A REPORT
OF
WORKSHOP ON

“SPARX-2014”
SWITCHGEAR & PROTECTION

ORGANIZED ON 6TH MARCH 2014 TO 8TH MARCH 2014
ORGANIZED BY:
ELECTRICAL & E.E.E. ENGINEERING DEPARTMENT,
GROW MORE FACULTY OF ENGINEERING
CONDUCTED BY:
PROLIFIC SYSTEMS LTD.
In Today’s world, education is not only about learning and teaching in four walls of a classroom, it is much more about practical awareness rather than theoretical sessions.

To create such practical awareness in the field of Power System, a 3-days workshop on the subject “Switch-Gear & Protection”, was organized on 6th March 2014 to 8th March 2014 at Seminar Hall (Room No. 106) of Engineering Building, by Electrical & E.E.E Department of Grow More Faculty of Engineering. This workshop was conducted by Prolific Systems Ltd.

A total number of 192 Students of 4th 6th 8th E.E.E & 4th Electrical & 6th Diploma Electrical were participated in it along with all the faculty members of Electrical & E.E.E. Department.

The Main Purpose of the Workshop is to give fundamentals and applications of various switch-gear used in power systems along with some practical sessions. It also focuses on different protection devices like MCB, MCCB, etc. used in power systems.

DAY 1 – 6th March 2014

The Registration was started at 09:00 A.M. The Students were given their respective registration kit at the time of registration.
After registration, the opening ceremony was started. On the occasion, Shree V.M. Thakkar (Executive Engineer, GETCO) was present as Chief Guest.

Dr. B.L. Patel (ET-HA, Grow More Foundation) and Shree M.L. Patel (ET-FA, Grow More Foundation) were present as Guest of Honor.

**ALL THE DIGNITARIES ON THE DAIS**

Other dignitaries, Dr. Samir Patel (Principal, GMFE), Prof. Bharat Suthar (H.O.D. of Electrical & E.E.E Department) and Mr.PrafulNeve (Marketing Executive, Prolific Systems Ltd.) were also present on the Dias.
After Prayer, lighting of Lamp was done by all our dignitaries on the dais.

**LIGHTING OF LAMP**

All the dignitaries were warmly welcomed by Prof. Bharat Suthar Sir with his welcome speech. He also gave some overview of the workshop to the students.

Then our chief guest Shree V.M. Thakkar gave a deeply knowledgeable speech on the challenges faced in power systems by the Industries and application of Switch-Gear & Protection in industries.

After his speech, inspirational and encouraging speech was given by our honourable trustee Shree. B.L. Patel.

Finally, a Motivational speech was given by Principal Dr. Samir Patel.
GROW MORE FACULTY OF ENGINEERING

Shree. V.M. THAKKAR ADDRESSING THE STUDENTS

DR. B.L. PATEL ADDRESSING THE STUDENTS
At the end of the Opening ceremony, a vote of thanks was given by Coordinator Prof. Ronak Patel.

In the First Theoretical Session, the Expert Mr Jay Pawar (Prolific Systems Ltd.) demonstrated and introduced the basics of various Control devices like Switches, Limit Switches, Relays, etc.

The Main Contents covered in the First Session were:

- Control Device
- Switches
- Limit switches, Change over switches, selector switches etc.
- Push Buttons Relays Contactors Circuit breakers [CB]

From 01:30 PM to 02:00 PM, there was a lunch break.
After the lunch break, the second session was started at around 02:00 PM. The Second Session was mainly practical session.

Students were allocated in different labs batch wise. Lab No.M-14, M-12 & M-61 were used.

The respective experts from Prolific Systems handled their respective labs.

The Students were given the required material for the practical in groups of 7-8. Then practical demonstrating the applications of various switches were done by the students themselves.

Practical like Switching Lamp using One Way Switch and Two Way Switches were done.

The first day was ended at 05:00 PM.
DAY 2 – 7th March 2014

The Second day was started at 09:30 AM.

In the First Session, Various Protection Devices like Relays, Fuses, Circuit Breakers, etc. were explained theoretically on PPT by the one of the expert Mr. Sunil Jadhav (Prolific Systems Ltd.)

The Main Contents of the Session were:

- Protection Devices
- Fuses
- Switch Fuse Units
- Circuit Breakers
- Over Load Relays
- Under/Over Voltage Protection Devices
- Earth Fault Relays/ GFCI

Mr. SUNIL JADHAV (EXPERT FROM PROLIFIC) GIVING LECTURE
After One and Half hour of theory session, students were shifted to labs for practical sessions.

First of all, the students cleared their doubts of the previous day sessions. Then the students did the practical demonstrating the Contactors. Practical of Switching on the bulb using contactor was done.
At 01:30, Lunch break was taken.

After the lunch break, the second session began at 02:00 PM.

In this session, Mr. Jay Pawar showed the various protective devices to the students, explaining them all the working and internal construction of those devices. Also the practical including timer and relay logic was done by the students. The Contactor Hold-On concept was explained to the students by the experts.
Dr. SAMIR PATEL OBSERVING STUDENTS IN THE PRACTICAL SESSIONS

STUDENTS WITH THE EXPERT AFTER SUCCESSFUL PRACTICAL
In the final hour the students interacted with the experts of Prolific Systems and cleared their respective doubts.

The Second day was ended at 05:00 AM.

**DAY 3 – 8th March 2014**

The Third day was started at 09:30 AM.

The third day was dedicated for all the practical sessions for the students.

In the first session, practical including the applications of Timers and over-load relay were explained. All the Students in the group did the practical with great enthusiasm.

The students also made control circuit and power circuit for STAR-DELTA starter and Forward-Reverse and DOL (Direct On-Line) operation of Induction Motor.

This Session included mainly:

- Control Circuit for Forward-Reverse operation of Motor
- Power Circuit for Motor Operation
- Over-Load Protection circuit for Motor
- DOL (Direct On-Line Operation)
There was a lunch break at 01:30 PM.

In the Second Session of the day, after the lunch break, the control circuit for STAR-DELTA, Forward-Reverse and Over-Current Protection was combined with the power circuit.

The Students learned and performed the Forward-Reverse operation of Induction Motor. Also the students performed DOL operation of the Motor.

In the Final hour of the Session, Concepts regarding Panel Wiring were explained to the students. The need and importance of Panel Wiring in industries were explained.
SET-UP FOR MOTOR OPERATION PRACTICAL

Finally at the end of the day, closing ceremony was held at Room No. 106 at 05:00 PM. Prof. Maitrey Patel (H.O.D., Computer Engineering Department) & Prof. Bharat Suthar (H.O.D., Electrical & E.E.E. Department) motivated the students about growing world technology and importance of such workshops in student’s life.

PROF. MAITREY PATEL & PROF. BHARAT SUTHAR ADDRESSING STUDENTS IN CLOSING CEREMONY
At the end of this workshop, certificates were distributed to the participants by the faculty members of the Electrical & E.E.E department.

CERTIFICATE DISTRIBUTION

The students were very much enriched with the technical work and practical knowledge shared by the experts. Also Students showed good response from their feedback.
Finally, the workshop ended at 06:00 PM on 8th March 2014 which was full of practical knowledge and motivation.

Prof. B.D. Suthar (I/c Principal Diploma Engg. HOD EEE/Ele)

Prof. Hirak Shah (Asst. Prof Ele)

Prof. Ronak Patel (Asst. Prof Ele)

All Faculty of EEE/ELE Department (GMFE/GMFDE)