NEWS LETTER
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DIRECTORATE OF TECHNICAL EDUCATION
MAHARASHTRA STATE

For Private Circulation Only

Appeal to Contribute

DTE Newsletter Editorial Board requests all its Regional Offices and various Technical Institutes to send their latest information and photographs of the events, activities and achievements of their students, faculty and institute for publication in DTE Newsletter on e-mail address: dtenewsletter@gmail.com.

Inside ...

- From Directors Desk
- Pharmaceutical Industry Vision 2020
- Center of Excellence at SGGS Nanded
- Device developed for Visualy Impaired by GCOE Nagpur
- Establishing Liaison with Industry - A Report
- Glitter Events at Institutes

Condolence

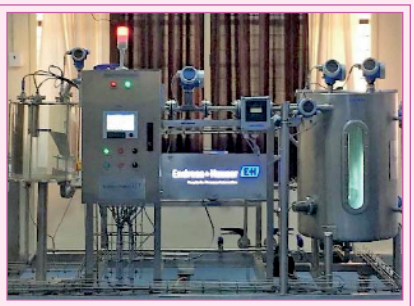
Mr. Ramakant P. Patil, passed away due to Heart Attack on 21st Aug, 2017. He was working as a Noting Assistant in Directorate of Technical Education since last 26 years. He was sincere and hard worker, DTE always remember his contribution for years. DTE and Editorial team, pay homage to the departed soul of Mr. Ramakant Patil and pray god to give strength to his family members to absorb this shock.

Endress and Hauser (India) Pvt. Ltd. Mumbai Sponsored " Process Instrumentation Laboratory" at S.G.G.S. Institute of Engineering and Technology, Nanded.

The Swiss automation giant Endress + Hausers Pvt. Ltd., India (E+H) has sponsored and set up a process instrumentation laboratory called "Dr. Georg H. Endress Innovation at Glance" Shri Guru Gobind Singhji (SGGS) Institute of Engineering & Technology, Nanded. The Lab is equipped with SKID Technology which will enable students to get hands on actually machines before setting out into the industry. The technology is worth Rs. 50 Lacks and will help students learn about quality and quantity measurements of flowing substances. The SKID covers major technologies used in the modern day process plant globally. The technology includes flow which predominantly uses coriolis-based mass flow meters, electronic magnetic type flow meter and vortex type flow meter. It also has radar based level sensors, and analytical sensors for water quality measurement and data loggers with Wi-Fi connectivity.

The development is being speculated as a significant move towards industry academic collaboration. Chief Operating Officer of E+H, Mr. Kailash Desai said, "This is first of its kind of laboratory in the region. Students get trained through exploration driven learning in early stages of their career. The training lab is accompanied by video tutorial on how different technology works on application along with their finer points". The exposure to actual devices and mechanism help enhance the employability skills of the engineering students and will equip the students with knowledge of the latest technology before they set out for the work.

SGGS Institute's BoM Chairman, Mr. Sunil Raithatha, BoM members Mr. Milind Pohnerkar, & Mr. Trilok Singh Jabinda and institute Director Dr. L. M. Waghmare and COO of E+H, Mr. Kailash Desai along with E&H team members were inaugurated the laboratory during the Alumni Meet ceremony on 23rd December, 2017.



It's a pride moment for me to present this issue of the Newsletter which happens to be the first of the New Year and my first after taking over as Director, Technical Education.

In this present globalized world, engineering education and the profession are facing various challenges.

The developed countries position themselves as knowledge super-powers, whereas the developing countries like India and other Asian countries are endeavoring towards knowledge capital, infrastructure, proficiency, skilled-manpower, and ecosystem for big business investments and entrepreneurship. In this perspective, the engineering education of any country is very decisive for influencing its global positioning as well as confirming the affluence of their citizens. The digital world, has not confined knowledge to doyens only, rather computer and internet connectivity has empowered every citizen to look for everything and anything.

In the present era, an engineer is a skilled applicator of science equipped with mathematical and technical knowledge, well conversant with technological tools and ready to take up any problem in this competitive world. Thus, they are required to develop technical skills, management skills, problem-solving skills as well as the idealistic leadership skills at institute level. It doesn't matter how much you know or how to do these; someone else knows it too and is willing of various services from developing countries with cheap labor. The solution to this will be to make "innovation" the central theme of educational and social developmental programmes.

