N I S T e – N E W S

Message from the Director

The Institute has undertaken a massive excercise for lab modernization and upgradation. New and latest research facilities will be provided to students and faculty. Each faculty member has provided me with a "wish list" for his/her lab and it is our effort to provide the same. In two-three months time, we should be able to do state-of-the-art work in many topics of sizzling importance to the industry and academia.

I also announce the introduction of "Open Learning Systems" at NIST. This is a new concept which will be implemented in Orissa for the first time. Students will get an opportunity to learn at their pace. Apart from the regular classes, students will be provided with the facility to learn through CBTs (Computer-Based Tutorials), Video Courses, Live Videos, Listen-and-Learn Audio Tapes, etc. This facility will be available in the Library. I encourage all students to participate in this new learning process and give us suggestions to make it successful.

For the first time a NISTian Preeta Mohanty of 1st year (2002 Batch) won the Chancellor's Cup Debate in English held by Berhampur University. A remarkable achievement by any yardstick. Also the NIST Team's performance at IIT, Kanpur, deserves special mention. As the only team from Orissa in a all-India festival, the NIST team displayed exemplary talent and walked away with many prizes.

This issue of NISTe_News is very special. This newsletter has tied us into a large family and has given voice to all of us. I feel we are creating more news every month ever since NISTe-News has come into existence :-)) I treasure every issue of NISTe-News ...it is a part of NIST posterity and Hall of Fame.

I wish NISTe_News a VERY VERY HAPPY BIRTHDAY and look forward to many sparkling issues in 2004.

February 15, 2003   **(Sangram Mudali)**

Message from the Editor

It's again the time for celebration. Well, can you guess it? Yes! it's the Birthday of NISTe-news. It will be completing its 1st Birthday on February 15, 2003. I can very well recollect the day when the news letter started and the cooperation I got from all the NISTians to make it a success. Yeah! We have proved it. Let's us celebrate its special day by hoping that this will go on for all the times to come with our sincere effort and cooperation as usual. Happy Birthday to NISTe_News. All the Best and many many happy returns of the day to NISTe-News. Thanks to all who sent me mail wishing Happy Birthday for NISTe_News.

GATE – 2003 preparation course was completed successfully. We published the FEEDBACK of GATE students in the last November issue. This issue is giving you the FEEDBACK of our students doing Diploma Course on VLSI Design and Engineering at NIST Center of Excellence. Read and enjoy!!

February 15, 2003   **(Partha S Mallick)**

In the Next Issue…..

- **NIST Food Court**
- **NIST Websites**
- **Career opportunities in Fiber-Optics**
- **Person of the Month**
- **Many other news, as usual**

Letter's to the Editor

From: Mr. Sameer Behera, Lab Supervisor, Physics Lab

Sir, Happy Birthday to NISTe_News. I am one of the lucky NISTians who read all the issues of NISTe-News. First, lot of thanks to you and all concerned people. There are many interesting things in your Newsletter. But the "Person of the Month" is the most interesting. I am requesting all the staff of NIST to send their news and views through e_News. Sir, may I request you to keep a separate column for "Oriya Publication"? Wish more and more success of NISTe_News. Thanks. **Sameer**
Editor: OK, I'll try for a separate Column for Oriya Language. Thanks.

From: "Dillip Subudhi" <dillip_ks@yahoo.com>

Sir, First of all, my sincere thanks for the encouraging and enlightening news Bulletin. I was going through the e-News of your college and felt very happy in reading it and getting the information about all your activities in the Bulletin. This is a very good news Bulletin as this gives Hope to the students to do something. I compare this information to my engineering period. I am really thrilled to read all the activities in the Newsletter. I feel that the Bulletin will continue to give the Hope and inspiration to all the readers by mentioning the achievements of the Students/Faculty. Thanks. **Dillip Kumar Subudhi(Parent of NISTian)**

Special News

NISTians are the *Academic Council Members* of BPUT

Our Director Prof. Sangram Mudali and Dean Dr Ajit K Panda have been nominated as the Ex-Officio Member and as the General Member of the Academic Council of Biju Patnaik University of Technology(BPUT) respectively. The Academic Council of the BPUT was constituted with 38 Members Chaired by Professor Damodar Acharya, Vice-Chancellor of BPUT. As per the provisions of the BPUT Act, 2002, the Academic Council is the Authority of the University to manage all Academic matters. NISTians are proud of this achievement!! Both of them have a brilliant academic career, successful teaching experience, excellent academic activities in India and Abroad and will definitely accelerate the activities of BPUT.

Republic Day celebration at NIST

The Republic day was celebrated by NISTians on January 26, 2003. Flag hosted by our Facility Manager Mr Suvendu Das. Our staff Mr Pratap Kumar Mohanty, Mr. Bhagabata Behera and Mr

Keshab Rao were present alongwith others. The program ended by distribution of sweets.

Mr. I Bhattacharyya - NET qualified

Congratulations!! Mr I Bhattacharyya!
Our Mathematics Faculty Mr I Bhattacharyya qualified the CSIR-UGC National Eligibility Test(NET) held on June 23, 2002. He has been declared eligible for CSIR-UGC JRF(CSIR Fellowship Scheme) and Lectureship in Mathematical Science. NISTians are proud of this achievement. Keep it up!!

Placement: *ZITT Technology* at NIST

ZITT Technology visited NIST recently for Recruitment. ZITT technology is an IT based company of Chennai working in the field of Networking and Communication. They have selected 50 students from NIST for the post of "Network Engineer". Interested students may contact them at *zittnet@now-india.net*.

Student's Corner

Congrats!! Deepa Chowdhury, 4th

NISTians are proud of your excellent result.

Deepa scored 92% in the 2nd semester BE Examinations recently published by Berhampur University. Her schooling was from De'Paul School and HSC from Khalikote College, Berampur. Keep it up!!

Congrats Preeta Mohanty, 1st Sem

Preeta Mohanty of 1st Semester won the **Chancellors Cup Award** for English Debate competition. The competition was held on February 10, 2003 at Senate Hall, Berhampur University. The title of the competition was "Globalisation is Nothing but Imperialism". This

is the first time that a NIST student has won the Chancellor cup. Keep it up!!

10 Tips Sangram Sekhar Choudhuri, 2nd

Before you write - think first

Before you speak –listen first

Before you spend – earn first.

