

ELECTRON ATOM

Newsletter 30/11/2016
Volume 2 Issue 1

SECAB.I.E.T, ELECTRICAL AND ELECTRONICS
ENGINEERING DEPARTMENT, BAGALKOT ROAD,
NAURASPUR, VIJAYAPURA- 586109

INSIDE THIS ISSUE

1. From HOD's Desk
2. Newsletter Articles

"When dealing with people remember you are not dealing with creatures of logic, but creatures of emotion."

From HOD'S Desk

It gives me immense pride and pleasure to lead the electrical and electronics engineering department of this esteemed institution.

The department encourages students to participate in cultural and co-curricular activities, sports, seminars, paper presentation etc. keeping in mind overall growth of the students.

To fill the gap between industry and the academics providing industrial visits and internships to the students are regular practice of the department, which assist the student in smooth transition from academic life to work life.

I wish the students make best use of the facilities provided by the department and work towards achieving excellence in the chosen field.

ISHWARI NUCHCHI 3rd Sem

Where and Why Do We Use Phase-Shifting Transformers?

Because of the predominantly inductive character of the power system, an active power flow between source and load must be accomplished with a phase lag between the terminals. Phase-shifting transformers are a preferred tool to achieve this goal.

Two principal configurations are of special interest:

1. The power flow between transmission systems operating in parallel where one system includes a PST and
2. Where a single transmission line which includes a PST is connecting two otherwise independent power systems.

The latter is in fact a special case of the first, but it has become more important nowadays for the **interconnection of large systems**. For the following considerations, it is assumed that the ohmic resistance R is small compared with the reactance X and thus has been neglected.

Types of Phase-Shifting Transformers

The general principle to obtain a phase shift is based on the connection of a segment of one phase with another phase. To obtain a 90° additional voltage ΔV , **the use of delta- connected winding** offers the simplest solution.

The phasor diagram has been plotted for no-load conditions, i.e., without considering the voltage drops in the unit. It also should be noted that the currents in the two halves of the series winding are not in phase.

This is different from normal power transformers and has consequences with respect to the internal stray field

Controllers in RTUs

ANJUM ATTAR 5th sem

RTUs (remote terminal units) are now made from small computers. Shortly after this began, controller algorithms were programmed into the RTU. Flow totalizers, power factor calculators, and logic solvers soon followed

Any function that can be described by a mathematical formula, or algorithm, can be solved by the computer in a sufficiently complex RTU. The signals are gathered from field sensing devices. The algorithms are solved. Control instructions are sent out to valves or other control actuators.

This unit has concentrated on some of the considerations to be kept in mind **when applying sensors and actuators**. As used in SCADA, these devices may not be significantly different from the instruments that fulfill similar functions in any highly automated plant in a similar industry.

However, they will be different from instruments that are designed to be read directly by a human operator.

SCADA sensors and actuators tend to be expensive to buy and to maintain, a fact that should be taken into account when you develop cost estimates for SCADA installations.

Before the control algorithm can be solved, the information gathered by the field sensor must be delivered as an input to the controller or RTU. Some communication must happen between the sensor and the RTU. Then, after the algorithm is solved, **some communication must happen between the RTU and the actuator**.

One day colloquium titled
“MOOC COURSE, IOT AND
Searching Techniques” by Dr.
Noorullah Shariff department of
ECE SECAB.I.T.E, Vijayapur on
12/11/2016.



Tabassum Awati 5th sem

Why In-Process Inspection?

Purpose of in-process inspection is to ensure product conformity after each manufacturing operation. This process concerns all the manufacturing operations done by the workshop operators.

Inspection during the manufacturing stage could be described by the following process: Inspection during the manufacturing stage and Continuous inspection.

Inspection during the manufacturing stage involves carrying out checks at different stages of the assembly process:

Why continuous inspection is necessary?

The assembly operations require constant observance of good practice rules. Due to this, this procedure involves carrying out checks throughout manufacturing in the form of operator or project supervisor checks. It will make them responsible for the quality of their work.

Ground Fault Occurrence

When an insulation failure occurs, the energized conductor contacts normally non-current-carrying metal, which is bonded to a part of the equipment-grounding conductor. In a solidly grounded system, the fault current returns to the source primarily along the equipment-grounding conductors, with a small part using parallel paths such as building steel or piping.

If the ground return impedance were as low as that of the circuit conductors, ground fault currents would be high, and the normal phase-overcurrent protection would clear them with little damage.

Unfortunately, the impedance of the ground return path is usually higher. The fault itself is usually arcing; and the impedance of the arc further reduces the fault current.

Sometimes, the ground fault is below the trip setting of the protective device and it does not trip at all until the fault escalates and extensive damage is done.

Roopa Dolli 7th sem

Malnutrition

More than 3 million children die each year because of malnutrition, accounting for more than fifty percent of deaths among those under the age of 5, according a new report published in the *Lancet*.

A team of experts analyzed the true extent of global malnutrition, as well as the factors that cause it, to develop a new framework for prevention and treatment.

The study revealed that the first 1,000 days of a child's life, from the day they are born until they are nearly three, impact not only their future health, but also a nation's economic advancement.

Women who are undernourished are at a higher risk of dying during pregnancy or giving birth prematurely.

In low- and middle-income countries more than twenty five percent of babies are considered to be small for their gestational age, which increases their risk of death.

.In an accompanying article, Professor Joanne Katz, Department of International Health at the Bloomberg School, wrote:

"To prevent neonatal deaths, we should track whether the baby was born too small or too soon, not just the baby's birth weight. This will allow us to better implement the appropriate interventions to prevent these conditions and improve survival."

Black concluded that developing nations will never break out of poverty or achieve economic advances if their people are not receiving the necessary nutritional security to live productive lives.

Black added "we need to redouble our efforts and invest in what we know works. As the study led by Professor Zulfiqar Bhutta of Aga Khan University shows, scaling up 10 proven interventions, including treatment of acute malnutrition, promotion of infant and child feeding, and zinc supplementation, can already save 900,000 children a year."

"You cannot shake hands with a clenched fist.."



For Details Contact

Nauraspur Bagalkot Road, Vijaypur(Vijayapura) 586109, KARNATAKA. (INDIA)

Website: siet.secab.org, e-mail: secab_siet@secab.org phone: 08352-278912, 276425

cell: +91 9513314007 , 9880674370, 9986085198, 8904146113