MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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.	2.40	3.00	2.52	2.10	Attained
2	Apply concepts to calculate stresses and deflections in curved beams and beams on elastic foundations.	1.80	2.00	1.84	2.10	Not Attained
3	Evaluate the buckling behavior of columns under various loading and boundary conditions.	1.80	3.00	2.04	2.10	Not Attained
4	Analyze stiffness matrices and structural systems using matrix methods.	1.80	3.00	2.04	2.10	Not Attained
5	Demonstrate the application of the direct stiffness method to analyze trusses, beams, and frames.	2.40	3.00	2.52	2.10	Attained
		Final CO		**2.19**	2.10	Attained

Action Taken: 1.Regular assignments will be given on indeterminate structures, strain energy methods, and stability analysis to reinforce application-oriented learning. 2.More tutorial hours will be dedicated to problem-solving on complex topics such as curved beam theory and elastic foundation models to strengthen students' conceptual understanding and analytical ability.

M.S.Y
Faculty

M.S.Y
Course Coordinator

M.S.Y
HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 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 concepts of stress tensors, equilibrium equations, and stress transformations in 2D and 3D.	1.20	3.00	1.56	2.10	Not Attained
2	Classify strain components and compatibility conditions in different coordinate systems.	1.80	3.00	2.04	2.10	Not Attained
3	Analyze stress-strain relationships, material symmetries, and related idealizations in elasticity problems.	1.80	3.00	2.04	2.10	Not Attained
4	Compare stress-strain relationships and material symmetries in elasticity problems.	2.40	2.00	2.32	2.10	Attained
5	Evaluate stress-strain relationships and material symmetries in elasticity problems.	3.00	2.00	2.80	2.10	Attained
		Final CO		**2.15**	2.10	Attained

Action Taken: 1.Active Learning Programs were conducted to encourage conceptual understanding and peer learning. 2.Case studies were incorporated to enhance application-oriented thinking and practical insight.

Faculty

Course Coordinator

7.6.24
HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 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 criteria for structural design including stability, strength and stiffness, and differentiate between linear and nonlinear behavior in discrete and continuous systems.	3.00	2.00	2.80	2.10	Attained
2	Demonstrate the stability behavior of columns under axial, flexural and torsional buckling with and without lateral bracing.	3.00	3.00	3.00	2.10	Attained
3	Investigate the global and local stability of frame structures by examining slenderness ratios and buckling interactions.	3.00	2.00	2.80	2.10	Attained
4	Assess the susceptibility of beams and plates to different buckling modes under axial, shear, and combined loads.	3.00	3.00	3.00	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		**2.92**	2.10	Attained

Action Taken: 1.Students will be assigned research-based case studies involving real-world structural failures and advanced design scenarios to enhance critical thinking and application of stability concepts. 2.Students will encouraged to participate in seminars and discussions on recent journal articles and industry practices related to structural stability

Faculty

Course Coordinator

Head of the Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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	3.00	3.00	2.10	Attained
3	Investigate slab behavior using yield line and equilibrium methods and determine reinforcement requirements for ribbed and flat slabs.	3.00	2.00	2.80	2.10	Attained
4	Critique design approaches for shear, bond, and torsion failures and recommend effective reinforcement detailing according to limit state principles.	2.40	3.00	2.52	2.10	Attained
5	Design short and slender columns including applying the additional moment method and slenderness criteria.	2.40	3.00	2.52	2.10	Attained
		Final CO		**2.73**	2.10	Attained

Action Taken: 1.Problem-solving sessions were conducted by giving additional numerical practice on load combinations, plastic hinges, and moment redistribution using real design case studies.. 2. Research-oriented learning was promoted through assignments and ALP sessions by reviewing recent research papers, preparing case studies, and performing iterative design calculations.

Faculty

Course Coordinator

HOD

Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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	3.00	3.00	2.40	Attained
2	Design structural elements including beams, frames, and gantry girders based on applied loads and relevant codes.	3.00	2.00	2.80	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	3.00	3.00	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	3.00	3.00	2.40	Attained
5	Interpret analysis results and optimize the design of structural systems for safety and serviceability.	3.00	3.00	3.00	2.40	Attained
		Final CO		**2.96**	2.40	Attained

Action Taken: 1) Greater emphasis was placed on modeling and analysis of complex structural systems using computational tools, enhancing practical design capabilities. 2) Development of Excel-based templates and automated calculation sheets was emphasized to improve efficiency in structural analysis and design.

