LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Affiliated to JNTUK, Kakinada & Approved by AICTE New Delhi,
Accredited by NAAC , An ISO 9001:2015 Certified Institution
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RECOMMENDATIONS/SUGGESTIONS REPORT

PO/PSO ATTAINMENTS **Batch: (2016-2020)** **A.Y: 2019-20**

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
	60	65	**Target reached** Out of 51 courses, 49 courses are contributing to this PO1. Out of 49, 36 courses are above PO target
	Action 1: The details of the courses which are not attained have been sent to the concerned course coordinators and module coordinators **Action 2:** It is advised to adopt a better teaching-learning method to reach the target levels **Action 3:** More tutorials and assignments are suggested to improve the understanding on basic principles of domain. **Action 4:** It is observed that for the courses viz., Introduction to Engg. Mechanics, Thermodynamics and linear control systems have very low attainment levels. It is suggested to revise the target level of those courses.		
PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
	60	66	**Target reached** Out of 51 courses, 49 courses are contributing to this PO2. Out of 49, 35 courses are above PO target of 60%
	Action 1: Suggestions are given to course coordinators to reach the targets in the future. **Action 2:** For the courses, those have less attainment value than the target, the formulations and the solutions need to be discussed in detail so that the students are able to analyse the complex problems. **Action 3:**		
PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
	60	64	**Target reached** Out of 51 courses, 58 courses are contributing to this PO3. Out of 48, 35 courses are above PO target. The courses like Elements of Aerospace Engineering, Mechanics of Composites,

			Propulsion, Mini Project, Seminar, Major Project are contributing more to reach the target.
	Action 1: It is instructed the MCC to take necessary action to improve the program outcome contribution. **Action 2:** Students are expected to carry out their projects/internships in the reputed organizations, so that they will involve in the design and development of solutions for the latest issues. **Action 3:** The instructions have been given to the PAC & DAC members to identify the new courses or electives which can contribute better for the PO. It is also requested to encourage the students to opt those courses		
PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
	60	64	**Target reached** Out of 51 courses, 43 courses are contributing to this PO4. Out of 43, 26 courses are above PO target.
	Action 1: Faculty are instructed to involve the student community in their research activities, so that the students may improve their knowledge in investigation of complex engineering problems. **Action 2:** Faculty are advised work with advanced tools or advanced equipment's **Action 3:** Student Certification programs are needed to explore the advanced tools so that the students will have a better tool to explore the complex problems of engineering		
PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
	60	64	**Target reached** Out of 51 courses, 32 courses are contributing to this PO5. Out of 32, 19 courses are above PO target
	Action 1: It is advised to explore the computer aided tools or techniques while delivering lectures so the student will get experience on modern tool usage **Action 2:** Students are expected to use the modern tools that are available to carry out their mini project, major project, PAL,PBL etc.,		
PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
	60	65	**Target reached** Out of 51 courses, only 9 courses are contributing to this PO6. Out of 9, 8 courses are above PO target
	Action 1: It is advised the PAC, DAC to include the courses or content of courses that may address societal needs which can be fulfilled by the engineering knowledge so that the PO attainment may be strengthened. **Action 2:** More number of student participation in attending co-curricular and extracurricular activities may improve the PO attainment level.		
PO 7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
	60	63	**Target reached**

			Out of 51 courses, only 14 courses are contributing to this PO7. Out of 14, 10 courses are above PO target
	Action 1: Faculty are instructed to teach the responsibilities of engineer towards environment while developing engineering solutions **Action 2:** Guest lectures and student activities will be planned to improve the awareness on sustainable development in the core sector		
PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
	60	68	**Target reached** Out of 51 courses, only 08 courses are contributing to this PO8 and 07 are above the target
	Action 1: The students are strictly advised to follow the code of ethics in engineering practices **Action 2:** Industry expert talks will be arranged to improve awareness code of ethics in designing and deploying of aircraft components.		
PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings			
	60	65	**Target reached** Out of 51 courses, 21 courses are contributing to this PO9. Out of 21, 14 courses are above PO target
	Action 1: Students are encouraged to carry out the curricular (Projects, Seminars, internships etc.) and co-curricular activities as a team so that they will have the opportunity to work in diverse teams and in different roles **Action 2:** Students are encouraged to conduct and participate various programs in the college level to get practice in working as teams		
PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
	60	66	**Target reached** Out of 51 courses, 28 courses are contributing to this PO10. Out of 28, 21 courses are above PO target
	Action 1: Students are encouraged to participate in the technical and non-technical events to improve their communication skills. **Action 2:** Faculty are expected to involve student community in their research writings so that the student will get effective documentation skills		
PO 11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
	60	64	**Target reached** Out of 51 courses, 26 courses are contributing to this PO11. Out of 26, 19 courses are above PO target
	Action 1: Select internship activities to work as a member and leader in a team. Students are encouraged to undergo industrial trainings and internships to get the real time knowledge about project management **Action 2:** It is suggested to include the courses related to the project management and finance so that the student will get benefited		

PO 12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
	60	64	**Target reached** Out of 51 courses, 44 courses are contributing to this PO12. Out of 44, 32 courses are above PO target
	Action 1: Inculcate the students to develop the habit of self preparation and self learning through textbooks, journals, print media, electronic media, NPTEL videos, etc. **Action 2:** Faculty are expected to teach the importance of core courses in life-long learning.		
PSO 1: To apply the knowledge of Aerodynamics, Propulsion, Aircraft Structures and Flight Dynamics in the Aerospace vehicle design			
	60	65	**Target reached** Out of 51 courses, 48 courses are contributing to this PSO1. Out of 48, 35 courses are above PO target value of 60%.
	Action 1: It is suggested the PAC, DAC to examine the content of the courses which are not reached the target and suggest necessary measures to the MCC. **Action 2:** Modern tool usage need to improve to strengthen the knowledge in design of aerospace vehicle design **Action 3:** It is expected to solve the application oriented problems in the core subjects to improve the knowledge on the vehicle design aspects **Action 4:** Higher cognitive level problems especially in design orientation courses are to be discussed in the classrooms.		
PSO 2: To prepare the students to work effectively in the defense and space research programs			
	60	65	**Target reached** Out of 51 courses, 48 courses are contributing to this PSO2. Out of 48, 35 courses are above PO target value of 60%.
	Action 1: Students are encouraged to take the internship in the leading defense development organizations so that they have the opportunity to work and explore defense and space research programs **Action 2:** Industrial visits need to be improves to explore the working environment of the space research organizations.		

Coordinator(s) **Head of the Department**