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OBJECTIVE OF RESEARCH:

"Reliability analysis of some semiconductor based systems".

Venue:

- Parle Biscuits Private Ltd. Delhi-Rohtak Road, Bahadurgarh-124507 (Haryana)
- Technological Institute of Textile and Sciences, Birla Colony, Bhiwani (Haryana)

Duration:

- $2 \frac{1}{2}$ years.

Under the Guidance of:

- Prof. C.L. Mittal – Head of Deptt, E & I. Deptt. TIT&S Bhiwani
- Dr. Sudhir Batra – Sr. Lecturer, Deptt. of mathematics, TIT&S Bhiwani

Administrative and Technical assistance at industry by:

- Sh S.S. Sheoran – G.M. Parle Biscuits Pvt. Ltd, Bahadurgarh
- Er. Ravender Singh – Senior Electronics Engineer, Parle Biscuits
- Er. Koshi – Senior Manager, Electrical, Parle Biscuits.

Scope of research:

- Importance of PLC in automation.
- Automation, its use in today’s modern industry.
- Profit and other parameter analysis for the automated industries.
- Practical of PLC in three different modes with their profit evaluations.
- Comparative study of PLC’s in different working environments and at different working temperatures.
- Broad field available for the application of PLCs.
Research Methodology :-

Research Methodology involves exhaustive literature survey on Programmable Logic controllers & statistical modeling with the help of data collected from the industry.

- Study of PLC's from literature available from books and internet under the guidance of Prof. C.L. Mittal.
- Study of Statistical modelling from research literature and research papers available in research journals of national and internal repute under the guidance of Dr. Sudhir Batra.
- Collected data from Parle Biscuits Pvt. Ltd. under the guidance of my guides and both the engineers i.e. Mr. Ravinder Singh and Mr. Koshi at Parle.
- Then tabulated the data as per our requirement and calculated the different parameters required for research.
- Then statistically modelled the PLC for three different modes i.e. single unit PLC system, two unit cold stand by PLC system, Two unit hot stand by PLC system.
- In between we have consulted many technical professional working in PLC manufacturing companies and engineers at Parle and Panipat Refinery to find out the problems and their remedies while working with PLC's which we have tabulated property in our chapter-VII. Also we have collected the facts about advantages & disadvantages of automation.
- Then we have mathematically compared the three models. We have again compared PLC with and without availability of repair facility.
- Concluded the thesis with certain remarks and results.