Engineering education in particular requires a total transformation in order to meet the needs of employers and challenges being faced by professional communities, while working in the multidisciplinary and diversified work set-ups. It's a known fact that engineering graduates have a premeditated and enduring influence on productivity growth in industry and service sectors. To produce erudite business products and services that are reasonable in the international market and to comprehend the 'Make in India' initiative, India needs a really high number of well trained and enormously qualified engineering graduates. Of the 3700 public and private engineering institutions that have over 4 million engineering students, only few are producing employable graduates.

Some critical issues that haunt technical education are:

- Proliferation of Institutes
- Capabilities of engineering graduates and post-graduates not meeting the expectations of employers
- Inequalities in terms of Geography of institute existence
- Faculty vacuum
- Too less Accredited courses at institutes
- Only a small number of autonomous
- colleges are emerging
- Less attention to Post graduate programs
- Very little focus on research at institutes
- Framework changes due to obsolescence of topics in curriculum not being practiced
- Less industry institute interactions leading to widening gap
- No serious engagement between education providers and employers

Initiatives that can benefit the technical education system:

1 **Consolidating governance and leadership-**

- Granting more institutes autonomy and flexibility. Presently less than 10% of engineering institutes in the country are Autonomous.
- More industry representation should be given in Governing Board of autonomous institutions for better vision

2 **Promoting stronger industry-institute collaborations-**

- Internship for engineering students should be mandatory & become a routine practice.
- They could be facilitated by tax incentives for industry, extra credits for students, and making internships a priority in institutional accreditation.
- More Involvement of industries in research and teaching is necessary.
- Promoting Pool campus programs at regular intervals of time.

3 **Encouragement of Innovation & Entrepreneurship-**

- Setting up of Incubation centers
- Students should be given opportunities to select innovative projects
- Encouragement for Entrepreneurial attitude to be enhanced.
- Increasing capability for industry consultancy and IPR generation through Patent filing.
- Supporting Startups technically, financially and for marketability.

4. **Enhancement of the quality of teaching, learning and research at institute and university levels-**

- Curriculum should be in tune with the latest adopted technology and industry practices
- Project Based Learning (PBL) or Project Centered Learning (PCL) is a proven approach, which should be incorporated in curriculum of engineering degree courses.
- Harnessing technology by adopting interactive E-books and use of Massive Open Online Courses (MOOCs) should be scaled-up, mainstreamed and made available widely to enthuse and enrich engineering education delivery.
- Faculty training- There is a massive need for faculty development both in terms of pedagogical development and engineering domain training.
- Rating institutes for performances on various counts.

Dr. Abhay Wagh
Director, Technical Education ,
Maharashtra State, Mumbai.

Pharmaceutical Industry : Vision 2020

Shri. Rohit Mehta
Managing Director, ICPA, Mumbai.

Indian pharmaceutical industry ranks 3rd in the world terms of volume and 14th in terms of value. India has the 2nd largest number of USFDA-approved manufacturing plants (over 546) outside the US and has 2,633 FDA-approved drug products. The major attribute contributing to this flourishing growth, 15 percent per annum between 2015 and 2020 is the availability of technical manpower, scientific temperament, and excellent infrastructure, cheap labour and cost reduction. The Pharma sector is expected to pave path for additional job opportunities (58,000 by the year 2025). India's pharmaceutical exports are expected to grow by 30 per cent over the next three years to reach US$ 20 billion by 2020, according to the Pharmaceuticals Export Promotion Council of India (PHARMEXCIL).

India's biotechnology industry comprising bio-pharmaceuticals, bio-services, bio-agriculture, bio-industry and bioinformatics is expected grow at an average growth rate of around 30 per cent a year and reach US$ 100 billion by 2025. Biopharma, comprising vaccines, therapeutics and diagnostics, and medical devices is the largest sub-sector contributing nearly 62 per cent of the total revenues at Rs 12,600 crore (US$ 1.89 billion).

The Indian government has taken many initiatives to reduce costs and bring down healthcare expenses. The prime focus is the speedy introduction of generic drugs into the market. The thrust on rural health programme, lifesaving drugs and preventive vaccines also augurs well for the pharmaceutical companies. The implementation of the Goods and Services Tax (GST) is expected to be a game-changer for the Indian Pharmaceuticals industry. It will lead to tax-neutral inter-state transactions between two dealers, thereby reducing the dependency on multiple states, increasing the focus on regional hubs, an efficient supply chain management to reduce the cost considerably. The cost of technology and investment is expected to reduce on account of tax credit which can be availed now on the duties levied on import of costly machinery and equipment.

