



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal - 500 043, Hyderabad, Telangana

Department of Structural Engineering

Attainment of Program Outcomes (POs) of 2024 - 2026 batch (IARE – MT23)

Course Code	Course Name	Program Outcomes (POs)					
		PO1	PO2	PO3	PO4	PO5	PO6
BSTD01	Advanced Structural Analysis	2.10		2.80	2.70	2.50	
BSTD02	Theory of Elastic and Plasticity	2.80		2.90	2.90	2.80	
BSTD04	Advanced Concrete Technology	2.90		2.90	2.90	2.80	2.80
BSTD07	Theory of Plates and Shells	2.90		2.80	2.80	2.90	
BHSD01	Research Methodology & IPR	2.80	2.80		2.80	2.80	2.80
BSTD11	Advanced CAD Laboratory		3.00	3.00	3.00	3.00	
BSTD12	Advanced Concrete Laboratory	3.00		3.00	3.00	3.00	
BSTD13	Finite Element Analysis	2.80		2.80	2.70	2.70	2.80
BSTD14	Structural Dynamics	2.70		2.60	2.70	2.60	
BSTD15	Design of Advanced Concrete Structures	2.90	2.90	2.90		2.80	
BSTD22	Rehabilitation and Retrofitting of Structures	2.90	2.80	2.90	2.90	2.80	
BSTD23	Structural Design Laboratory	3.00	3.00	3.00		3.00	
BSTD24	Numerical Analysis Laboratory	3.00	3.00				
BSTD25	Mini Project with Seminar	3.00	3.00	3.00	3.00	3.00	3.00
BSTD26	Design of Prestressed Concrete Structures			2.60	2.60	2.50	
BPSD31	Operations Research	2.6	2.5	2.90	2.70	2.70	2.80
BSTD34	Dissertation Work Review - II	3.00	3.00	3.00	3.00		
BSTD35	Dissertation Work Review - III	3.00	3.00	3.00	3.00	3.00	3.00
BSTD36	Dissertation Viva-Voce	3.00		3.00	3.00	3.00	3.00
Direct Attainment Value		2.9	2.9	2.9	2.9	2.8	2.9

Overall Attainment

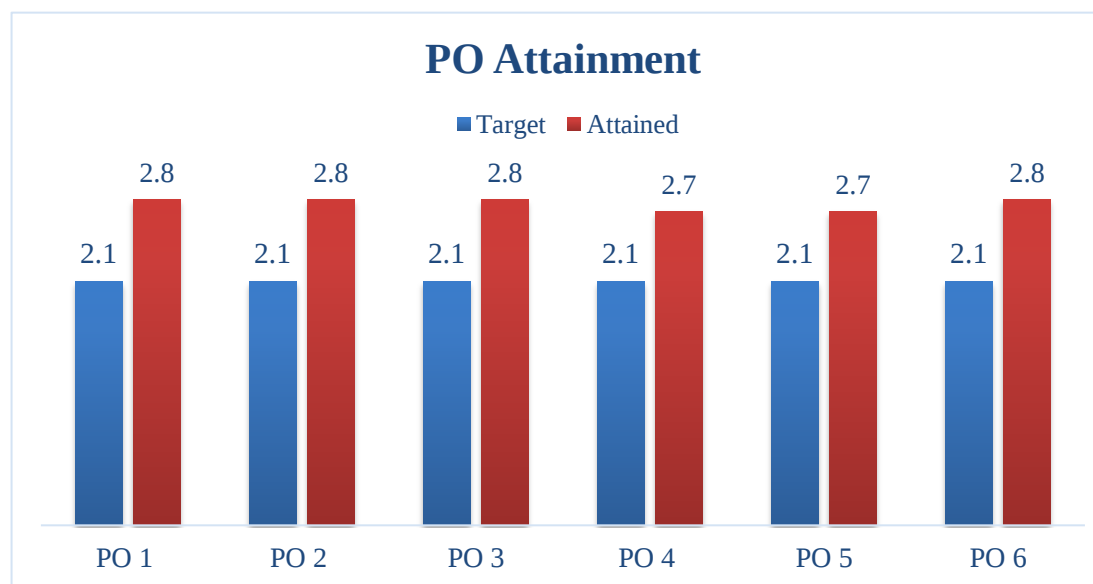
Sl. No	Assessment Components (Direct + Indirect)	Program Outcomes (POs)					
		PO1	PO2	PO3	PO4	PO5	PO6
1	Direct Assessment (CIA + SEE + Course End Survey) (a)	2.9	2.9	2.9	2.9	2.8	2.9
2	Program Exit Survey (b)	2.2	2.4	2.2	2.0	2.4	2.4
3	Alumni Survey (c)	2.2	2.4	2.2	2.0	2.4	2.4
4	Employer Survey (d)	2.4	2.7	2.1	2.1	2.1	2.7
Overall attainment = $a*0.8 + b*0.1 + c*0.05 + d*0.05$		2.8	2.8	2.8	2.7	2.7	2.8