Before you invest- investigate first.

Before you criticise others-criticise yourself first

Before you quit - try first

Before your retirement - save first

Before you love- be lovable first

Before you decide – rethink first

Before you say NO – say YES first.

NIST, My Love   Ashok Kr Patro, 1st

I love My NIST, My College,

The temple of knowledge.

Once enter to this institution,

bind forever in association.

Many faces appear each year,

To build up their career,

and then disappear.

All are close and dear,

No chance for terror or fear.

It is NISTians achievement!!

The Indian Society for Technical Education(ISTE), REC, Durgapur has accepted the paper of Saroj Kumar Sathpathy and Shakti Prasad Mishra of 4th Semester for presentation in their Technical Symposium. The titles of their papers are "Development of a DOS program that supports multiple users" and "Nano-Technology and Production Engineering". Congratulations.

To the young minds…Aruna K Tripathy, 3rd

Oh! My dear friends

Come… come from your hibernation

Leave the long accustomed sluggishness

Wear the dress of hard work

Keep the helmet of courage

Have your own shield of self-confidence

Along with the tool of innovation

The challenge is in front of you

The dream of many Indians

…A developed India

And if you have a mission

Of a prosperous India to accomplish

If you have the goal

Of a developed India to achieve

Oh! My dear friend

You are the real fighter.

Congrats!!! Kailash Kumar Pradhan

Kailash Kumar Pradhan of 7th Semester has represented Berhampur University at the 63rd All India Inter University Athletics Championship, held at Gulbarga University, Gulbarga, Karnataka. He showed good performance in *high jump*(1.80mts).

Antaragini - 2003   Vinay Das

Antaragini - one of the most prestigious student festivals in the country. *Antaragini -2003*, was a four days long Annual Cultural Festival organised by IIT, Kanpur on January 23-26, 2003. This year, we sent a small team to IIT, Kanpur to participate in *Antaragini-2003*. They did an excellent job. The following students of NIST won prizes in different events. They are **Debasish Mishra**(1st in light vocal song),

Soumya Ranjan Mohanty(1st in light vocal Music), **Swetank Rajguru**(2nd in English Extempore), **Karan Kanishka**(4th in English debate Competition), **S. Srinivas Rao** and **Karan Kanishka**(3rd in Tatoo making), **S. Srinivas Rao**, **Shakti Mishra**, **R. Naveen Kumar**, **Saroj Ku Sathpathy**, **Malaya Rout** and **Karan Kanishka**(2nd in Darpan). Well done!!! NISTians are proud of your achievement!! Keep it up!!!

Know about BPUT   Partha S Mallick

BPUT – Biju Patnaik University of Technology

Established – June 14, 2002

Became operational – November 6, 2002

Chancellor–Shri M M Rajendran, Hon'ble Governor

Vice-Chancellor – Professor Damodar Acharya

Registrar – Professor R K Mishra

Chairman of the Academic Council - Professor Damodar Acharya

Number of Academic Council Member – 38

Situated at – Rourkela, Orissa

Campus: Techno Campus, Kalinganagar, Bhubaneswar – 751 003

Phone - (0674) 2470 224, **Fax** -(0674) 2472 433

NIST Representatives –

Professor Sangram Mudali(Ex-officio Member)

Dr Ajit K Panda (Member)

Alumni Page

From: Prafulla_Purohit@amat.com   TO: *geetika_nist@hotmail.com*
Subject: NEW YEAR WISHES   *Date: Sat, 25 Jan 2003 02:38:01 -0800*

Dear Madam, WISH YOU ALL A VERY HAPPY AND PROSPEROUS NEW YEAR. I am presently working at Applied Materials(AMAT) Off-Shore Global Data Center (GDC) in Bangalore. After completing my 7 months On site assignment at AMAT Santa Clara, CA. I joined the Off-shore team at Bangalore. It was a nice experience for me working abroad in a totally different environment and different culture. Now 50 of my classmates (NISTian 1996 Batch) are working with TCS and currently 10 of them are working abroad in different country with different Clients. It will be my great pleasure to bring it to your notice about the success of NISTians (batch of 1996-2000). Company Number of NISTians 1996 Batch

TCS(50), SATYAM(6), IBM(1), INFOSYS(4), DELL(1), WIPRO(5), HCL(1), HSS(2), PCS(3), COVANSYS(1), ACCENTURE(1), MYSYS(1), DELOITTE CONSULTING(1), RELIANCE(1), NTCS-USA(REI System-3), IFLEXSOLUTIONS(1), NTCS-INDIA(6), TATA INFOTECH(2), HIGHER STUDIES(18 - 4 Abroad), TELELOGIC(1), JTO(3), ORANGE(1), IAF(1), OTHER ORGANIZATION(8), DRDO(1).The Batch with a DIFFERENCE... THE first born BABIES of NIST... where each baby was UNIQUE... struggled his/her own way & achieved SUCCESS...& set a BENCHMARK in the HISTORY of NIST. We are the FEATHERS in the cap of NIST... Believe it or not. Thanks and Regards. **Prafulla Purohit, Technical Consultant, Supply Chain Management Practice, I2-Model Maintenance, AMAT-GDC-India, Call-8410085 Ext-274.**

To: smudali@hotmail.com, ravipreddy@yahoo.com, geetika_nist@hotmail.com,
akpanda_nist@rediffmail.com, arun_nist@hotmail.com
From: Srichandan <srichandangv@rediffmail.com>
Subject: hi - from srichandan
Date: 19 Jan 2003 06:25:04 -0000

Hi, I am back in Texas now with my studies and work starting to rise slowly as the semester is starting off... I was there in India for Christmas vacation and had lot of fun meeting relations, friends and my dear sirs in NIST. My sincere thanks to all of the faculty I met esp. Director sir, Reddy sir, and Padhy sir in taking their extra time to talk to me... Also had an advantage in coming to NIST as I got my caution money back... thanks to Padhy sir for speeding up the process... I got to see lot of developments that have taken place to the NIST after I left... the Octagon was simply amazing with good canteen and bigger library. I observed that the extension to MCA apart from engineering with GRE and GATE preparations have increased the responsibilities of many senior lecturers but in fact given them a challenge and variety to their work. I appreciate all this hard work of the faculty in helping the students excel. But I also heard that the placements have decreased than before, I am quite certain that this is due to downfall in the market... But I hope that placement centre is putting all efforts to make it happen again...And also the college needs more new buildings like octagon to give more facilities to the students... I certainly see NIST in its developing stage with high speed... but I want to see it as Developed one with all satisfied... I had a great time in the college, meeting and talking to many. Sincerely, **Srichandan**

