ELECTRON ATOM

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

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"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.

Nikhat Banu 3rd sem

Why is contact with nature so good for us?

In recent years, researchers have become aware of a powerful new kind of therapy, which is just as effective against depression as traditional psychotherapy or medication. And the amazing thing is that you don't have to pay for this therapy. It's free and completely accessible to anyone at anytime. It's not even a new therapy either – in fact, it's even older than the human race.

This is ecotherapy – contact with nature. A few years ago researchers at the University of Essex in 2007 found that, of a group of people suffering from depression, 90 percent felt a higher level of self-esteem after a walk through a country park, and almost three-quarters felt less depressed. Another survey by the same research team found that 94% of people with mental illnesses believed that contact with nature put them in a more positive mood. Since then, in the UK contact with nature has been increasingly used as a therapy by mental health professionals.

SUMIYA M. B. 5th SEM

Healing With Unani Medicine

Unani medicine is an ancient form of medicine developed by the Greeks in 460 B.C. It then spread throughout the Roman Empire by notable scientists such as GALEN (201 AD), with the fall of Roman Empire came the decline in Unani Medicine. It re-emerged later in Iran, where Muslim physicians translated the Unani text into Persian. While in the Middle East, Muslim physicians translated the text to Arabic and further developed it. India was then introduced to Unani Medicine in the 13th century through numerous Muslim invasions. In India all the Arabic and Persian literature was translated to Urdu language. Here lot of research has been done in this field. Today Unani Medicine is practiced in most of the world by physicians.

Md. Nawaz 7th sem

Generator earthing

Due to high starting currents on electric induction motors, the time required to accelerate high inertia loads will result in a sudden motor temperature rise. If the interval between successive starts is very short, motor windings can experience some overheating that will cause some damage or reduce their lifetime.

The temperature of a motor winding is affected by heat coming from various sources. These sources can be internal to the motor resulting from its operation, or they can be external to the motor resulting from its environment. Temperature is also affected by the ability of the motor to dissipate this heat.

The neutral point of a generator is usually earthed to **facilitate protection of the stator winding and associated system**. Earthing also prevents damaging transient overvoltages in the event of an arcing earth fault or ferroresonance.

For HV generators, impedance is usually inserted in the stator earthing connection to limit the magnitude of earth fault current.

There is a wide variation in the earth fault current chosen, common values being:

- rated current
- 200A-400A (low impedance earthing)
- 10A-20A (high impedance earthing)

Low values of earth fault current may limit the damage caused from a fault, but they simultaneously make detection of a fault towards the stator winding star point more difficult.

An earthing transformer or series impedance can be used as the impedance. If an earthing transformer is used, the continuous rating is usually in the range 5-250kVA. The secondary winding is loaded with a resistor of a value which, when referred through the transformer ratio, will pass the chosen short-time earth-fault current.

JENIFFER .P.S 7th sem

Smart grid & digital substation

The data acquisition in electric power system is very important and includes a lot of areas such as substation. Digital substation is one of the key parts of smart grid and the network of process layer is an important foundation for smart substation which is related to the reliability and real-time of data acquisition and switch control.

The type of message of process layer which include **GOOSE** (General Object-Oriented Substation Event), **MSV** (Multiple Sample Value) and **synchronization** with network will be the content of data acquisition in this technical article.

As the trend of development about the power system is along the large capacity, high voltage, extra-high voltage and the same about the device is along the small, smart and high-reliability, the electric transformer is widely used for its many advantages such as small size, light weight, good capability of anti-electromagnetic, wide dynamic range which is not easy to saturation, simple insulation structure and easy to the transmission of digital signal, etc.

With construction of smart substation, the requirements about the merging unit are increased and the urgent need to develop a new type merging unit to meet the requirements of the smart substation is generated.

One day colloquium on "Sustainable Energies" in S.I.E.T Vijayapur by Dr. T.V.Ramachandra, IISC Bengaluru on 11/11/2015

Laxmi N 7th sem

Automatic compensation banks

During previous decades manufacturers of automatic compensation banks faced increasing competition worldwide. They were forced to produce as economically as possible. Now, new technologies have been developed compared with the past when capacitors were bigger and heavier.

Minimizing capacitors enabled the development of steps (modules containing capacitors) with discharging resistances, fuses, contactors and reactors (if required) assembled in standardized industrial cubicles.

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

Power factor relays are usually fitted in the doors. Due to reduced active power losses inside the capacitors, today it is possible to assemble compensation banks up to 400 kvar or more within one cubicle of dimensions (B × H × W) = 600 mm × 2000 mm × 400 mm (without reactors)

Shamshalam 7th Sem

Substation automation functions

Substation automation involves the deployment of substation and feeder operating functions and applications ranging from SCADA and alarm processing, to integrated volt-var control in order to optimize the management of capital assets and enhance operation and maintenance efficiencies with minimal human intervention.

It is evident that substation automation is implemented **to reduce human intervention** and to improve the operating efficiency of the system.

Distribution SCADA will have the basic functions like monitoring and control, report generation, and historical data storage and several functions for special application in the substation automation scheme.

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