INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad -500 043

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Attainment of Program Outcomes (POs) of 2021 – 2023 batch (IARE – PG21)

Sustained efforts are made to ensure continuous attainment by monitoring the resources and processes. The following actions were taken to enhance the target level. The attainment of POs and action taken for improvements in attainments for 2018-2020 isillustrated in table

POs	Target Level	Attainment Level	Observations
PO1: Independently carry out research/investigation and development work to solve practical problems			
PO1	**2.25**	**2.3**	Overall attainment of PO1 Target is Achieved. Computer Science and Engineering curriculum has a strong foundation of practical and theoretical knowledge of own engineering principles. However, students need to know in correlating the theoretical concepts with practical applications in courses like Mathematical foundations of computer science, Advanced data structures and research methodology and IPR. The following actions were taken to enhance the target level.
Action 1: Critical thinking problems are incorporated in the courses like Mathematical foundations of computer science, Advanced data structures and research methodology and IPR. **Action 2:** Improving curriculum by introducing topics related to research.			
PO2: Write and present a substantial technical report/document			
PO2	**2.25**	**2.8**	Overall attainment of PO2 reached to the target level. The communication, presentation, and report writing skills need to be more focused on respective theory and laboratory tasks. More focus on research methodology and IPR course is required. The following actions were taken to enhance the target level.
Action 1: Soft skills training is imparted to enhance various aspects of communication by group discussions, presentations and new learning outcomes. **Action 2**: Demonstration of experiment and viva are incorporated in laboratory day to day assessment.			
PO3: Demonstrate a degree of mastery in computer science and engineering emerging areas such as data science, cyber security, and application development.			

PO3	**2.25**	**2.5**	Overall attainment of PO3 reached to the target level in most of the core courses. Students are encouraged to learn, practice and make use of appropriate modern tools in emerging areas of Computer Science and Engineering through trainings, workshops and internships. More focus on data science and research methodology and IPR is required. The following actions were taken to enhance the target level.

Action 1:
Workshops and training programs are conducted in the courses data science and research methodology and IPR courses.
Action 2:
Faculty are encouraged to identify course specific modern tools and encouraged to use in their regular course work in order to reflect recent trends of CSE.

PO4: Apply advanced-level knowledge, techniques, skills, and modern tools in the field of computer science and engineering and its allied areas for solving real-time problems.

PO4	**2.25**	**2.3**	Overall attainment of PO4 reached to the target level in most of the core courses. The focus on usage of research-based methods in solution for complex engineering problems with innovations are needed in the courses includes Mathematical foundations of computer science, Advanced data structures, Wireless sensor Networks and research methodology and IPR. The following actions were taken to enhance the target level.

Action 1:
Critical thinking problems are incorporated in the courses like Mathematical foundations of computer science, Advanced data structures and research methodology and IPR.
Action 2:
Students are motivated to participate actively in project expos, ideation and product development to nurture their ideas along with complex problem-solving skills.

PO5: Function effectively in multidisciplinary environments with the knowledge of frontier technologies by working cooperatively, creatively, and responsively as a member or leader in diverse teams.

PO5	**2.25**	**2.3**	Overall attainment of PO5 reached to the target level in all the courses. The focus on courses like Mathematical foundations on computer science, Advanced data structures, Wireless sensor networks and research methodology and IPR required. The following actions were taken to enhance the target level.

Action 1:
Students are advised to participate STTPs, hackathons and project expos on courses includes Mathematical foundations of computer science, Advanced data structures, Wireless sensor networks and research methodology and IPR.
Action 2:
Students are encouraged to develop projects, in which global and environmental issues are addressed.

PO6: Engage in life-long learning for continuing education in doctoral-level studies and professional development.

PO6	**2.25**	**2.4**	Overall attainment of PO6 reached to the target level. Mathematical foundations of computer science, Advanced data structures and research methodology and IPR required. The following actions were taken

			to enhance the target level.

Action 1:

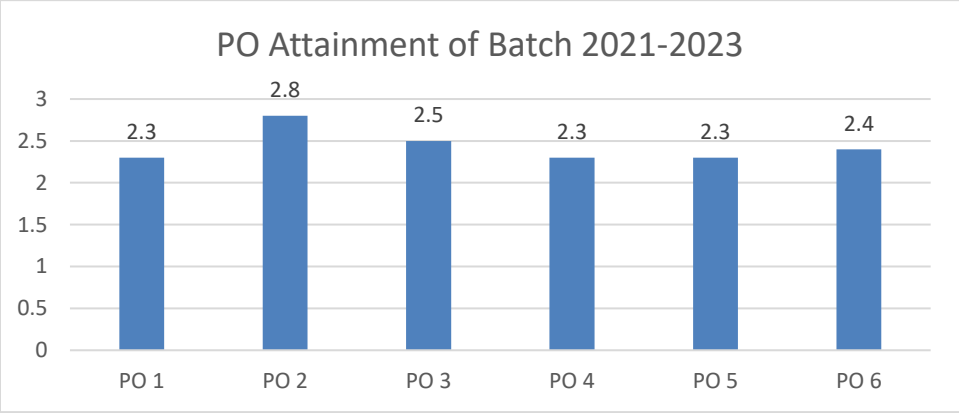
Students are recognized the importance of self-learning and completed certifications and MOOC courses (NPTEL, CISCO, Udemy etc.) on the courses like Mathematical foundations on computer science, Advanced data structures.

