

#### SSBT's College of Engineering & Technology, Bambhori, Jalgaon. (Included under section 2 (f) and 12(B)of the UGC Act, 1956 ISO-9001-2008 Certified)

**Department of Chemical Engineering** 

# MOMENTUM

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### VISION

Today we carry the flame of quality education, knowledge and progressive technology for global societal development; tomorrow the flame will glow even brighter.

# **MISSION**

To provide conducive environment for preparing competent, value added and patriotic chemical engineers of integrity of par excellence to meet global standards for societal development.

# Salient Features of Chemical Engineering Programme:

- Experienced, Qualified & Research Oriented Faculty
- Program Accredited Thrice by NBA
- Modern and Well Equipped Laboratories
- **♦ Excellent Results**
- Research Facilities
- **♦** Departmental Library with Internet Facility
- ◆ Long Tradition of Gold Medalist in University Exams
- **♦ ASPEN HYSYS Software**
- ♦ Consultancy for Chemical Engineering & Allied Processes
- Teacher Guardian Scheme
- **♦ Excellent Self-Study Material**



#### Program Educational Objectives (PEO's) of Chemical Engineering Department

#### 1. Core Knowledge

To provide the quality education in the field of basic sciences, mathematics, chemical engineering and allied technologies to pursue higher education and research for global socioeconomic development.

#### 2. Employment

To motivate the students for gaining value added knowledge and real world exposure by industrial training, visits and workshops.

#### 3. Professional Competency

To build a chemical engineer of integrity and par excellence with professional and ethical values.

#### Program Outcomes (PO's) of Chemical Engineering Department

- An ability to execute knowledge of basic science, mathematics and engineering.
- An ability to display the research by designing, conducting, interpreting and analyzing experimental data for preparing reports.
- An ability to demonstrate the caliber of product designing according to the standards.
- An understanding to demonstrate the ability to perform the task with multidisciplinary teams.
- An ability to identify, formulate, design and provide the solution to various chemical engineering problems.
- An ability to demonstrate the understanding of professional and ethical responsibilities.
- An ability to communicate formally and informally.
- An ability of designing the product to meet economical and societal requirements.
- A commitment to reveal self education, social values by providing the services to society through lifelong learning.
- ◆ An ability to understand the environmental issues and to provide solutions for green and clean technologies.
- An ability to demonstrate the computational skills using engineering software.

#### **Tree Plantation Program**

Tree plantation not only improve the environment for protecting from adverse climatic factors, but also increase the natural beauty of the landscape; create recreational centre for the benefit of society. With the same objectives a Tree Plantation program was organized on Sept. 11, 2015 in college campus. Chemical Enginnering Departmental students & Staff members enthusiastically participated in the event.









#### **Alumni Meet**

Shram Sadhana Engineers Alumni Association (SEA) organizes Alumni Meet every year to cultivate the spirit of brotherhood and friendship among the alumni of the SSBTs COET. The meet provides a forum for the alumni for exchange of ideas on academic, industrial, corporate & technical issues of diversified disc plines. It also provides an opportunity to the students of the institute to interact with the alumni working at top ma agement level in the corporate world. This year also Alumni Meet was organized on Sept.16, 2015. Alumni of the Chemical Engineering Program also attended the meet. In the Meet Shri. Rajesh Dabhale, Alumni of Chemical Engineering share his views on the employability qualities required in the students. He also shares his experiences with the audience of his stay as a student in SSBT campus.





#### **Guest Lectures**

Alumni of the department Mr Paresh Laddha, Branch Manager, Birla Sun Life Asset Management Co. Ltd. and Mr.Preejith Ambuken, Research Fellow, USA visited the department on Sept.30,2015. Mr. Laddha interacted with the students of the department and given valuable guidance to the students about the requirement of qualities in the students for employability in prestigious organization. Mr. Preejith also enlightened the students about the opportunities available in United States of America in the research & development sector, work culture & emerging areas of research in the field of Chemical Engineering & Polymer nanocomposite technology. They also interacted with the faculty & staff members of the department & share wonderful experiences of their student life in SSBT.



**Industrial Visit** 

Industrial visit of final year students of the department was organized on Oct.10, 2015 at Jain Irrigation Systems Ltd. Jalgaon. Students visited the food pulp division, solar energy division, and plastics processing plants of the compony and gained knowledge about the manufacturing procedures involved in the formation of commercially useful products. They also visited Gandhidham at Shorsoli unit. Dr. A.R.Lokhande, Shri. Y.D.Thakare and Shri.S.J.Jamadar were coordinated the industrial visit.at Shirsoli & Bambhori unit.