Faculty

Course Coordinator

Head of the Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC Autonomous)
Dundigal, Hyderabad 500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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	3.00	3.00	2.40	Attained
2	Conduct compression and flexure tests on hardened concrete specimens to assess strength characteristics.	3.00	2.00	2.80	2.40	Attained
3	Evaluate the durability of concrete through permeability, chloride permeability, carbonation, and half-cell potential tests.	3.00	3.00	3.00	2.40	Attained
4	Utilize non-destructive testing techniques such as rebound hammer and ultrasonic pulse velocity for assessing concrete quality.	3.00	3.00	3.00	2.40	Attained
5	Interpret test results to determine concrete properties and suggest improvements for mix design and structural performance.	3.00	3.00	3.00	2.40	Attained
		Final CO		**2.96**	2.40	Attained

Action Taken: 1.1.All required laboratory equipment and testing instruments were made available to ensure smooth conduct of experiments and hands-on learning
2.3.Students were trained to interpret test results, analyze data, and suggest improvements for mix design and structural performance based on experimental findings and comparative evaluation.

Faculty

Course Coordinator

Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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.	2.40	2.00	2.32	2.40	Not Attained
2	Evaluate research literature critically to ensure ethical integrity and avoid plagiarism.	2.40	2.00	2.32	2.40	Not Attained
3	Write research proposals and technical reports for effective communication and presentation.	1.80	3.00	2.04	2.40	Not Attained
4	Explain key concepts and procedures related to patents copyrights, and intellectual property protection.	1.80	3.00	2.04	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		**2.06**	2.40	Attained

Action Taken: 1) Course delivery was enhanced with practical examples related to patents, copyrights, trademarks, licensing, and technology transfer processes. 2) Research article reviews, proposal development exercises, patent analysis assignments, and case studies were incorporated to improve conceptual understanding and outcome attainment.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : DISASTER MANAGEMENT
Course Code : 2210002
Course Coordinator : NANDITHA MANDAVA

Year / Sem : I-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	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	3.00	3.00	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	3.00	3.00	2.40	Attained
		Final CO		**2.92**	2.40	Attained

Action Taken: 1.PowerPoint presentations and demonstrations were conducted to help students classify different types of disasters and identify disaster-prone regions in India using maps, case studies, and recent disaster data. 2.Group discussions were organized to help students understand the impacts of natural and man-made disasters on the economy, environment, and society, supported by real-world examples and multimedia content.

N Sandh
Faculty

N Sandh
Course Coordinator

HOD
Head of the Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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.	3.00	2.00	2.80	2.10	Attained
3	Construct shape functions and stiffness matrices for linear and quadratic isoparametric quadrilateral elements using natural coordinates.	3.00	3.00	3.00	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	3.00	3.00	2.10	Attained
5	Analyze 1-D, 2-D, and 3-D finite element models and interpret results using commercial FEA software.	3.00	3.00	3.00	2.10	Attained
		Final CO		**2.82**	2.10	Attained

Action Taken: 1.Topics were delivered using ICT Tools such as PowerPoint presentations with visual aids, diagrams, and solved examples for better conceptual clarity. 2.Academic mentoring and one-to-one guidance were provided to help students clarify difficult topics, strengthen conceptual understanding, and improve overall performance.