The Government of India unveiled 'Pharma Vision 2020' aimed at making India a global leader in end-to-end drug manufacture. To boost investments approval time for new facilities has been reduced, the government has introduced mechanisms such as the Drug Price Control Order and the National Pharmaceutical Pricing Authority to deal with the issue of affordability and availability of medicines. Union Minister of Chemicals and Petrochemicals, has announced setting up of chemical hubs across the country, early environment clearances in existing clusters, adequate infrastructure, and establishment of a Central Institute of Chemical Engineering and Technology.

The Indian pharmaceutical market projects an exponential growth to US$ 100 billion by 2025, driven by increasing consumer spending, rapid urbanisation, and raising healthcare insurance among others. Health care management and health tourism would lead companies to come together and align their product portfolio towards chronic therapies for diseases such as such as cardiovascular, anti-diabetes, anti-depressants and anti-cancers that are on the rise. Dental products contributes nearly 6% of pharma market and are in developing stage. Most of the technologies are in R&D phase and it is expected that they will be available for manufacturing in 2025.

Shri. Rohit Mehta
Managing Director, ICPA, Mumbai.

Congratulations!

Awarded Ph.D.

Sant Gadge Baba Amravati University, Amravati has awarded Ph.D. to Dr. M. B. Kumthekar, I/C Principal, Government College of Engineering, Nagpur in Civil Engineering with Title of Thesis " Landslide Hazard –Rs and GIS Based Zonation Mapping Vulner Ability Assessment, Management and Mitigation" under the guidance of Dr. R.K. Rai, Dept. of Civil Engineering, Government College of Engineering, Amravati on 14/08/2017. *DTE and editorial team wishes him a bright future ahead.*

DTE and the Editorial team of Newsletter Congratulates Dr. Abhay Wagh on his appointment as Director Technical Education, Maharashtra State.

Dr. Abhay Wagh, Director Technical Education and the officers of DTE Congratulates Shri. Dayanand Meshram on his appointment as a member of MPSC.

Establishing Liaison with Industry
A Report by Shri. Y.I. Shah (O.S.D. DTE, Mumbai)

Industry Institute Interaction (I.I.I.) :-

I.I.I. means Me, Me & Me for both Industry as well as Institute. We have to explore all possibilities to expand our network in larger industry areas and become WE for I.I.I. to tie up.

Following are the few steps in establishing Interaction for the mutual benefit of interest in reducing gaps between Industry and Institute (approach to company).

Institute Role: (To ensure following)

1.Company Selection
   a. Finalizing relevant and selecting correct company fulfilling the objective of the program defined on company profile (Facility, type of training, strength, turn over, No. of employees, area- service industry/ manufacturing, scope/ registered under company act, small scale, medium scale ,public and private)
   b. Verifying sustainability and competency of company in confidence
   c. No political influences/ technical performance companies only
2. Training Calendar (Progressive plan and schedule) as fulfilling rationale objective as per syllabus for candidate (systematic week wise detail actions during Training Period).
3. Ensuring safety measures and other elements/ factors of industry/ sights / geometrical boundaries.
4. Placement procedure / strategies for eligible candidates
5. Parent/ Guardians and society confirmation/insurance of candidate as social requirement
   a. Other facilities, features, transport relevance subsidies/ amenities services for the candidate.
   b. Stipend/ remuneration/payment and other expenses as per company policy/Apprentices Act/ other Acts
   c. No legal consequences affecting any of the acts.
   d. Ensuring Quality Training
6. Monitoring Mechanism for progressive implementation as per training schedule.
7. Continuous Assessment Criteria (attendance, conduct/ discipline, progress. Motivation and cooperation)
8. Performance Evaluation on outcome and Assessment, confirming objective achievements of training.
9. For skill development and professional practices covering in relevant Diploma program application

Institute role for Industry

- Providing educated Technical skilled Man Power
- Entrepreneurs for specialized Areas
- Corporate Training
- Growth development/ Society support
- Consultancy and R&D
- Testing / Certifying Support Services
- Credibility ,Recognition and Reliability as Human Resource Development
- Implementing Central and State Government policies for industry growth under various plants

Industry Role: (To ensure following)