From: ashwinagrawal@hotmail.com   *To: akpanda_nist@rediffmail.com*
Subject: hello   *Date: 10 Sep 2002 10:37:18 -0000*

Namaste Sir, How is life there? I am at REC Warangal, the specialization is VLSI system design. The faculty is good. This semester we will be having following subjects: Analog IC Design; Digital IC Design; Device Modelling; Computational Microelectronics; VLSI Technology. They are having good tools also. Now we are using tanner tools, Altera max+2(digital simulations) and VHDL. From next week we have to work from 8am to 9pm.Bye, **Aswani.**

Manoj Panda(<pmanoj@iitk.ac>) of our 96 batch has secured 98 Percentile in GATE and is doing his M. Tech. in Optoelectronics at IIT, Kanpur. *CONGRATS!! Keep it Up!!*

I n t e r v i e w

In the December issue of NISTe_News we published an Interview of our BE Project Coordinator. NIST's bold steps are continuing for better quality Technical Seminar, Summer Training etc. Here we are giving an interview of **Technical Seminar Coordinator, Mr Ranjan Mishra**.

e_News: What is the philosophy behind the *Technical Seminar*?

RM: The idea is to strengthen the technical know how and understanding of the BE students during the last phase of their course wherein the students are asked to select a technical topic, gather relevant information and technical information of the subject and present it.

e_News: *Technical seminar* is no new to NIST. What are the changes you put this time?

RM: Fundamentally technical seminar is to give an opportunity to the students to express their technical knowledge. But we are living in a dynamic system. Hence it keeps on changing every now and then. This time we have shouldered some responsibilities onto the advisor. This time not only the guidance but also evaluation, formatting and designing is to be done by the advisor himself. This time the evaluation pattern will have three steps. The first step includes the advisor evaluation, the second step involves two independent examiners to evaluate the report and in the last stage, the students have to present the report to an audience and a panel of judges.

e_News: What is the process of topic selection and its approval?

RM: The student is free to select an independent topic either in the field of engineering, scientific, management or any other. They also choose an advisor from among the faculty of our Institute and obtain the approval on the topic. The student has to necessarily focus on the theoretical aspects and implementation part of the subject. The topic can neither be repeated nor shared. After every stage of the preparation the student has to get it rectified and checked by the advisor in order to ensure the quality and formatting of the report. If the student fails to get enough literature to support the topic, he may opt for another with the permission from the advisor and the coordinator of the technical seminar.

e_News: What is the role of the advisor in this whole process?

RM: Advisor is just not a formal guide but he is the leader and motivator. His role involves encouraging the students to bring out the best possible. In fact the advisor plays a more active role than the student himself. If the advisor is spirited and enthusiastic students can not afford to relax.

e_News: What is the message you would like to give to the students?

RM: I would like to repeat that technical seminar is an opportunity to the students to express their technical brilliance. Hence it is more often a student's endeavor rather than the advisors. I would like to suggest that the students to take the technical seminar as an opportunity to prove their grit in the latest technological advances. Make a genuine attempt to compile the best available knowledge in the field. Remember such seminar is not a liability rather an asset on which you are really need in in future. Again do not forget that we NISTians are capable of understanding the global challenge in the field of science and technology. I hope you will not let down the objectives of NIST.

The 1st Birthday of NISTe_News   Partha S Mallick

Today is February 15, 2003. The first birthday of NISTe_News. In February of 2002, I suggested our to Director to display NISTians R&D activities. Just after 2/3 days our Director sent a email to all of us that a News Bulletin will be published on every 15th of the month and Partha will edit it. I agreed at once to be the Editor of NISTe_News and to work for it voluntarily. Mr Manas Das came to me with an excellent design of NISTe_News and I finalised the Advisor's panel. Finally the First issue was published on February 15, 2002. That was the start. In the last one year, we published 10 issues of NISTe_News and 02 issues were not published due to Puja and Summer vacation. Now this NISTe_News is one of the essential activities of NIST. Apart from our Director, Dy. Director and Dean, number of eminent persons like Dr R Natarajan, Chairman of AICTE, Prof SC Bose of IC design centre, CEERI, Pilani, Prof SP Mishra, Chairman of Orissa Information Technology Society appreciated the NISTe_News and sent many inspiring letters. I got many *Congratulation Mails* from our Students. My Ph.D supervisor Professor Debidas Mukhopadhyay of Jadavpur University is the continuous source of inspiration. The present position of NISTe_News is NOT by me, it is the resul

of our students suggestions, Advisor's ideas, faculty and staff's cooperation and last but not the least, the inspiration and help of *Mohua*.

Student's Feedback

NISTe-News is giving you here the feedback of our students doing Diploma Course on VLSI Design & Engg. at NIST Center of Excellence, BBSR. Our reporter talked to them and got these feedbacks.

Madhusmita Tripathy, B.E. (Electronics & Instrumentation), G.I.E.T, Gunpur

It is a great pleasure for me to write "*What NIST thinks today, others think it tomorrow*". For the first time in Orissa, NIST is offering the VLSI course for the students. It is the right place where one can enrich his/her knowledge in this advanced technology. I am happy to write the quality teaching and friendly environment at NIST Center of Excellence.

Prabhat Kumar , Diploma in A & I, Bhusanananda Orissa School of Engg. (BOSE), Cuttack

I tried to find Him on the TEXAS instruments, but He was not there; I went to the temple of VLSI the Cadence systems & to the Mentor Graphics, but I could not find a trace of Him anywhere.I searched from the CDACs & C-DOTs but neither in the heights of industries, nor in the depths of labs was I able to find Him. I went to the Mecca of VLSI, CDAC in Pune, but He was not there either.I questioned the VLSI scholars & professionals but He was beyond their understanding. I then looked into my NIST Center of Excellence & it was there where He dwelled that I saw Him; He was nowhere else to be found.

Tanuj Kumar Rout , MCA, NOSSCOM

The growing technology has come to Orissa to serve Orissa students specially. It is a challenging job and every challenging person should adopt it as soon unless it will be late.