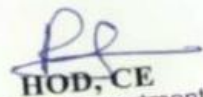
Action taken to improve the attainment of POs:

POs	Target Level	Attainment Level	Observation
PO1: An ability to Independently carry out research/investigation and development work to solve practical problems			
PO1	2.1	2.8	Target achieved with clear improvement. Previously lagging courses (BSTD07, BSTD35, BSTD36) successfully reached full targets.
Action: - Assigned dissertation problems requiring independent analysis using FEA and structural design software. - Guided students to conduct thorough literature reviews to formulate research objectives independently. - Encouraged students to publish their project findings in conferences and journals.			
PO2: An ability to Write and present a substantial technical report/document			
PO2	2.1	2.8	Target achieved. Project review courses (BSTD34, BSTD35) showed substantial progress in report quality and presentation skills.
Action: - Enforced standard thesis templates, structural detailing guidelines, and strict plagiarism checks. - Organized regular progress seminars with rubrics for presentation clarity, technical depth, and slide design. - Provided early draft feedback to help students refine their calculations and technical writing before final submission.			

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.			
PO3	2.1	2.8	Target achieved. Core and specialized subjects (BSTD15, BSTD22, BSTD35, BSTD36) demonstrated strong theoretical and analytical mastery.
Action: 1. Assigned advanced problems in structural dynamics, non-linear analysis, and prestressed concrete design. 2. Conducted expert guest lectures and workshops on seismic design and structural health monitoring. 3. Guided students to compare and validate manual analytical calculations with computer software results.			
PO4: Capable to apply the core, multidisciplinary knowledge for understanding the problems in structural engineering and allied fields.			
PO4	2.1	2.7	Target achieved. Improved integration of allied engineering concepts was evident across design and review courses.
Action: 1. Encouraged dissertation topics combining structural design with soil-structure interaction and earthquake/wind engineering. 2. Included modern concrete materials and durability aspects in lab work and project design. 3. Promoted the use of integrated building modelling workflows across different engineering disciplines.			
PO5: Conceptualize and design civil engineering structures considering various socio-economic factors.			
PO5	2.1	2.7	Target achieved. Students demonstrated better awareness of cost optimization, safety, and sustainability in structural design.
Action: 1. Emphasized material optimization, cost-effective structural sizing, and green concrete in design exercises. 2. Discussed real-world case studies on structural retrofitting, repair economics, and structural safety audits. 3. Evaluated design projects considering practical site constraints, local materials, and construction economy.			

PO6: Engage in life-long learning for continuing education in research level studies and professional development.			
PO6	2.1	2.8	Target achieved, improving from 2.4 to 2.8, reflecting active self-directed learning and professional development.
1. Action: 2. Encouraged student participation in professional engineering bodies, technical seminars, and webinars. 3. Motivated students to complete online certification courses (such as NPTEL/SWAYAM) in emerging structural technologies. 4. Integrated study of recent standard code updates (IS, ACI, Eurocodes) into project dissertations.			




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