- Establishing requirement , objective, fulfilling the goal of Industry extending service to Institutes
- Willingness for providing Training to Institute (staff/student)
- Profile of industry having scope for training component
- Ensuring Company rules/ Regulations/ Procedures/schedules/work cultures
- Commercial requirement of company
- Selection criteria as per company requirement for the candidate (Campus Interview/ other modes).
- Training not affecting production/ services of Industry
- Fulfilling all criteria of Safety/Quality/ Trainee requirement and job as case may be, not violating any legal/ social / non exploitation of man power or national goals
- Recovery of strategies of damages/ security of Industry assets
- Scope of learning by the candidate in the industry
- Planning of Quality Training implementing under Industry Supervisor
- Coverage and schedule during Training Period
- Establishing procedures, parameters for monitoring Assessment and Evaluation.
- Report preparation/ contents of Training
- Formal Procedure for Memorandum Of Understanding (MOU)
- Protecting of Confidentiality and intellectuality property (Technical information, other database)
- Defining Limitation , constraints and type of training
- Strictly adhering Medical rules and other regulation as per companies norms
- Imparting skill development for professional practices

Industry Role for Institute

- Technology Transfer to cover topics beyond syllabus as per objectives of National Board of Accreditation (NBA)
- Design of curriculum as per futuristic Industry scenario
- Visiting Faculty as an Expert
- Guiding Projects/ Inplant Training Evaluation
- Sponsoring of Technical events/ Equipments/ Support services.

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Establishment of Centre of Excellence in Signal and Image Processing at S.G.G.S. Institute of Technology, Nanded

Government of India, NPIU has selected 30 best institutions in India through competitive proposals for establishment Centre of Excellence (CoE) for collaborative and multidisciplinary research within specific thematic areas of regional or national importance. The Centre of Excellence was supported with research funding of Rs. 5 crores under the World Bank Assisted Technical Education Quality Improvement Program (TEQIP)-II.

The Centre runs a multidisciplinary research program involving more than 20 faculty members and 14 research scholars from various departments of engineering and basic science of institute. The Centre has started its functioning in its state-of-the-art Signal and Image Processing Laboratory equipped with all the ultra modern machinery set at par with any international research centre. Apart from carrying out frontier research in the areas mentioned above, the centre aims at creating technologies that can be commercially exploited by industries. The Centre is also engaged in an ambitious plan for generating high calibre manpower and entrepreneurs in the field of Signal and Image Processing.

The main aim of centre is to attract and tap the top class talent to carryout frontier research in Signal and Image Processing. The CoE is contributing to the training of R&D manpower for industry. The formal Inauguration of CoE was done on 19th Sept 2015. The Main Objective of the Center is to Become Leading World Class Centre of Excellence (CoE) in Signal and Image Processing and Analysis.

Road map of the CoE upto 2025

MoU Signed with Institute & Hospitals

- University of Technology PETRONAS, Malaysia.
- TATA Memorial Hospital
- Zankariya Imaging Center Mumbai
- ADICS France
- Dr. Girish Deshmukh's Eye Clinic, Sushrusha Hospital Building, Nanded.
- Department of Ophtalmology, Shankarrao Chavan Government Medical College, Nanded

Government COE Nagpur Students Developed Device for Visually Impaired in Robotics E- Yantra Laboratory

The students of Mechanical Branch of Government College of Engineering Nagpur developed a device that can help blind people to detect obstacles without the use of their stick which is formally known as white cane. The group comprising of Priyank Umratkar, Devashish Sontakke, Ameya Vyas and Akhilesh Chinchamalatpure ensured that the device which consists of an ultrasonic sensor can detect object or obstacle up to a distance of one metre which can be varied as per the requirement. When an obstacle up to a distance of one metre is detected the buzzer is triggered which in turn gives the indication to the user about proximity to an obstacle. The ultrasonic sensor being mounted on top of servo motor allows the sensor to scan the surrounding at different angles. They further added that instead of using a conventional lithium ion battery, a solar panel can also be used ; a move that can eliminate the problem of periodic charging of battery. They further claimed that the components can be compactly placed around the glove as well which could ease up the use of it. They thanked their Principal Dr. M. B. Kumthekar, Dr. R. S. Chaudhary (H.O.D, Mechanical Dept.), Dr. R. B. Yarasu, Dr.. N. D. Ghawghawe (H.O.D, Electrical Dept.), Dr. Latesh Bhagat (H.O.D, Computer Science Dept.), Prof. S.P. Jolhe for always encouraging students to think out of box and to do more than just studying books.

GCOE Nagpur developed E-Yantra Lab , under NMEICT project of IIT Mumbai. Their four faculties completed task based training and stood in B category award winner. Shivam Pandey student of third semester Computer Science & Engineering has actively participated in this project. This Robotics Lab is available to all students and This project was carried out under Robotics Club of college.

Congratulations!