Mr. Surendra Nath Patra, B.E. in Electronics & Telecommunication Engg., SEC, Mayurbhanj

Now days the course VLSI have a very good demand in the market. By doing this course you can have a capacious opportunity to get a very good job. But in India there are various Institutes who gives this course with a very large fees. So I could not able to get there. But the NIST Center of excellence offers the advanced VLSI course with number of live projects at a very less amount. Also in NIST the faculty are most accustomed to this course and they have experience from abroad. The faculty are very good to us and the lab hours are upto 8 hrs a day in which one faculty Mr.Subrat Satpathy is always present with us to clear our doubts. I got everything here what I had searched.

Biswa Ranjan Samatra, BE(Electonics & Telecommunication Engg), SEC, Mayurbhanj

After getting into the VLSI world at NIST, I was overwhelmed by its VLSI prodigies and with their creativity & power of imagination. I am sure, I can change my destiny with VLSI @ NIST.

NCC-2003   Partha S Mallick

The National Conference on Communication–2003(NCC-2003) was held this year at IIT, Madras, Chennai on January 31–February 2, 2003. The NCC-2003 was organised by the joint Telematics group of IIT, Madras and IISc, Bangalore. On the first day, there were tutorials from 9AM to 5PM. The Conference was inaugurated at 6PM on the same day. Mr BD Khurana, Group President of Reliance Infocomm made the inaugural speech. Prof. Harishankar Ramachandran of IIT, Madras talked about NCC-2003. Out of 91 papers from IITs, 71 were accepted and out of 120 papers from non IITs, 64 were accepted. The most attractive part of the 2nd day was the Workshop on "201M connection in India by 2010 – making a business case". The workshop was introduced by Prof Ashok Jhunjhunwala of IIT, Madras, the *Padmashree award recipient* of 1992 and the leader of TeTe group. Renowned Experts in Telecom, Marketing and Economic analysts presented their talk towards the goal. Professor Anurag Kumar of IISc Bangalore clarified the importance of Analytical research in the area of *Telecommunication Networks* in his Keynote. I presented our paper titled "*Simulation of electron transport in some futuristic material for light sources*" in the evening session of the 2nd day where Prof S Lamba of IIT Kharagpur was the Session Chairman. The other attractive parts were the Special sessions. The first one was on *"Communication Technology in the Power Sector"*. The second one was the "*Continuing education and Communications: outreach*". The NCC-2004 will be held on January 30 – February 1, 2004 at IISc Bangalore. NISTians are being informed to send their Papers, Tutorial Proposals for NCC-2004. The detail of NCC-2004 announcement is available *www.iitm.ernet.in/ncc2004* or with me.

The Making of a GATE VST…   Ravi P Reddy and the NTCS Gang

What was supposed to happen...

The highly idealized picture of the normal course of a VST Question paper making.

1. Teachers make the questions for the given topic of the GATE syllabus in a format specified in a Microsoft Word file. The number of questions was clearly specified for each topic.
2. Teachers give hardcopy and softcopy of the questions to NTCS on the specified date before the specified time. Questions were supposed to be perfect in grammar and spellings. Pictures were meant for clear display on a standard monitor.
3. The questions are entered into a database.
4. Integrate topic wise questions into a final database for each branch.
5. Shuffle the questions in the database so that they do not appear topicwise.
6. From these same database we prepare the VST tests, which is transported, to NIST Center of Excellence, BBSR.
7. The same database is also used to upload questions on the net www.nistgate.com website.
8. After the tests are conducted, the scores sheets comes back to NTCS.
9. We grade the answer sheets and generate report cards.

What actually happened...

Microsoft Word proved to be the undoing of many an intrepid question maker- most being defeated by the complex questions like – "How do I make something into 12 point size? How do I get to the next line of text? What kind of an animal is Arial? How to write an equation? And why does my (c) become a ©?" Of course, we have the diehard anti-Microsofties who print their questions in strange platforms and get them reentered back into Microsoft Word costing quite a bit of unnecessary expenditure to my employer!! And the wonderfully absent minded professors who in all their humility not only forget to put their names but also forget to put the topic names! So we have some nice questions with no idea of what to do with them! And the friendly teachers who dictate mathematical equations and figures on the telephone!

Another interesting story – Senior instructor X asks Junior faculty member Y to make some questions. Instructor Z also asks Y to give him some questions! So the smart Y makes 10 questions and gives copies to both X and Z. Finally, we get 20 questions (10 from X and 10 from Z) which are exact duplicates of each other! What do we do in such cases? Different options have been proposed and the best one that emerged from our long scholarly discussion – BANG OUR HEADS AGAINST THE NEAREST CONCRETE WALL!

There are many intelligent ways to complete the number of questions assigned. The best is a SIMPLE revision of the elementary number system. So let's learn how to count.

 [1], [2], [3], [5], [6], [10]. So now we have ten questions in total!!!

Another numbering sequence attempts to recreate the working of a vintage car. It stops before it even gets warmed up.

[1], [2], [3], [20], [20], [20], [20]. Voila!!! TWENTY questions in a jiffy.

Some don't even give it a start, believing in the sacred and supreme status of the 'Shunya'- The almighty zero. So...

[0], [0], [0]...

Some work on higher levels of consciousness. Where numbers fail, repeating a question succeeds. They believe in the maxim, 'practice maketh perfect', It helps in remembering your own questions for the next VST!!!

Another arduous task in preparing a question comes with its own set of easy solutions. How to create false options that look like the actual answer? We have the right remedy for this malady. Try this...

[Q1] What is the capital of India?

　　　A New Delhi
　　　B Shahrukh Khan
　　　C Both A & B
　　　D None of the above (NOTA)
　　　E All the above   Ans: **A** Topic: **Easy options**

[Q1] Compare 1 and 2.

    A 1 is greater than 2
    B 2 is greater than 1
    C Both A & B
    D Both the numbers are closely equal
    E None of the above (NOTA)

Ans: **C** Topic: **Easy options**

Options D and E are invariably treated like SC/ST quotas. These are reserved for 'All of the above' and 'None of the above' in a specific order that beats all common sense. The uncrowned 'NOTA' kings of this GATE 2003 religiously follow the 'None Of The Above' convention. So this eliminates the problem of applying brains for a fifth option. Other classics in options are 'cannot be determined that easily', 'one of the above is correct', 'too difficult to arrive at a solution', 'really do not usually work', … the list is long to enough beat the size of an encyclopaedia.

