INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal - 500 043, Hyderabad, Telangana

Department of Structural Engineering

Attainment of Program Outcomes (POs) of 2019 - 2021 batch (IARE – R18)

Course Code	Course Name	Program Outcomes (POs)					
		PO1	PO2	PO3	PO4	PO5	PO6
BSTB01	Advanced Structural Analysis	2.50		2.70	2.60	2.50	
BSTB02	Advanced Solid Mechanics	1.50		1.90	1.90	1.90	
BSTB03	Theory Of Thin Plates And Shells	2.50		2.50		2.40	
BSTB07	Structural Health Monitoring	2.50		2.50	2.50	2.40	
BSTB09	Structural Design Laboratory	3.00			3.00	3.00	
BSTB10	Advanced Concrete Laboratory			3.00	3.00	3.00	
BSTB11	FEM in Structural Engineering	2.80		2.80	2.90	2.80	
BSTB12	Structural Dynamics	2.90		2.90	2.90	2.90	
BSTB13	Advanced Steel Design	2.70		2.80	2.80	2.80	
BSTB17	Advanced Design of Foundations	2.90	2.90	2.90	2.90	2.90	2.80
BSTB19	Research and Content Development	3.00	3.00				3.00
BSTB20	Numerical Analysis Laboratory			3.00	3.00	3.00	
BSTB21	Mini project with Seminar	3.00	3.00	3.00	3.00	3.00	3.00
BSTB22	Design of Pre Stressed Concrete Structures	2.50		2.60	2.60	2.50	
BCSB31	Research Methodology & IPR	1.60	1.30	2.90	2.00	1.90	2.10
BCSB28	Cost Management of Engineering Projects	2.60	2.20	2.60	2.70	2.50	2.10
BSTB40	Phase - I Dissertation	2.30	2.30	2.30	2.30	2.30	2.30
BSTB41	Phase - II Dissertation	3.00	3.00	3.00	3.00	3.00	3.00
Direct Attainment Value		**2.6**	**2.5**	**2.7**	**2.7**	**2.6**	**2.6**

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)	2.6	2.5	2.7	2.7	2.6	2.6
2	Program Exit Survey (b)	2.2	2.3	2.6	2.5	2.0	2.4
3	Alumni Survey (c)	2.4	2.5	2.6	2.5	2.5	2.0
4	Employer Survey (d)	2.2	2.3	2.6	2.5	2.6	2.5
Overall attainment = a*0.8 + b*0.1 + c*0.05 + d*0.05		**2.5**	**2.5**	**2.7**	**2.7**	**2.5**	**2.5**

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	**1.8**	**2.5**	**Target Achieved. Following courses were identified which didn't meet the attainment target. BSTB02 and BCSB31.**

Action:

1. Target attainment was maintained by assigning mini-projects, software-based investigations, and guided research work leading to practical problem-solving and publications.
2. Hands-on sessions on problem formulation, modeling, and validation were strengthened to bridge gaps in applying theory to practical research problems.
3. Case-study-based learning and literature-driven problem identification were incorporated to enhance analytical thinking and investigative ability.

PO2: An ability to Write and present a substantial technical report/document			
PO2	**1.8**	**2.5**	**Target Achieved. Following courses were identified which didn't meet the attainment target BCSB31**

Action:

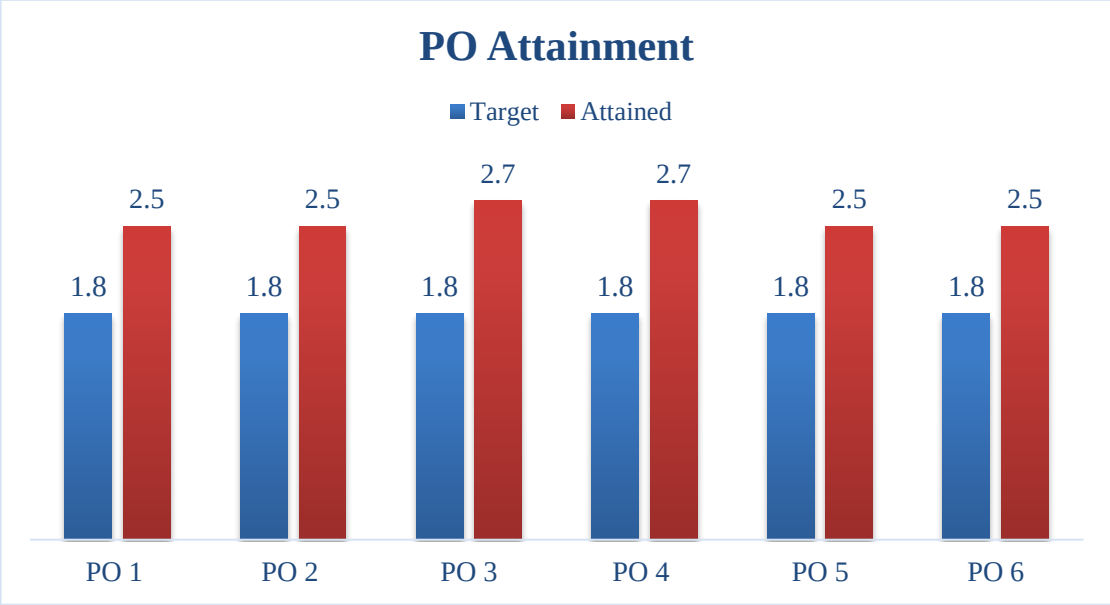
1. Uniform report formats and evaluation rubrics were implemented across structural engineering subjects to maintain consistency in technical documentation.
2. Corrective measures and continuous monitoring were planned to improve PO2 attainment in Research Methodology & IPR while sustaining performance in other subjects.
3. Research-oriented mini projects were encouraged in core structural subjects, leading to improved report quality and presentation skills.

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	**1.8**	**2.7**	**Target Achieved.**
Action: 1. Target attainment was achieved by delivering advanced theoretical depth and higher-order problem solving beyond undergraduate curriculum levels. 2. Software-based modeling and advanced analysis tools were integrated to strengthen mastery in structural systems. 3. Mini projects and term work required independent problem formulation, advanced analysis, and result interpretation.			
PO4: Capable to apply the core, multidisciplinary knowledge for understanding the problems in structural engineering and allied fields.			
PO4	**1.8**	**2.7**	**Target Achieved.**
Action: 1. Target attainment was maintained by assigning integrated problems combining structural analysis, material behavior, and design principles. 2. Case studies of bridges, high-rise buildings, and industrial structures were used to relate theory with field-based engineering practice. 3. Expert lectures and technical seminars exposed students to allied field applications and emerging interdisciplinary practices.			
PO5: Conceptualize and design civil engineering structures considering various socio-economic factors.			
PO5	**1.8**	**2.5**	**Target Achieved.**
Action: 1. Target attainment was sustained through advanced design assignments incorporating safety, economy, durability, and serviceability considerations. 2. Design problems emphasized material optimization and life-cycle cost analysis to promote economical structural solutions. 3. IS code-based design exercises addressed safety, sustainability, and functional requirements under realistic constraints.			

PO6: Engage in life-long learning for continuing education in research level studies and professional development.			
PO6	**1.8**	**2.5**	**Target Achieved.**

Action:

1. Target attainment was sustained by motivating students to pursue continuous learning through advanced textbooks, journals, and online research resources.
2. Research paper reading, review writing, and discussion sessions were regularly conducted to inculcate self-learning habits.
3. Participation in technical conferences and seminars encouraged sustained engagement with the professional engineering community.



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