Awarded Ph.D.

Dr. Kuldeep Uttam Bansod, Lecturer, Department of Pharmacy, Government Polytechnic, Jalgoan awarded Ph.D. from Rashtrasant Tukadoji Maharaj, Nagpur University, Nagpur under the guidance of Prof. Sudhir Umathe in September 2017.His topic of research was ***Involvement of Nitrergic System in Adaptogenic Effect of Some Therapeutically used Adaptogens."*** *DTE and editorial team wishes him a bright future ahead.*

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- Training for staff under sabbatical / QIP / Industry-Academia workshop
- Training for students/ skill development Recruitment/ Employment
- Fulfilling academic and industry aspects and guide for career
- Develop creativity & innovations through Corporate sponsored seminars & contests
- Establishing Centre of Excellence , Setup Extraordinary Labs/R & D Cell.

Candidate/ Student role:

Requirement as per curriculum for professional practices and Industry Exposure. Students are able to appreciate work situation at shop floor or at site and tackle problems involving men, machinery, materials and processes, though work situations differ widely depending on size of company, scale of operation. Organizational structure and management philosophy. While inplant or QIP Training provides an opportunity to learn, students/Faculty gain is dependent on positive attitudes and approach to training, keenness and inquisitiveness to learn. On completion of Training and Degree/Diploma students are employable for Industries. All above steps are broadly considered as each has its own parameters, procedures, processes and formats for formal completion of training as requirement by both Industry and Institute. Mutual understanding between Industry requirement and Institute requirement for Academic career of candidate is to be broadly viewed while framing MOU and maintaining continual Liaising. For both it establishes WIN-WIN situation.

Mitcon's "Surya Mitra" Residential Program Conducted at Government College of Engineering, Nagpur.

A three months skill development training program was conducted at the Government College of Engineering Nagpur, to supply manpower in the engineering sector of solar technology. 32 students participated in the program. Divisional Manger of MITCON informed that out of 32 participants 24 has been placed in reputed companies like Adani Power and the other would be placed soon. The Chairman at the function Mr. Konthekar guided the participants and appreciated the hard work of MITCON consultants and promised to give all his support for conducting such training program in the college premises.

EDTP on AutoCAD at Government College of Engineering Nagpur.

Inauguration of Entrepreneurship Development Training Program on **Auto Cad** by the hands of Shri Pramod Naik, Joint Director, DTE, Mumbai Organized at Mech. Engg. Dept. Govt. College of Engg. Nagpur on Date 21/12/2017
From left Dr. Suresh Yawalkar, Dy. DTE, Shri. Pramod Naik JD DTE, Dr. M. B. Kumthekar, Principal, Shri. Nichat, DoG Member, Dr. R. R. Chaudhari, HOD, Mech. Dept.

Government Polytechnic, Kolhapur signed MoU with Yamaha Motor India Sales Pvt. Ltd.

MoU signing ceremony Shri. Kimura Hiroshi, Director Yamaha Motor India Sales Pvt. Ltd. (YMISPL) Chennai, Shri. Masurnaik Girish, Zonal Survey Manager YMISPL Pune, Shri. Sandip Khenat YMISPL, Shri. Kiran Patil, Chairman GPI, Kolhapur and Shri. Pattalwar P. R., Principal, Government Polytechnic, Kolhapur, Shri. C.S.Ashtekar , Workshop Superintendent were present.

Hon. Director's visit at Government Polytechnic Khamgaon.

Dr. Abhay Wagh, Director Technical Education, inaugurating the Mess facilities at Ladies Hostel and Drip Irrigation System at Govt. Polytechnic, Khamgaon Campus.

Retired from Directorate of Technical Education

DTE wishes them Happy and Healthy retired life.

1. **Mr. Dayanand Meshram** – Joint Director, Technical Education, Mumbai (Retired on 30 Nov, 2017)
2. **Mr. Dalaldhan Kukde** – Administrative Officer, DTE, Mumbai (Retired on 31 Dec, 2017)
3. **Mr. Raut M.S.** – Administrative Officer, DTE, Mumbai (Retired on 31st May, 2017)
4. **Mrs. Chalmela** – Noting Assistant, DTE, Mumbai (Retired on 30th Nov, 2017)

The responsibility of the authencity of the information in this Newsletter lies with the author. Views expressed by the authors are solely theirs; they are neither the views of DTE nor are they are endorsed by DTE. Edited, Printed and Published by Dr. Abhay Wagh, Director Technical Education, Maharashtra State, Mumbai.