Much time was spent in deciphering the mysterious words in the questions, which might be typos, or some technical words. This involved some forensic work using the layout of the QWERTY keyboard and a lot of inspired imagination. For example, what is a Fourier Transformer – THINK! How else can you explain our Software Engineers merrily correcting questions in Electrical Engineering with great elan?

The persons involved in this work complained of seeing GATE questions in their nightmares (seeing pictures in complete 24-bit color GIF format). A lot of headache tablets and a quite a few bottles of antacid were consumed during this Herculean effort of producing six VSTs.

The phone is ringing. Call from the institute. "Is VST 6 ready?" "Ho jaayega". Sorry, I have many more interesting stories to tell you but I have got to go and finish VST 6. Bye…from the NTCS gang.

LINUX Corner

Some Popular Linux Sites
Sushant K Mahapatra

1. **http://sourcexchange.com** (Is the place for the linux and open source software developer to get paid. Here you can post your project and name your price)
2. **http://www.cosource.com** (Cosoure is another site dedicated to linking open source developers with people who need code and willing to pay for it)
3. **http://www.idiom.com/free-compilers/** (This site provides the catalog of free compilers and interpreters to the open source developers as well as others)
4. **http://www.cs.utexas.edu/users/kharker/linuxlaptop/** (This is yet another site for hardware .If you are struggling with putting linux on your laptop, this site will make it)
5. **http://www.metalab.unc.edu/navigator-bin/navigator.cgi?** (This site has carved up the source code of linux into an easily navigable hierarchical folder system)
6. **http://www.o2.net/~gromitkc/winmodem.htm** (This site has a massive list of consumer grade modems and info on whether or not they work with linux)
7. **http://www.mostang.com/sane/** (SANE -Scanner Access Now Easy , this site provides information on using scanners with linux . Not only does this site host the most popular) Linux scanner software , it also features a hardware-compatibility database)
8. **http://www.linuxquake.com** (This site does have a nice HOWTO on getting Quake up) and running with Linux, Quake news and an active discussion forum)
9. **http://www.lokigames.com** (Loki is the company in commercial Linux gaming)
10. **http://sunsite.auc.dk/lgdc/** (LGDC-Linux Game Development Center)

Career Corner

Job Sites   Susanta Mahapatra

http://www.raiyaanjobs.com/(resume or CV database promoted from Cochin)
http://members.rediff.com/rkpillai/reachp.htm(placement and consultancy in Mumbai)
http://www.indiaworld.co.in/home/renutravels/index.html(marketing and manpower)
www.indobase.com(database of jobs and resumes)
http://www.ritejobs.com/(executive search firm)
http://www.sampoorna.com/(IT and telecom recruitment company)
http://www.angelfire.com/sc/employment(manpower recruitment services in Thane)
http://www.silvocamarine.com/(manpower & staffing services to merchant navy and ships)
http://www.skillindia.com/(source for experienced, educated, well trained IT people)
http://www.indiarecruit.com/(services for overseas appointments in PCs, software, etc)

> *From Placement Department:* Please send your mail to
> nist_placement@rediffmail.com for any type of Query regarding Placement.

Knowledge Teasers   Kushal Bhut and Manmit Singh, 4th Semester

1. What is the full form of NASDAQ?
2. What is the parent company of Lee, Wrangler Jeans?
3. Name the founder of the company Bombay Dyeing?
4. Where is the software giant company Microsoft Incorporation based?
5. Who is the maker of AK-47 assault rifle?
6. Sher Shah Suri built a road which was revamped by Lord Dalhousie. What's the name of the road?
7. Who is the writer of the book "The God of small things"?
8. Who got the highest run in World Cup Cricket?
9. Who is the Indian died in *Colombia* accident?
10. If 'Thing Big' is to IBM, 'Think Small' is to which company?

Send your ANSWER by March 10, 2003. Name will be published in the next issue.
(This time we got a very good response. Among the responses three were able to provide all the 10 correct answers. Hope for the better in future. The Answers with the Questions are being given below - NISTe_News).
1. What is the acronym for ZEN, a popular model of Maruti car?(Zero Engine Noise)
2. Which Nobel laureate in Chemistry is known as the *Father of Nuclear Physics*?(Ernest Rutherford)
3. Where was Mr Narayan Murthy working prior to his own *Infosys*?(PCS)
4. Which was the first Indian PSU listed in the Stock Exchange?(Hindusthan Petrolium)
5. *Biman*, is the airlines of which country?(Bangladesh)
6. Where is the British Prime Minister house situated?(10, Downing Street)
7. What is the name of the award known as *Asian Nobel Prize*?(Magsaysay Awards)
8. What does "Al Qaeda" mean?(The base)
9. Ms. Indra Nooyi was ranked the 4th powerful corporate woman. She is the President and CFO of a company,

   what is that?(Pepsi Co)
10.Which organisation's motto is *Jeena Hai To Marna Sikho*?(Indian National Army)

> ### CONGRATS!!
> **for sending the correct Answers of the all 10 Questions of last issue**.
>
> - **Antariksh Kar & Sunil Deepak Kumar, 4th Sem.(antariksh_kar@hotmail.com)**
> - **Jajati Keshari Das, 4th Sem(<jajati_das@yahoo.co.in>)**
> - **Anurag Sahu, 4th Sem. (<anurag_bunty@rediffmail.com>)**

Research and Development

Conference Papers

1. P S Mallick and **Rowdra Ghatak**, "Simulation of charge transport in some futuristic materials for light sources", Published in the *Proceedings of National Conference on Communications(NCC-2003)* held at IIT, Chennai on Jan. 31–Feb. 02, 354-57, 2003.

2. H H Padhy and **A K Padhy**, "Synthesis of Unsymmetrical disulfides: Potential agent against weapons of mass destruction". Published in the *Proceedings of the 5th National Symposium in Chemistry* under the auspices of Chemical Research Society of India, held at CLRI, Chennai on February 7-9, 2003.

