



# Aditya College of Engineering & Technology

Aditya Nagar, ADB Road, Surampalem – 533437

**Department of Mechanical Engineering**

**Academic Year: 2020-2021**

<b>Project Title:</b>	PERFORMANCE AND EMISSION CHARACTERISTICS OF SI ENGINE BY USING OXYGENATED ADDITIVES	
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	S. SIVA	S. SIVA
	B. RAJSEKHAR	B. RAJSEKHAR

oxygenated additives are an effective method for reducing PM, CO and HC without significant increase in the NO <sub>x</sub> emission. The objective of the present paper is to investigate the effect of these oxygenated additives on spark ignition engine performance and emission characteristics at variable load at different speed 1500rpm, 2000rpm, 2500rpm		
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<b>Abstract</b>	<b>PO's Mapping</b>	<b>PSO's Mapping</b>
The Petrol engines provide the major power source for the transportation needs of the mankind. However the emission from the engines threatens the environment seriously and they are considered as the major source of the gases and the acid rain. The addition of an oxygenating agent into fuel oil is one of the possible approaches for reducing this problem because of the obvious fuel oil constituent influences on engine emission characteristics. This paper reviews the available oxygenated additives and compares their effect on exhaust gas emission with help of conference papers and journals. During study of available material, it is found that	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11, PO12	PSO1, PSO2, PSO3

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



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## Relevance to PO's and PSO's

<b>PO1</b>	Applied the subject knowledge for calculating the emission analysis
<b>PO2</b>	Studied and analyse the designs of S.I engine with Alternative fuels
<b>PO3</b>	Design and development of solution for different Alternative fuels
<b>PO4</b>	Calculation of engine power based on different proportions of Alternative fuel
<b>PO5</b>	Various advanced tool are used to reduce the emissions from exhaust of engine
<b>PO6</b>	By reducing emissions health and safety measures are increased
<b>PO7</b>	This project helps in reduction of pollution.
<b>PO9</b>	Experimental investigation has done by team work.
<b>PO10</b>	Students are able to present their work through presentation and documentation.
<b>PO11</b>	Plan of action to completing the experimental investigation.
<b>PO12</b>	Business plan contains the work flow and cost control
<b>PSO1</b>	Design and development of different Alternative fuels for used to reduce the emissions.
<b>PSO2</b>	Maintenance of the engine and the sub systems done.
<b>PSO3</b>	Suitable management skills are attained by doing this work.

