Welcome function for FY students

Month of August started with a special occasion of introducing freshers to the department of Physics. TY students organised a short and sweet welcome function for FYBSc Physics students on Wednesday, 1st August, 2012. The programme began by welcoming new students with a small token of love from the department. New students introduced themselves and so also all teaching and non-taching staff members were introduced to them. New students were also informed about various activities of department. A quiz was conducted by Ranjith and Fazi Khan. This quiz was simple but humorous. Githu Goerge took special efforts in framing questions. A surprise game was conducted by Cathlene and Reliza. Monalisa and Tanzeem compered the programme nicely. All those who were present for the function enjoyed delicious snacks provided by the department. It is noteworthy that all teaching and non-teaching staff and TYBSc students worked as a team to make this event successful.

Report by: TYBSc [Physics Students]

TYBSc Projects

TY students started off with a positive note on following projects:

• **Speed control of DC motors** [Guide: Ms. Vaishali Gaonkar]

•**Tryst with Galaxies** [Guide: Ms. Malati Desai]

Students have started their work and are committed to complete it successfully in a stipulated period of time.

Some moments of farewell function…

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RIPPLES

A Newsletter of Department of Physics

VOLUME IV ISSUE I SEPTEMBER 2012

Department organised farewell function for Prof. S. N. Pai Raiturkar and Shri S. B. Chari

Department of Physics organised a farewell function on retirement of two its honourable colleagues. Prof S. N. Pai Raiturkar, Head of department retired after his long and dedicated services to the department. Shri Suresh B. Chari rendered his dedicated services as laboratory assistant in higher secondary section. It was indeed an emotional moment to bid farewell to these two senior members. This function was graced by the presence of all former teaching and non-teaching members of department.

CONGRATULATIONS…

The teaching, non-teaching staff and students of Physics Department extend their hearty congratulations to Mr. Rovaldon Colaso who topped the Department at the TYBSc examination during academic year 2011-2012 by scoring overall 89.53%. He scored 529/600 in Semester V and 635/700 in Semester VI. We wish him the bright career ahead.

Contents:

News from Department…

• Ms. Malati Desai joined back the department after her leave and taken over the charge of department after retirement of former HOD Prof. S. N. Pai Raiturkar.
• TYBSc result of last academic year (2011-2012) is 90%. Out of ten students appeared, nine students passed.
• Student count in the subject of Physics for this academic year as in August 2012:
FYBSc – 73
SYBSc – 28
TYBSc – 07

Physicist Ashok Sen wins biggest prize in academics

Theoretical physicist Ashok Sen, a string theorist at Allahabad's Harish-Chandra Research Institute, has become a crorepati overnight. Prof Sen became one of the nine winners of the first Yuri Milner Fundamental Physics Prize — at $ 3 million (Rs 16.7 crore), the most lucrative academic prize in the world. The prize, which is nearly three times that of the Nobel purse — which is frequently shared by two or three winners — has been instituted by Yuri Milner, a Russian student of physics who dropped out of graduate school in 1989 and later made billions as an investor in companies like Facebook and Groupon. It is aimed at recognising contributions of younger researchers to fundamental physics.

Prof. Sen, who has just turned 56, confirmed that his $ 3 million prize had been credited to his account, but said it was still too early for him to decide what to do with it. The physicist whose work is seen by most as revolutionary but questioned by some, said he did not consider the award as an endorsement of his findings.

Sen studied at Kolkata's Presidency College and did a Master's at IIT Kanpur before attending the State University of New York, Stony Brook. He did post doctoral work at Fermilab, Batavia, and at SLAC, Stanford. He returned to India in 1988 and joined the Tata Institute of Fundamental Research in Mumbai. He moved to Allahabad in 1995, and has been with Harish-Chandra Research Institute since.

Prof. Sen received the Padma Shri in 2001 and CSIR's Shanti Swarup Bhatnagar Prize in 1994. He was elected fellow of the Royal Society of London in 1998, and the Indian National Science Academy in 1995.

String theory, Sen's area of research, is described by MIT as being currently the most viable candidate for a unified theory of physics which describes all forces of nature, encompassing the physics of gravity as well as quantum field theory.

The Moscow-based Milner Foundation said the Fundamental Physics Prize recognizes "transformative advances in the field", and aims to provide "recipients with more freedom and opportunity to pursue even greater future accomplishments".

Seven of the eight other winners of the prize are based in the US; one at the Institut des Hautes Études Scientifiques outside Paris.

Courtesy: "The Indian Express" dated August 1, 2012

What is Higgs Boson?

On July 4th 2012, scientist at CERN claimed to have found the mysterious particle, that they believe behaves exactly the same way the" HIGGS BOSON" would behave. **BUT WHAT EXACTLY IS THIS" HIGGS BOSON" that we are talking about????**

The" HIGGS BOSON" or the "God Particle" as it was famously nicknamed was first theorised by physicists- Peter Higgs, R. Brout and F. Englert. It is the basic building block in the proposed standard model of the universe in particle Physics.

The standard model of the universe proposed in 1970 claimed that the universe is made up of 12 different matter particles (six quarks and six leptons) and 4 types of fundamental forces viz.gravity, electromagnetic, strong and weak. The standard model which described the formation of the universe was quite acceptable but it limited at explaining the concept of one of the fundamental forces i.e. gravity.

It proposed that each of the fundamental forces have a carrier particle (Bosons) that acts upon the matter. These Particles do not possess/inherit mass but they gain mass as they pass through an all-powerful field, this field known as "HIGGS FIELD" affects different particles in different ways.

The **Higgs Field** was a very important concept in particle physics which tried to explain that everything in the universe acquire mass by interacting with this field. The"**Higgs Field**" needs a basic carrier particle to affect other particles passing through it; this particle is known as "**Higgs Boson".**

- RUFUSS JOHN TORCATO [FYBSc]