Dr AK Panda attended the *DST Project Meet*

Our Dean Dr Ajit K Panda attended the "Group Monitoring Workshop" at Yeshwant Chavan College of Engineering (YCCE), Nagpur on January 17, 2003. The Workshop was for the Young Scientists who are running the DST Projects in their institute. His presentation was highly praised by the participants.

NISTians Innovations…..

Mr Gayadhar Panda: Mr Gayadhar Panda has developed the theory of a variable reactance type series compensator with pulse-width modulation (PWM) capability and the theory has been simulated for a typical longitudinal transmission system of an urban metropolis of India using digital computer. This work was published as a research paper titled "Power flow control with PWM controlled capacitor for series compensation of a longitudinal ac power transmission system" in the *Indian Journal of Engineering and Material Sciences*, Vol. 9, 323-329, October 2002. The scheme consists of force-commutated switches (GTOs), in a bi-directional configuration, to bypass or insert a series capacitor into the longitudinal a.c. power transmission system. The switches are turned-on at zero voltage and turned-off at a variable time in the a.c. cycle, which provides a means for continuously controlling the equivalent reactance of the series compensator.

Dr Partha S Mallick: Dr Partha S Mallick has got some interesting results for electron mobility in Indium Antimonide(InSb) from the simulation work on the material using Monte Carlo technique. The results were Published in the *Indian Journal of Physics A,* **Vol. – 76A(6)**, 553-55, November, 2002, an International Journal. Here, the velocity field characteristics of InSb have been obtained at 77K by the Monte Carlo simulation technique. The results agree with the experimental data and also with those obtained by using the displaced Maxwellian distribution function. The effects of the various simulation parameters as well as that of the ionized impurity concentration on the mobility values for InSb have been discussed and results presented.

Dr Arun K Padhy and Mr Harihara Padhy: Dr Arun K Padhy and Mr H H Padhy reported a general methodology for the synthesis of unsymmetrical disulfides starting from 2,2'-dithiobisbenzothiazole, which has the advantage over the others in the easy follow up procedure. Further, the importance of these disulfides are aimed at their action against weapons of mass destruction. The paper was presented by Mr Harihara Padhy at CLRI Chennai on February 7, 2003.

Dr Partha S Mallick and Mr Rowdra Ghatak : Dr Partha S Mallick and Mr Rowdra Ghatak worked on two promising LED materials, ZnS ans CdTe. They simulated the transport of electrons in those materials and studied the velocity-field characteristics at 77K using Monte Carlo Simulation Technique. The results obtained agree with the available experimental data and with those obtained by solving the Boltzmann transport equation analytically. The carrier distribution functions have also been obtained from the simulation. This work was published in the Proceedings of NCC-2003, 354-57, 2003 and presented by Dr Partha S Mallick at IIT, Madras on February 1, 2003.

Question of the Month

Do you think that the Extra Curricular Activities hamper the Regular Curriculum?

| Yes | No |

Send your answers with a short reason to the Editor at **niste_news@yahoo.com**. Result will be published in the next issue.

Last Month's Poll

The Question of the last month was "World Cup CRICKET - 2003!! The Indian Team was selected on December 30, 2002. Do you think that this selection is OK for Indian Team?". We have received very good response this time. Here are some of them…

From: "dazzle_suren" <dazzle_suren@indiatimes.com>

Yes, the selection is good in the sense that the best at present will be in the XI, but in case of reserves, Parthiv Patel , will go unused, So that will be just a vacation for him. I wish India to win the world cup, and Tendulkar at no.3 will be a great cause.

From: "manas pradhan" <manas_007@sify.com>

Yes, I think the selection is OK as it is combination of both young and experienced players. The batting is OK but there is a need of improvement in bowling and fielding. I want to add one thing that if cricket is a game of glorious uncertainties, India are its most ardent flag-bearers. Inconsistency and prodigality have been synonymous with Indian cricket for long.

From: "Mahesh Sahoo" <maheshsah2001@yahoo.co.in>

Yes, I think the current Indian cricket team selected for World cup is the best one that India could have sent. The present team is the right mix of youth & experience. It is the most balanced team that India is having in recent years. Just because they lost in NewZealand one shouldn't start doubting their abilities. I've full faith in them & hope they will put up a good show in the world cup.

From: "abhishek shekhar choudhary" <abhi4u05@rediffmail.com>

No, I am not satisfied with the selection of Indian Team for world cup-2003. It is not an ordinary tournament in which the experiment can be done. It is the tournament in which the team will have to show their best performance. It is possible by the combined effort. So good performance should be survive and bad should be kicked out.

From: "vikasrout" <vikasrout@indiatimes.com>

Yes, I think the selection of Indian team is perfect this time. They won number of matches this year and no doubt now they can defeat the strong teams of the world. Once Tendulkar and Sehwag start scoring runs, Ganguly, Dravid, Yuvraj and Kaif in the middle order wonders would be worked out. Similarly Zaheer, Nehra, Srinath and Agarkar can create havoc in the bouncy pitches of South Africa.

Future Technolgy

Nanomedicine: Future of the Medical Technology   Aruna Kr Tripathy, 3rd yr.

Disease and ill health are caused largely by damage at the molecular and cellular level. Today's surgical tools are, at this scale, large and crude. From the viewpoint of a cell, even a fine scalpel is a blunt instrument more suited to tear and injure than heal and cure. Modern surgery works only because cells have a remarkable ability to regroup, bury their dead and heal over the injury. Nanotechnology, "the manufacturing technology of the 21st century," should let us economically build a broad range of complex molecular machines (including, not incidentally, molecular computers). It will let us build fleets of computer controlled molecular tools much smaller than a human cell and built with the accuracy and precision of drug molecules. Such tools will let medicine, for the first time; intervene in a sophisticated and controlled way at the cellular and molecular level. They could remove obstructions in the circulatory system, kill cancer cells, given such molecular tools, we could design a small device able to identify and kill cancer cells. The device would have a small computer; several binding sites to determine the concentration of specific molecules, and a supply of some poison, which could be selectively released and was able to kill a cell identified as cancerous or take over the function of sub cellular organelles. Just as today we have the artificial heart, so in the future we could have the artificial mitochondrion. Equally dramatic, nanotechnology will give us new instruments to examine tissue in unprecedented detail. Sensors smaller than a cell would give us an inside and exquisitely precise look at ongoing function. Tissue that was either chemically fixed or flash frozen could be analyzed literally down to the molecular level, giving a

completely detailed "snapshot" of cellular, sub cellular and molecular activities. Nanobots (nanorobot) embedded in tissue can strengthen it against tearing, or repair it if it does tear.