Faculty

Course Coordinator

Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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.	3.00	3.00	3.00	2.10	Attained
2	Analyze the dynamic response of single-degree-of-freedom systems under various loading conditions including damping and periodic forces.	3.00	3.00	3.00	2.10	Attained
3	Evaluate natural frequencies and mode shapes of undamped multi-degree-of-freedom systems using eigenvalue analysis.	3.00	3.00	3.00	2.10	Attained
4	Apply Stodola and Holzer methods for fundamental and higher mode vibration analysis.	3.00	3.00	3.00	2.10	Attained
5	Derive governing differential equations for beam vibrations and determine natural frequencies and mode shapes for various end conditions.	3.00	3.00	3.00	2.10	Attained
		Final CO		**3.00**	2.10	Attained

Action Taken: 1.Active learning methods such as collaborative learning and design-based discussions were implemented to improve teamwork and critical thinking skills. 2.Case studies and practical examples were used to relate theoretical concepts to real-world engineering applications.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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.	2.40	2.00	2.32	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	3.00	3.00	2.10	Attained
3	Examine different types of eccentric and moment-resisting connections, including bolted and welded framed, bracket, and seat connections.	1.20	3.00	1.56	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.	1.20	3.00	1.56	2.10	Not Attained
5	Apply design principles to steel truss girder bridges including members under compression and tension, and wind effects on bracings.	3.00	3.00	3.00	2.10	Attained
		Final CO		**2.29**	2.10	Attained

Action Taken: 1.Problem-solving sessions will be organized to deepen conceptual understanding and analytical skills in complex steel structure design. 2.Students will encouraged to participate in seminars and discussions on recent journal articles and industry practices related to steel structures

Faculty

Course Coordinator

HOD

Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 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 various prestressing systems, losses of prestress, and the concepts of resultant stresses and load balancing in prestressed concrete.	3.00	3.00	3.00	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.	3.00	3.00	3.00	2.10	Attained
3	Examine the behavior of composite beams, including flexural and shear strengths, differential shrinkage, and deflections, and design composite sections accordingly.	3.00	3.00	3.00	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.	2.40	3.00	2.52	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	3.00	3.00	3.00	2.10	Attained
		Final CO		**2.90**	2.10	Attained

Action Taken: 1.Case studies were discussed to relate theoretical knowledge with real-world engineering design and field applications. 2.E-resources, and library reference materials were made available to support self-learning, revision, and deeper conceptual understanding.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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	3.00	3.00	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	3.00	3.00	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	2.00	2.80	2.40	Attained
		Final CO		**2.92**	2.40	Attained

Action Taken: 1. Additional computational exercises will be introduced to strengthen analytical and data interpretation skills. 2. Laboratory projects will be implemented to enhance experimental understanding and promote hands-on learning.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC Autonomous)
Dundigal, Hyderabad - 500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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	2.00	2.80	2.40	Attained
4	Formulate analysis procedures for high-rise multi-storey buildings including those with shear walls and flat slab systems.	3.00	2.00	2.80	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		**2.80**	2.40	Attained

Action Taken: 1) Advanced software applications were incorporated to improve understanding of structural behavior under realistic loading and boundary conditions. 2) Case studies and real-world design examples were included to strengthen understanding of modern construction practices and advanced structural systems.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 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 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	3.00	3.00	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	2.00	2.80	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) Learning activities emphasized practical application of curriculum design, teaching methodologies, and learning theories in educational settings. 2) Students were guided to identify emerging issues, research gaps, and future directions in pedagogy, curriculum development, and teacher education.

Faculty

Course Coordinator

HOD
Head of the Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2023-2024
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	3.00	3.00	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	2.00	2.80	2.10	Attained
		Final CO		**2.92**	2.10	Attained

Action Taken: 1) Additional focus was given to the use of computational tools and simulation methods for validating proposed designs and assessing their effectiveness. 2) Structured guidelines were provided for technical report preparation, seminar presentations, and documentation to improve clarity and effectiveness of communication.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2024-2025
Regulation : MLRS-R22
Section : 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	3.00	3.00	2.20	Attained
3	Summarize the fundamental principles of repair and rehabilitation techniques for structures.	3.00	3.00	3.00	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	3.00	3.00	2.20	Attained
5	Utilize sensors and building instrumentation for health monitoring of structures.	3.00	3.00	3.00	2.20	Attained
		Final CO		**3.00**	2.20	Attained

Action Taken: 1.Industry visits and on-site inspections were arranged to give students first-hand exposure to repair and rehabilitation works in existing concrete structures. 2.DSS videos and lecture notes on repair techniques, retrofitting methods, and health monitoring of structures were made available to support self-paced learning.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad 500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : FUNDAMENTALS OF NANO TECHNOLOGY
Course Code : 2235503
Course Coordinator : BIYYANI SRINIVASA RAO

