

Aditya College of Engineering & Technology

Aditya Nagar, ADB Road, Surampalem – 533437 **Department of Mechanical Engineering**

Academic Year: 2020-2021

Project Title:	Fabrication of Frictionless Electromagnetic Braking		
	System		
Guide Name:	Mr. A Chiranjeevi V S Prasad		
Students Name with Roll No.:	18P35A03C0	B.LOKESH	
	18P35A03C2	N.PHANI SAESWAR	
	18P35A03B6	K.SAIKOTI	
	18P35A03C9	C.VEERATEJA	
	17P31A03B0	V.GYANENDRA	

Abstract	PO's Mapping	PSO's Mapping
Most of the braking systems run on the principle of release of kinetic energy to the heat energy. This is the method which has its own disadvantages and must be replaced due to residual magnetism present in electromagnetics; the brake shoe takes time to come back to its original position. By integrated demarginated circuit it can quickly respond its original position, doesn't heat and is also maintenance free. In this project, a frictionless braking system is proposed using eddy current phenomenon. This phenomenon is administered by Faraday's law of electromagnetic induction and lenz' law. This braking system is	PO1, PO2, PO4, PO8, PO9, PO10,PO11	PSO1, PSO2, PSO3

frictionless, hence It's advantage over		
conventional friction brakes in terms of		
performance and maintenance. The		
proposed system is implemented in rear		
wheel of vehicle		
performance and maintenance. The proposed system is implemented in rear wheel of vehicle		

PO1: Engineering	PO5: Modern Tool	PO9: Individual &
Knowledge	usage	Team Work
PO2: Problem	PO6: Engineer &	PO10: Communication
Analysis	Society	Skills
PO3: Design &	PO7: Environment &	PO11: Project
Development of	Sustainability	Management &
solutions		Finance
PO4: Investigations on	PO8: Ethics	PO12: Life Long
complex problems		Learning
PSO1: Mechanical	PSO2: The ability to	PSO3: As part of a
Engineers must be able	work in manufacturing	team or individually,
to analyze, design and	and other sectors'	plan and manage
evaluate mechanical	operations and	activities in micro,
components and	maintenance plants	small, medium and
systems using cutting-		large enterprises
edge software tools as		
required by the		
industries from time to		
time.		



Aditya College of Engineering & Technology

Aditya Nagar, ADB Road, Surampalem – 533437 Department of Mechanical Engineering

Academic Year: 2020-2021

Relevance to PO's and PSO's

Applied the subject knowledge in designing and prototype of Frictionless Electromagnetic Braking System
Studied and analysed existing braking systems
Calculation of braking power based on electromagnetic effect can be analysed
Students will be able to apply ethical principles and commit to professional ethics
Fabrication of the vehicle is done by the team collaboration
Students able to present their work through presentation and documentation
Business plan contains the work flow and cost control
Design and prototype of Frictionless Electromagnetic Braking System using manufacturing process like welding, drilling etc.,
Students are aware about manufacturing processes
Students able to get plan and manage of activities involved in fabrication of Frictionless Electromagnetic Braking System