It is common for a blow to the head to rattle the brain against the skull; a specially shaped nano-built device could cushion the brain, preventing this damage. Other devices could vacuum up common poisons before they could cause damage, or barricade poisoned areas to keep the poison from spreading through the body. Call it as nanodoctor or nanomedicine it is not a mere imagination but a strong reality of tomorrow!!!! Welcome to the emerging era of nanodoctors…

Summer Training Program – 2003   Prasanna Pati

(An Employment Oriented Training Program offered by NIST Center of Excellence)

Our Center of Excellence, Bhubaneswar(NCE) has now stepped in offering various kinds of employment oriented engineering courses. This was initiated by Dr Ravi P Reddy & Dr Ajit Kumar Panda in 2001. Earlier summer courses were a great success with good number of students from different parts of Orissa. This time the following three courses will be offered both at Bhubaneswar Center and NIST Campus. Students of NIST are being offered a discount of 10% on the course fee. For registration, contact Ms. Mitrabinda Panda, NIST. Here are the Course details:

Electronic Design Automation Tools for VLSI/ASIC Design   (CODE2003/EDA)

Course Goals: To introduce the latest VLSI Design Technologies and software used in the Electronics Industry. The software packages which will be introduced in this course:

- **Xilinx** for Field Programmable Gate Array design.
- **Active HDL** for Digital Simulation.
- **FPGA Advantage** for VHDL Design and Simulation
- **Tanner Tools** for VLSI design.
- **OrCAD** Capture for Schematic Design
- **Pspice** (Orcad) for analog, digital and mixed signal simulation.

Course Contents

- Overview of VLSI and ASIC Design
- MOS Device Physics
- CMOS Inverters
- VLSI Fabrication Technology at mask level starting from substrate design.
- Parasitics and Delay Estimation with circuit characterization and performance estimation
- Elements of SPICE (extraction of capacitance and modeling)
- Elements of VHDL (gate level, both structural and behavioral)
- Architectural Overview of FPGAs and CPLDs.
- Layout, Floorplanning and Partitioning and its design rules
- Analog Sub-Systems
- Digital Sub-Systems
- Testing and Verification issues of VLSI design

Prerequisites: Students are expected to know the basics of electronic circuits & digital logic.

Grading: There will be regular examinations conducted every Saturday and the grade will be awarded based on the performance in the tests and the projects.

Duration 4 weeks: May 19th 2003 to June 14th 2003: 6 days a week x 8 hours a day. About 50% time for lectures and 50% for laboratory. Well equipped laboratories, one computer per student, experienced instructors, custom developed course notes provided.

*Course Fees-*Students:6,500/-,Industry sponsored candidates:8,000/, Hostel available on request.

Enterprise Application Development using Java, Apache, Linux, PHP4 and PostgreSQL   (CODE 2003/JALPP)

Course Goals: To introduce the state-of-the-art FREEWARE software technologies for developing Enterprise strength Multitier Database Applications using Linux, Java 2, PostgreSQL, PHP4 and Apache**.** All packages are available free of cost on the Web.

Course Contents: The Linux Operating System – Fundamentals of UNIX. Basics of Linux installation and configuration.

- Using the StarOffice software suite – Wordprocessing, Spreadsheets and Presentations using

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- Review of RDBMS Concepts – Review of SQL on PostgreSQL. Design issues for RDBMS applications.
- Development using a PostgreSQL backend – Persistence design using PostgreSQL. Object features of the PostgreSQL ORDBMS. Datatype equivalents for Oracle, SQL Server and MS Access. Issues in migrating databases to PostgreSQL.
- Introduction to the Java 2 Platform – Language fundamentals. Classes and Interfaces in Java 2. GUI design using the AWT package. Exception handling and Event handling architecture of Java 2.
- JDBC with PostgreSQL – 2-Tier and Multitier architectures for database applications.
- The Apache Web Server – Installation and configuration of the Apache Web server. Overview of Web enabled application development.
- Scripting using HTML4, PHP4 and javascript – Introduction to web browser based database solutions for Internet applications.

Prerequisites: You must have knowledge of any one high level programming language like C, Pascal, or Fortran. You must have had some exposure to database fundamentals & programming.

Grading: There will be regular examinations conducted every Saturday and the grade will be awarded based on the performance in the tests and the projects.

Duration 4 weeks: May 19th 2003 to June 14th 2003(6 days a week x 8 hours a day). About 50% time for lectures and 50% for laboratory. Well equipped laboratory facilities, one computer per student, experienced instructors, custom developed course notes provided.

Course Fees: for Students : Rs.5,500/- for Industry sponsored candidates: Rs.6,500/-

Advanced Industrial Automation Technology　　　(CODE 2003/AIAT)

Course Goals: The aim is to assimilate and implement state of the art technology and create newer one in the field of hardware and software related to real time system implementation. The focus of the course is on the technologies related to the following areas:

❑ Programmable Logic controllers
❑ Microcontrollers
❑ Virtual Instrumentation
❑ SCADA

Each of the above fields is of importance either for their wide applications in industrial environment or for their newness industrial application. Students will be exposed to the current automation technologies being used in the industries.

Course Contents:

❑ Programmable Logic Controllers (PLC): General introduction to PLCs, Architecture of Messung PLC XMP8-11 and GEFonic-MicroPLC, Detailed study of Ladder Programming, Interfacing devices with analog and digital I/O, Exposure to industrial level Applications

❑ Microcontrollers : Architecture of the Intel 8051 Microcontroller, Syntax of 8051 Assembly Language, Inter facing devices through 8051 I/O ports, Interfacing devices through additional 8255 interfaces

❑ Virtual Instrumentation: Designing interfaces for instruments, Programmming the VI, Designing sub VIs, Connecting the device with real time inputs through DAQ card.

❑ SCADA (Elipse): Basics of Scada and its applications, Designing interfaces for user applications, Supervising and controlling the process controlled by a PLC through Scada.

❑ Introduction to Digital Signal Processing – Families of TI Digital Signal Processors, Architecture of TI DSPs, Interfacing with the TI C5X DSP Kit.