Year / Sem : II-I
Academic Year : 2024-2025
Regulation : MLRS-R22
Section : 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.	2.40	1.00	2.12	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	2.00	2.80	2.10	Attained
4	Analyze the electronic, optical, mechanical, and thermal properties of nanomaterials to their functional advantages.	3.00	2.00	2.80	2.10	Attained
5	Evaluate the applications of nanomaterials in fields such as electronics, medicine, energy, and environmental science.	3.00	3.00	3.00	2.10	Attained
		Final CO		**2.74**	2.10	Attained

Action Taken: 1. Demonstrated real micrographs and their interpretation. 2. Provided concise notes on EDS/WDS principles and outputs. 3. Shared annotated examples of diffraction patterns and spectra.

Faculty

Course Coordinator

HOD
Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

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 : 2024-2025
Regulation : MLRS-R22
Section : 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	2.40	Attained
2	Organize experimental or computational data to support hypothesis validation.	3.00	3.00	3.00	2.40	Attained
3	Interpret results obtained from preliminary analyses or simulations	3.00	3.00	3.00	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	3.00	3.00	2.40	Attained
		Final CO		**3.00**	2.40	Attained

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

Faculty

Course Coordinator

Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : DISSERTATION WORK REVIEW-III
Course Code : 2242077
Course Coordinator : THAMBISETTY JAYAKRISHNA

Year / Sem : II-II
Academic Year : 2024-2025
Regulation : MLRS-R22
Section : STRUCTURAL ENGINEERING - A/

Course Outcome	CO-Statement	CIE + SEE(a)	CES (d)	Final CO Attained	Target	Remarks
1	Assess the completeness and accuracy of the research outcomes against objectives.	3.00	2.00	2.80	0.00	Attained
2	Summarize key findings and their implications for structural engineering practice.	3.00	2.00	2.80	0.00	Attained
3	Formulate conclusions based on comprehensive data analysis.	3.00	3.00	3.00	0.00	Attained
4	Recommend improvements or future work directions grounded in research results.	3.00	2.00	2.80	0.00	Attained
5	Document research progress clearly and systematically for final submission.	3.00	3.00	3.00	0.00	Attained
		Final CO		**2.88**	0.00	Attained

Action Taken: 1) Focus was given to systematic organization of research work, presentation of results, and preparation of dissertation chapters in a professional format. 2) Emphasis was placed on interpreting experimental and analytical results, identifying key findings, and establishing their relevance to structural engineering applications.

Faculty

Course Coordinator

Head of The Department
Civil Engineering
Marri Laxman Reddy Institute of Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act,1956

CO ATTAINMENT ACTION TAKEN REPORT

Program : M.Tech.
Course Name : DISSERTATION VIVA- VOCE
Course Code : 2242078
Course Coordinator : DR. SARAVANAN MURUGESAN

Year / Sem : II-II
Academic Year : 2024-2025
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	3.00	3.00	0.00	Attained
2	Explain technical concepts and complex data clearly to an academic panel.	3.00	3.00	3.00	0.00	Attained
3	Respond effectively to critical questions and suggestions from examiners.	3.00	3.00	3.00	0.00	Attained
4	Demonstrate comprehensive knowledge of the subject and related interdisciplinary areas.	3.00	2.00	2.80	0.00	Attained
5	Justify the significance and novelty of their research contributions.	3.00	3.00	3.00	0.00	Attained
		Final CO		**2.96**	0.00	Attained

Action Taken: 1) Emphasis was placed on clear explanation of technical concepts, interpretation of complex data, and effective use of presentation tools to communicate research outcomes. 2) Greater focus was given to relating research outcomes with allied disciplines and contemporary engineering applications, thereby broadening subject understanding.

Faculty

Course Coordinator

HOD

Head of the Department
Civil Engineering
Marri Laxman Reddy Institute of
Technology & Management
(UGC-Autonomous)
Dundigal, Hyderabad-500 043.