Action 2:

Faculty are utilizing the available digital learning facilities in the form of videos (NPTEL, ELRV, Coursera etc.), software tools, to be on par with the recent trends.

Action 3:

Students are encouraged to take topics from magazines and journals for seminar and video topics, research-oriented projects, referresearch literature and present or publish their work.



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Program Outcomes (POs) Attainment (Direct) Summary

Regulation	PG21
Branch	Computer Science and Engineering
Batch	2021-2023

Course	Course	Program Outcomes (POs)					
		PO1	PO2	PO3	PO4	PO5	PO6
BCSC01	Mathematical Foundations of	2.00			2.00	2.00	2.20
BCSC02	Advanced Data Structures	2.70			2.70	2.70	2.90
BCSC04	Wireless Sensor Networks	1.70		1.10	1.60	1.70	1.70
BCSC07	Data Science	2.30		2.30	2.30	2.30	2.10
BCSC11	Advanced Data Structures Laboratory	3.00		3.00	3.00	3.00	
BCSC12	Data Science Laboratory	3.00		3.00	3.00	3.00	3.00
BCSC13	Cyber Security	1.60		1.10	1.60	1.60	1.60
BCSC14	Soft Computing	1.80			1.80	1.80	
BCSC15	Data Preparation and Analysis	2.40			2.40	2.40	
BCSC19	Internet of Things and Applications	2.40			2.40	2.40	
BCSC23	Soft Computing Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
BCSC24	Cyber Security Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
BCSC25	Mini Project with Seminar	3.00	3.00	3.00	3.00	3.00	3.00
BHSC11	Research Methodology and IPR	2.70		2.70	2.70	2.70	
BPSC30	Waste to Energy	2.30				2.30	
BCSC31	Phase - I Dissertation	3.00	3.00	3.00	3.00	3.00	3.00
BCSC26	Mobile Applications and Services	1.10			1.10	1.10	
BCSC32	PHASE - II DISSERTATION	3.00	3.00	3.00	3.00	3.00	3.00
Attainment Value		2.4	3	2.6	2.4	2.4	2.6

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Program Outcomes (POs) Attainment (Indirect) Summary

Regulation	**PG21**
Branch	**Computer Science and Engineering**
Batch	**2021-2023**

S.No	Indirect Assessment Components	Program Outcomes (POs)					
		PO1	PO2	PO3	PO4	PO5	PO6
1	Program Exit Survey	2.4	2.7	2.7	2.7	2.7	2.7
2	Alumni Survey	1.4	1.3	1.5	1.1	1.1	0.5
3	Employer Survey	1.4	1.3	1.5	1.1	1.1	0.5

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Program Outcomes (POs) Attainment Summary

Regulation	PG21
Branch	Computer Science and Engineering
Batch	2021-2023

S.No	Assessment Components (Direct + Indirect)	Program Outcomes (POs)					
		PO1	PO2	PO3	PO4	PO5	PO6
1	Direct Assessment (a) (CIA + SEE + Course End Survey)	2.4	3	2.6	2.4	2.4	2.6
2	Program Exit Survey (b)	2.4	2.7	2.7	2.7	2.7	2.7
3	Alumni Survey (c)	1.4	1.3	1.5	1.1	1.1	0.5
4	Employer Survey (d)	1.4	1.3	1.5	1.1	1.1	0.5
Final attainment = a*0.8 + b*0.1 + c*0.05 + d*0.05		2.3	2.8	2.5	2.3	2.3	2.4

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Validation of POs Attainment for the Batch 2021-2023

S No.	POs	Target value for 2020-2021 PO Attainment	Overall PO Attainment Value from Direct and Indirect Assessment	Status
1	PO 1	2.25	2.3	Attained
2	PO 2	2.25	2.8	Attained
3	PO 3	2.25	2.5	Attained
4	PO 4	2.25	2.3	Attained
5	PO 5	2.25	2.3	Attained
6	PO 6	2.25	2.4	Attained

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