#### **Handwash Campaign**

Regular Handwashing, particularly before and after certain activities, is one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others. Handwashing is like a "do-it-yourself" vaccine which involves five simple and effective steps (Wet, Lather, Scrub, Rinse, Dry) for reducing diarrheal and respiratory illness. To promote the importance of hand washing, students of the department conducted Handwash Campaign at Shri.Swami Samarth Vidyamandir, Jalgaon on Oct.14, 2015. During which students of the department highlighted the importance of Handwash in everyones life through powerpoint presentations and later on demonstrated the proper hand wash technique in stepwise manner to the students of primary section of the school. Department also donated the Handwash Kit to the School. Mr.V.P.Sangore & Mr.N.Y.Ghare, Asst. Professors, Chemical Engineering Department Coordinated the event.



#### **Cleanliness Drive**

Sad but true, it's not in our behavior to keep our surrounding clean and sanitized, thus it should be our main priorities to make India clean. At the most we keep our own houses clean and it is of no concern of ours to be careful about streets, lanes, parks or other public places. To promote habits of cleanliness amongst the responsible citizens of the country a **Cleanliness Drive** drive was organized by the Students of the Department at Shri.Ramlalji Chaube Municipal Corporation's High School on Oct.16th, 2015 with the objective of maintaining personal hygiene as well as environmental cleanliness.

During which students of the department highlighted the importance of Cleanliness in everyone's life through PowerPoint presentations to the students of the school. After that students & faculty of the department carried out cleanliness drive in the premises of the school. Students of the department also donated the Handwash Kit to the School , which was received by the Headmistress of the school. Mr.V.P.Sangore & Mr.N.Y.Ghare, Asst. Professors, Chemical Engineering Department Co-ordinated the event.









# WHAT IS CHEMICAL ENGINEERING?

- Chemical engineering is the branch of engineering that deals with the application of physical science (e.g., chemistry and physics), and life sciences (e.g., biology, microbiology and biochemistry) with mathematics, to the process of converting raw materials or chemicals into more useful or valuable forms.
- In addition to producing useful materials, modern chemical engineering is also concerned with pioneering valuable new materials and techniques - such as nanotechnology, fuel cells and biomedical engineering.
- Chemical engineering largely involves the design, improvement and maintenance of processes involving chemical or biological transformations for large-scale manufacture.
- Chemical engineers ensure the processes are operated safely, sustainably and economically.
- Chemical engineers in this branch are usually employed under the title of process engineer. A related term with a wider definition is chemical technology. A person employed in this field is called a chemical engineer.

#### The Roles and Responsibilities of Chemical Engineers

Chemical Engineers are considered to be "Universal Engineers." They use chemistry, physics, biology, microbiology, biochemistry and mathematics to design programs, machines and processes that turn raw materials into valuable products for human use and for use in the environment.

Chemical Engineers play a very important role in making modern society. Many Chemical Engineers design and operate large-scale and complex chemical production facilities to supplying diverse chemical products to society. In performing these functions, a Chemical Engineer will likely assume a number of roles during a career.

The Chemical Engineer is involved in raw materials extraction, intermediate materials processing, or production of pure chemical substances; in each activity, the minimization and management of waste stream will have important economic and environmental consequences.

Chemical Engineers are involved in the production of bulk and specialty chemicals, petrochemicals, integrated circuits, pulp and paper, consumer products, minerals, and pharmaceuticals.

Chemical Engineers also find employment in research, consulting organizations, and educational activities. The Engineer may perform functions such as process and production engineering, process design, process control, technical sales and marketing, community relations, and management. As Chemical Engineers assume such diverse roles, it is increasingly important that they should be aware of their responsibilities to the general public, colleagues and employers, the environment, and also to their profession.

One of the central role of Chemical Engineers is to design and operate chemical processes yielding chemical products that meet customer specifications and that are profitable, another important role is to maintain safe conditions for operating personnel and for residents in the immediate vicinity of a production facility.

Finally, chemical process designs need to be protective of the environment and of human health. Environmental issues must be considered not only within the context of chemical production but also during other stages of a chemical's life cycle, such as transportation, the use of chemicals by customers, recycling activities, and ultimate disposal.

# Scope for Chemical Engineers in Various Industries & Organizations Research & Organic Chemicals: Chemicals from C1 Developments: NCL, to C<sub>n</sub> Compounds. CSIR, DRDO, Plastics & Polymers State & Central Petro-chemicals Pharmaceuticals: Textiles Scope for Chemical Fermentation Engineers Dyestuffs Oils Paints Electro-Chemical Nuclear Metallurgical



















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