



Aditya College of Engineering & Technology

Aditya Nagar, ADB Road, Surampalem – 533437

Department of Mechanical Engineering

Academic Year: 2020-2021

Project Title:	High Speed Four Way Hacksaw Machine Using Scotch Yoke Mechanism	
Guide Name:	Mr.G.V.S.Srinivas	
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four hacksaws at the same time. This model will overcome the disadvantages of traditional hacksaw machine, which can cut a single piece only at a particular time interval. This machine works significantly with minimum vibrations and jerks. Hence, it is evident that this new purposed model of hacksaw machine will be welcomed by many industries due to its compactness and higher production rate

Abstract	PO's Mapping	PSO's Mapping
To make different components like shafts, bolts, screws etc, it is required to machine the round or square rod on different machines. For a mass production, there is a need to cut the raw material into number of pieces and this can be performed conventionally on a power hacksaw or simple hacksaw machine. In this project, work and effort has been put to design a modernized four-way hacksaw machine which performs less stressful operations for cutting wood, metal and plastic materials. To achieve this process with lesser time than conventional machine, this Four Way Hacksaw machine has been developed. This model based on scotch yoke mechanism converts rotary motion of the shaft into reciprocating motion of the hacksaw. In this model, we can operate	PO1, PO2, PO4, PO6, PO9, PO10, PO11	PSO1, PSO2, PSO3

PO1: Engineering Knowledge	PO5: Modern Tool usage	PO9: Individual & Team Work
PO2: Problem Analysis	PO6: Engineer & Society	PO10: Communication Skills
PO3: Design & Development of solutions	PO7: Environment & Sustainability	PO11: Project Management & Finance
PO4: Investigations on complex problems	PO8: Ethics	PO12: Life Long Learning
PSO1: 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.	PSO2: The ability to work in manufacturing and other sectors' operations and maintenance plants	PSO3: 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

PO1	Applied the subject knowledge in designing and prototype of High Speed Four Way Hacksaw Machine Using Scotch Yoke Mechanism
PO2	Analysis of Scotch Yoke Mechanism
PO4	Calculation of speed and mechanism of Hacksaw Machine
PO6	Effective usage of Hacksaw Machine will be helpful to society and to obtain better results for Engineers.
PO9	Fabrication of this cutting machine is done with team work
PO10	Students able to present their work through presentation and documentation which enhance their communication skills
PO11	Managing of costs and achieving better results
PSO1	Design and prototype of High Speed Four Way Hacksaw Machine Using Scotch Yoke Mechanism like welding, drilling etc.,
PSO2	Students are aware about manufacturing processes that are involved
PSO3	Students able to get plan and manage of activities involved in fabrication of High Speed Four Way Hacksaw Machine Using Scotch Yoke Mechanism

