INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
Dundigal, Hyderabad - 500043, Telangana

STRUCTURAL ENGINEERING

ATTAINMENT OF COURSE OUTCOME - ACTION TAKEN REPORT

Name of the faculty:	**Dr. VENU MALAGAVELLI**	Department:	**Structural Engineering**
Regulation:	**IARE - R18**	Batch:	**2018-2020**
Course Name:	**ADVANCED STRUCTURAL ANALYSIS**	Course Code:	**BSTB01**
Semester:	**I**	Target Value:	**60% (1.8)**

Attainment of COs:

	Course Outcome	Direct Attainment	Indirect Attainment	Overall Attainment	Observation
CO1	Explain the concepts of the static and kinematic indeterminacy of structures for analyzing the structures subjected to different loads	1.60	2.30	1.7	Not Attained
CO2	Analyze continuous beams, portal frames for the given loading conditions using the stiffness, flexibility, approximate methods for ensuring structural efficiency	1.60	2.30	1.7	Not Attained
CO3	Analyze member forces due to applied loads, lack of fit and temperature changes for the indeterminate trusses	0.90	2.40	1.2	Not Attained
CO4	Apply the concept of stiffness matrix equations in global coordinate system with boundary condition for analysing member forces in beams and frame structures.	0.90	2.50	1.2	Not Attained
CO5	Explain the shape function concepts of one and two-dimensional elements for enriching knowledge on stiffness matrix.	0.90	2.40	1.2	Not Attained
CO6	Make use of modified galerkin method for computing approximate solution of one-dimensional boundary value problems	0.90	2.20	1.2	Not Attained

Action Taken Report: (To be filled by the concerned faculty / course coordinator)

CO1:

- Conducted classroom demonstrations explaining degrees of freedom, support conditions, and member releases using real structural models.

CO2: Provided assignments requiring students to analyze continuous structures using all three methods and compare results.
CO3: Software-based demonstrations using STAAD.Pro and MATLAB were included to show real-time variation of forces in indeterminate trusses subjected to temperature changes and fabrication errors.
CO4: Arranged interactive tutorials using STAAD.Pro/MATLAB to visualize global stiffness assembly and compare software outputs with manual calculations.
CO5: Conducted model-based demonstrations showing how shape functions approximate displacement fields and influence accuracy of FEM solutions.
CO6: Organized guided problem-solving sessions where students derived approximate solutions for 1D boundary value problems using step-by-step Galerkin procedures.

Course Coordinator **Mentor** **Head of the Department**

Head of the Department
Civil Engineering
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