaluations of various pedagogical approaches, helping them understand their effectiveness in diverse learning environments.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : REHABILITATION AND RETROFITTING OF STRUCTURES
Course Code : 2232055
Course Coordinator : DR. DSVSMRK CHEKRAVARTY

Year / Sem : II-I
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Explain the causes and types of deterioration in concrete structures.	3.00	3.00	3.00	2.20	Attained
2	Assess damage in various types of structures using appropriate testing methods.	3.00	2.00	2.80	2.20	Attained
3	Summarize the fundamental principles of repair and rehabilitation techniques for structures.	3.00	1.00	2.60	2.20	Attained
4	Select suitable materials and techniques for different repair and retrofitting methods including Gunite, Shotcrete, epoxy injection and mortar repair.	3.00	2.00	2.80	2.20	Attained
5	Utilize sensors and building instrumentation for health monitoring of structures.	3.00	2.00	2.80	2.20	Attained
		Final CO		**2.80**	2.20	Attained

Action Taken: 1. Real-life examples of distressed and rehabilitated structures were discussed to strengthen understanding of deterioration mechanisms and repair strategies. 2. Students were introduced to structural health monitoring concepts using sensors, data acquisition systems, and instrumentation to understand performance tracking.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : FUNDAMENTALS OF NANO TECHNOLOGY
Course Code : 2235503
Course Coordinator : DR. GADE NARSINGA RAO

Year / Sem : II-I
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Understand the unique physical and chemical properties of materials at the nanoscale and how they differ from bulk materials.	3.00	3.00	3.00	2.10	Attained
2	Compare various synthesis techniques, including top-down and bottom-up approaches, for the fabrication of nanomaterials.	3.00	3.00	3.00	2.10	Attained
3	Apply advanced characterization techniques such as SEM, TEM, EDS, and WDS to analyze the structure and properties of nanomaterials.	3.00	3.00	3.00	2.10	Attained
4	Analyze the electronic, optical, mechanical, and thermal properties of nanomaterials to their functional advantages.	2.40	3.00	2.52	2.10	Attained
5	Evaluate the applications of nanomaterials in fields such as electronics, medicine, energy, and environmental science.	1.80	3.00	2.04	2.10	Not Attained
		Final CO		**2.71**	2.10	Attained

Action Taken: 1) Recent advancements, industrial applications, and emerging trends in nanotechnology were incorporated into course discussions to improve awareness of practical relevance. 2) Case studies on nanomaterial-enabled products and technologies were introduced to strengthen analytical thinking and application-based understanding.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : DISSERTATION WORK REVIEW-I
Course Code : 2234004
Course Coordinator : THAMBISETTY JAYAKRISHNA

Year / Sem : II-I
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Critique the progress of their research based on literature and initial findings.	3.00	2.00	2.80	2.40	Attained
2	Organize experimental or computational data to support hypothesis validation.	3.00	2.00	2.80	2.40	Attained
3	Interpret results obtained from preliminary analyses or simulations	3.00	2.00	2.80	2.40	Attained
4	Justify the chosen methodologies and their modifications as per research needs.	3.00	3.00	3.00	2.40	Attained
5	Plan subsequent research steps to achieve project objectives effectively.	3.00	2.00	2.80	2.40	Attained
		Final CO		**2.84**	2.40	Attained

Action Taken: 1. Periodic Review Sessions were held to evaluate research progress based on literature gap identification and initial findings. 2. Students were guided to organize and present experimental or computational data systematically to support hypothesis validation

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : DISSERTATION WORK REVIEW-II
Course Code : 2242046
Course Coordinator : THAMBISETTY JAYAKRISHNA

Year / Sem : II-II
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Critique the progress of their research based on literature and initial findings.	3.00	3.00	3.00	2.10	Attained
2	Organize experimental or computational data to support hypothesis validation.	3.00	3.00	3.00	2.10	Attained
3	Interpret results obtained from preliminary analyses or simulations	3.00	3.00	3.00	2.10	Attained
4	Justify the chosen methodologies and their modifications as per research needs.	3.00	3.00	3.00	2.10	Attained
5	Plan subsequent research steps to achieve project objectives effectively.	3.00	3.00	3.00	2.10	Attained
		Final CO		**3.00**	2.10	Attained

Action Taken: 1.Frequent research review meetings were conducted to help students critically evaluate their progress against literature findings and research objectives. 2.Emphasis was placed on discussing preliminary simulation and experimental results to improve interpretation skills and engineering judgment.

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CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : DISSERTATION VIVA-VOCE
Course Code : 2242047
Course Coordinator : DR. SARAVANAN MURUGESAN

Year / Sem : II-II
Academic Year : 2023-2024
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Defend their research methodology and findings confidently during oral examination.	3.00	0.00	2.40	2.10	Attained
2	Explain technical concepts and complex data clearly to an academic panel.	3.00	0.00	2.40	2.10	Attained
3	Respond effectively to critical questions and suggestions from examiners.	3.00	0.00	2.40	2.10	Attained
4	Demonstrate comprehensive knowledge of the subject and related interdisciplinary areas.	3.00	0.00	2.40	2.10	Attained
5	Justify the significance and novelty of their research contributions.	3.00	0.00	2.40	2.10	Attained
		Final CO		**2.40**	2.10	Attained

Action Taken: 1. Mock viva sessions were conducted to help students practice defending their research methodology, results, and conclusions with confidence. 2. Students were guided on organizing presentations, explaining complex data clearly, and using visuals effectively to communicate research outcomes.

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