Prerequisites: You must have had some prior exposure to microprocessors and have working knowledge of computers.

Grading: There will be regular examinations conducted every Saturday and the grade will be awarded based on the performance in the tests and the projects.

Duration 4 weeks: May 19th 2003 to June 14th 2003(6 days a week x 8 hours a day). About 50% time for lectures and 50% for laboratory. Well-equipped laboratory facilities, experienced instructors, custom developed course notes, free transport, breakfast & lunch will be provided.

Course Fees: Students:5,500/-,Industry sponsored candidates:6,500/-Hostel available on request.

Person of the Month

It is the continuous effort of every NISTian which has brought NIST to limelight. This issue of NISTe_News will focus on one such NISTian who has been giving dedicated service since 1997. She is our **Mitrabinda Panda** of the confidential department. She is the daughter of Dr. B.M. Panda & Mrs. Sumita Panda. Dr. B.M. Panda is working as SDMO for Govt. of Orissa. She was born in Sambalpur, brought up in Berhampur and at present her native place is Bhanjanagar, Ganjam. She was one of the brilliant students of Kabi Samrat Upendra Bhanja College, Bhanjanagar. She is a Science Graduate and done her Masters Degree in Industrial Relations & Personnel Management from Berhampur University. In addition to that she has taken her Diploma in Computer Software from APTECH. Recently she got engaged with Dr. A. K. Singh. She joined NIST in 1997 and she is one of us who feels NIST as home away from home. She admires Ms. Geetika Mudali for her great personality. Ms. Mitrabinda also likes to spend time with children. We wish you all success.

> She is
> *Ms. Mitrabinda Panda*

General News

Economic Hardship Scholarship - 2003

06 Students of 7th Semester(1999 batch) are selected to avail the **Economic Hardship Scholarship - 2003**. They are M. Sivakama Sundari, Sujata Kumari Panda, Pranaba Kumar Deheri, Aswini Kumar Bishoyi, Sudarsan Prasad Soy, Sushant Sahoo. Each of them will get Rs. 500/ per month. Congratulations to all of you.

Book Bank Facility of NIST

The following 7th Semester Students(1999 batch) are selected to avail the *Book Bank facility* for the Year 2003. Anshuman Panda, Amit Kumar Mohanta, Swarvanu Chatterjee, Jitendra Kumar Mohanty, Asit Kumar Panda, Manas Ku. Pradhan, Alok Rashmi Choudhury, Santosh Kumar Mohapatra, Subrat Ku. Panigrahy, Dharmendra Ku. Singh, Jitendra Ku. Das Mohapatra, Nityanand Saraf, Golak Bihari Naik, Utkal Ketan Pattnayak, Karniel Mandal, Balakrishna Gupta, Navin Kumar, Suman Kumar Nanda, Tattwadarsi Biswal, Gyanarajan Bahali, Sujata Ku. Devi, Sarmila Padhy, M. Vijaya, Ajay Ku.Nayak,Niharika Biswal,Sudarsan Prasad Soy.

GATE get-together at Hotel MOTI

A grand party was thrown on February 12, 2003 by our Director to celebrate the successful completion of GATE coaching at NIST Center of Excellence, Bhubaneswar. It may also be said to be a relief for the NIST faculty amidst the busy schedule. Faculty members shared their experience gathered during GATE coaching. Another attractive part of the party was the songs of Mr Indranath Bhattacharyya and Mrs Mohua Mallick, and last but not the least were the delicious dishes. It was the active participation of all faculty members with their family that made the PARTY a great success.

New Appoinment

NISTians welcome Mr. Manoranjan Panda who joined on January 27, 2003 as a Lab Supervisor of our ELE Lab, Mr. Umesh Chandra Sahu who joined on January 27, 2003 as a Lab Supervisor of our ELC Lab, Mr. Purna Chandra Padhy who joined on January 28, 2003 as a Lab Supervisor of our ELE Lab and Mr. Lambodar Nahak who Joined on February 7, 2003 as Security Guard.

Sumit and Anindita

Congratulations !! Mr. Sumit Chatterjee and Ms Anindita Bhowmick for the tying knot on February 2, 2003 at Varanasi. NISTian's convey their best wishes to the newly wedded couple. Welcome!!….to the married club.

Saraswati Puja celebration by the NISTians

Amidst the study pressure NISTians were seen celebrating SARASWATI PUJA in a grand style at Hostel 2, 3 and 4. All students showed great enthusiasm in organising the Puja and making it a great success. Everything was done in an organized and disciplined way starting from the decoration, *Puja* arrangement, *prasad* distribution and last but not the least was the entertainment of the faculties. PUJA MANDAP at different hostels was really eye-catching!! These depict the creativity and talents ingrained in the student. Thanks to all organisers. Keep it up!!

GATE 2004 Preparation Course

NATIONAL INSTITUTE OF SCIENCE & TECHNOLOGY

Palur Hills, Berhampur, Orissa – 761008

Phones: (0680) 2216852, 2203670　　　**Website: www.nistgate.com**

GATE 2004

NIST, the premier engineering institute of Orissa announces the launch of a comprehensive preparation course for GATE 2004 in the following disciplines:

- ❑ **Computer Science and Engineering**
- ❑ **Electronics and Communications Engineering**
- ❑ **Electrical Engineering**
- ❑ **Instrumentation Engineering**

This course is also useful for candidates appearing for UPSC, IES, NTPC, SAIL, ONGC, IOC, BHEL, BEL, DRDO, and other recruitment tests.

Classes (taught by full time **NIST faculty**) based on new pattern GATE syllabus starts on **02-03-2003** for next batch of students. Excellent Library facility. Hostel facility available.

Limited seats available**, for registration contact immediately**

NIST Center of Excellence

Near Hotel Meghdoot, Plot # 122, Sahid Nagar

Bhubaneswar – 751007

Phone: 0674-2545154/55, Email: ntcsmanager@rediffmail.com

New Address of Hostel-3:　　　　　　　　**Phone: 0680 221 1048**

Sunamodiasai(Near Jagannath Mandir)

PO – Gosainaogaon, Utteraswar Road, Berhampur.

The next issue will be published on March 15, 2003. Send your message on or before March 10, 2003 to NISTe_News@yahoo.com. Thanks.

Friends have all things in common - *Plato*

My best friend is the one who brings out the best in me - *Henry Ford*