INTELLIGENT CONTROL OF ROBOTIC SYSTEM

MAJOR THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

MASTER OF ENGINEERING

IN

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SUBMITTED BY

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CERTIFICATE

This is to certify that Major thesis titled "**INTELLIGENT CONTROL OF ROBOTIC SYSTEM**" submitted by **Mr. vishwa pratap singh** in partial fulfilment for the degree of Master of Engineering (Control & Instrumentation) of the Electrical Engineering Department, Delhi college of Engineering, Delhi – 110042 is a bonafide record of work, he has carried out under my guidance and supervision.

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ABSTRACT

The problem of manipulator control is highly complex problem of controlling a system which is multi-input, multi-output, and non-linear and time variant. A number of different approaches presently followed for the control of manipulator vary from PI, PID And Fuzzy Logic Controller to very complex, intelligent, self-learning control algorithms.

This report presents a comparative study of simulated performance of some conventional controllers like the simple PI, PID controllers And Fuzzy Logic control,. IAE is used for comparison as performance index.

The study concludes that the PID controller in general performs better then PI controllers. When the unmodeled term is added to the model, PID and PI control perform badly. Computed torque control also affected but they do well. A Fuzzy Logic controller combines the advantage of PI And PID to achieve the goal of robot control Arm, performs better in PI And PID controllers and also shows that Fuzzy Logic controller are better even when unmodeled terms are added to the model.

LIST OF FIGURES