



KPR Institute of Engineering and Technology

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Arasur, Coimbatore-641 407.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

A REPORT ON INDUSTRIAL VISIT

AT



Vivekanand Electrical Industries Pvt. Ltd.,

BANGALORE.

AND



JVS Electronics,

BANGALORE.

Submitted by

IV YEAR

DATE: 06.09.2019 & 07.09.2019

ABSTRACT

Vivekanand Electrical Industries Private Limited is manufacturer and supplier of transformers. This company was established in a year 1979 at Bangalore. They manufacture and supply products like air cooled transformers, furnace transformers, vacuum transformers, power distribution transformers and special transformers upto 5 MVA, 33 kV class. Transformers are essential pieces of electrical equipment that help to transmit and distribute electricity efficiently and reliably. They also help maintain power quality and control, and facilitate electrical networks. We had a chance to learn new things about manufacturing of transformers and apart from manufacturing we learnt about installation, operation and the maintenance of transformers. It was an amazing experience to learn the working of transformers.

JVS Electronics was incorporated as a Private Limited Company in August 1990, for the manufacture of state of the art, protective and auxiliary relays, annunciators, hooters, instruments and other control equipment in Bangalore. Reliable, Safe & Proven products that are engineered to perfection is what JVS Electronics offers. Having been in the Electrical Protection Industry for over two decades, JVS has developed and manufactured products that have realized customer delight over the years. A highly energetic team of professionals, with a strong sense of customer focus has been working to take JVS to greater heights. The management of JVS is backed by highly skilled and intelligent employees.

FIELD VISIT OBJECTIVES

In this field visit we have learn some practical stuffs that are used in electrical boards which cannot acquired through academic. As the students with only theoretical knowledge, we would also like to know about the actual working of transformer and relay in practical how they are handled, how the errors are corrected, how they are manufacture, how they are assembled and even more. As the electrical engineer we must possess vast knowledge in various field as electrical is filled up everywhere. For that knowledge this field visit helped us to improve our confidence level. The new ideas can be created when we work on it with perfection and patience. This field visit taught me how to work on the problem and how to get through it. As overall this field visit is a guide for us to improve our self and also it must be a self test for evaluating our skills and a mentor like to correct the defects in us. This field visit must be a overall package of self-evaluation and self-improvement.

INTRODUCTION

In this field visit we had great opportunity to learn the manufacturing and working operations of various transformers and different types of relays.



Fig: Manufacturing Area of Transformer

In JVS electronics, explaining the working of alarm annunciators which is manufactured in that company.



Fig: Explaining the Working of alarm annunciators

FIELD VISIT DISCUSSION

Transformers are liable to get damaged during transit and therefore it is recommended that immediately on arrival, the transformer should be unpacked and examined for any sign of damage in transit, particular attention being paid ,

Inspection quality

- Tank sides or cooling tubes dented
- Protruding fittings damaged
- Oil sight- glass broken
- Bushings cracked or broken
- Bolts loose due to vibration in transit
- Oil leakage (if filled with oil) particularly along the welds or reductions in the pressure of the gas(if gas filled)
- Damage to auxiliaries



Fig:Model of transformer manufactured in Vivekanand Electrical Industries

On all transformers, three months after filling with subsequent inspections as indicated. Transformer in a foggy or moisture laden atmosphere are maintained according to a period mentioned below.

Maintenance of transformer:

Housing with restricted ventilation:

- Non conservator type 6 months
- Conservator type 12 months

Transformer in a well – ventilated clean atmosphere;

- Non conservator type 12 months
- Conservator type 18 months



Fig: Transformer type

The most important factors to be considered are;

- Operating temperature and atmospheric conditions
- Presence of moisture
- Electric strength
- Sludge precipitation
- Acidity

NUMERICAL OVERCURRENT RELAY

This is a over current relay (200-240) manufactured in that company.



Fig: Numerical Over current Relay

Product Description

Features of numerical overcurrent relay JNC 068

- Programmable for 1A / 5A relay rating
- Programmable system rated frequency (50/60Hz)
- 3 OC + 1 EF + 1 SEF/REF
- Available in both Low load and normal load configurations
- Choice of 6 IDMT curves and definite time
- Trip test facility
- History of 6 latest faults along with settings
- Self supervision facility
- MODBUS open protocol over RS – 485 port
- MODBUS protocol over RS – 232 port
- Draw out facility with inbuilt CT shorting
- Standard dimension – 144mm x 144mm

CONCLUSION

In this field visit we had a real-time experience in the manufacturing of various transformers and different types of relays in working condition.

We take this opportunity to express our deep gratitude and sincere thanks to our honorable chairman, our beloved principal, our genuine gratitude to Head of the Department and our Faculty members for their encouragement and inspiration to gain knowledge through this two days industrial visit.