A PROJECT REPORT ON

DESIGN & FABRICATION OF VOICE CONTROL ROBOTIC ARM

A Project report submitted for the partial fulfillment of the requirements for award of Degree of

BACHELOR OF TECHNOLOGY

IN

MECHANICAL ENGINEERING

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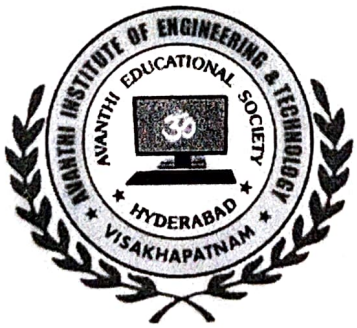

DEPARTMENT OF MECHANICAL ENGINEERING
AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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CERTIFICATE

This is to certify that the project work entitled " DESIGN & FABRICATION OF VOICE CONTROL ROBOTIC ARM " is a bonafied record of the work carried out by P.PAVAN KUMAR (21815A0338), K. RAM JAGADEESH (21815A0321),K. SANTOSH (21815A0323), P. BADRINATH (21815A0347), P. VENKATESH (21815A335) in partial fulfillment of the requirement for the award of Bachelor of Technology in MECHANICAL ENGINEERING by Jawaharlal Nehru Technological University, Gurajada Vizianagaram. during the year 2023-2024.

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ABSTRACT

DESIGN & FABRICATION OF VOICE CONTROL ROBOTIC ARM

This project focuses on the design and fabrication of a pick and place robotic arm. The robotic arm is intended for educational purposes. In this project we are designing the robotic arm for improved accuracy by using servos to power the joints in the robotic arm. We are designing the robotic arm using CATIA software. In this project we are going to fabricate robotic arm which performs the pick and place operation. The project covers the procedure for selection of the servos used to power each joint of the arm in details. There are numerous dimensions over which robotic arms can be evaluated, such as torque, payload, speed, range, repeatability and cost, to name a few. Robot manipulators are designed to execute required movements. Their controller design is equally important. The robot arm is controlled by a serial servo controller circuit board.

This work involves designing and fabricating a simple pick and place arm type robot that could be used in handling of parts during different production process. The production process may include 3D printing, machining, sheet metal operation, and assembly of simple parts etc. The problem is made very specific with the design objective of picking objects like plastic caps, glass blanks, small sheet metal parts, etc., from one work station to another work station.