



**SSBT's College of Engineering & Technology, Bambhori, Jalgaon**  
(Included under section 2 (f) and 12(B) of the UGC Act, 1956)  
Grade A (3.14) NAAC Accredited  
Department of Chemical Engineering

# MOMENTUM

News Letter Vol. No. XXVI July 2024 – Dec.2024

## 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*
- ◆ *Consultancy for Chemical Engineering & Allied Processes*
- ◆ *Teacher Guardian Scheme*
- ◆ *Excellent Self-Study Material*



**Tree Plantation Program @ Chemical Engineering Department**

## Programme Educational Objectives (PEOs) 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.

## Programme Outcomes (POs) of Chemical Engineering Department

**PO1 Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2 Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3 Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4 Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO5 Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO6 The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7 Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8 Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9 Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11 Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12 Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## Programme Specific Outcomes (PSOs) of Chemical Engineering Department

**PSO1** How are you able to apply basic principles of science, mathematics and chemical engineering skills in interpreting and analyzing experimental data for societal development?

**PSO2** How are you able to design and provide solutions to problems in the development of chemical and allied industries?

**PSO3** How are you able to display multidisciplinary approach for providing techno-economical and eco-friendly solutions?

## Activities Conducted by Chemical Engineering Department in Academic Year 2024-25 (Term-I)

DATE	EVENT NAME	EVENT DESCRIPTION
23/08/2024	National Space Day Celebration	Chemical Engineering Department celebrated National Space Day (NSD) on 23rd August, 2024 to commemorate the historic landing of Chandrayaan-3 on the Moon.
26/08/2024 To 31/08/2024	Add-On Course	Department conducted one week (30 Hours) add on course on “Introduction to Computer Applications and AI Tools”, for the students of chemical engineering.
05/09/2024	Teacher’s Day Celebration	Teachers' Day celebrated on 5th September to commemorate the birthday of former President Bharat Ratna Dr. Sarvepalli Radhakrishnan.
05/09/2024	Tree Plantation	Tree plantation program was conducted at SSBT'COET Campus. Students of the department actively participated in the program.
05/09/2024	Expert Lecture	Expert Lecture of Dr.D.D.Puri, Head, Department of Master of Computer Application, SSBT’s COET was conducted on the topic “Personality Development”.
18/09/2024	Stress & Copy Free Exam	A session was organized to overcome the exam stresses on students. Speakers discussed several strategies that can help the students to manage exam stress.
02/12/2024	National Pollution Control Day	National Pollution Control Day aims to raise awareness about the urgent need for pollution control. Observed on December 2, to commemorate the tragic Bhopal Gas incident. National Pollution Control Day theme for 2024 was “Clean Air, Green Earth: A Step Towards Sustainable Living”
14/12/2024	National Energy Conservation Day	National Energy Conservation Day 2024 celebrated with the theme “Powering Sustainability: Every Watt Counts”. The event jointly conducted by Department of Chemical and Electrical Engineering under SSBT Energy Club.

### GLIMPSES OF ADD ON COURSE 26 AUGUST TO 31 AUGUST 2024

## Introduction to Computer Applications & AI Tools



# CONGRATULATIONS!

## B.E. Chemical Engineering Students Rank in KBCNMU Dec.2024 Exam. Sem.-VII (2024-25)

Merit No.	Name of the Student	SGPA
1	KAKUSTE PRATHAMESH SUNIL	8.10
2	YEOLE RAHUL RAMESH	7.48
3	KOLI PREM SANJAY	7.43
4	PATEL DEV VASANT	7.29
5	BHOI JAGDISH RAGHUNATH	7.00
6	PANJARDE RAHUL SUPADU	6.86
7	PATIL TEJAS DILRAJ	6.43

## T.E. Chemical Engineering Students Rank in KBCNMU Dec.2024 Exam. Sem.-V (2024-25)

Merit No.	Name of the Student	SGPA
1	THORAT ROHAN SANJAY	8.33
2	THORAT HARSHAL HARISH	8.14
3	THAKARE YUTI SAROJKUMAR	7.90
4	GOHIL MEETKUMAR VINODBHAI	7.76
5	PATIL DARSHAN RAMESH	7.05

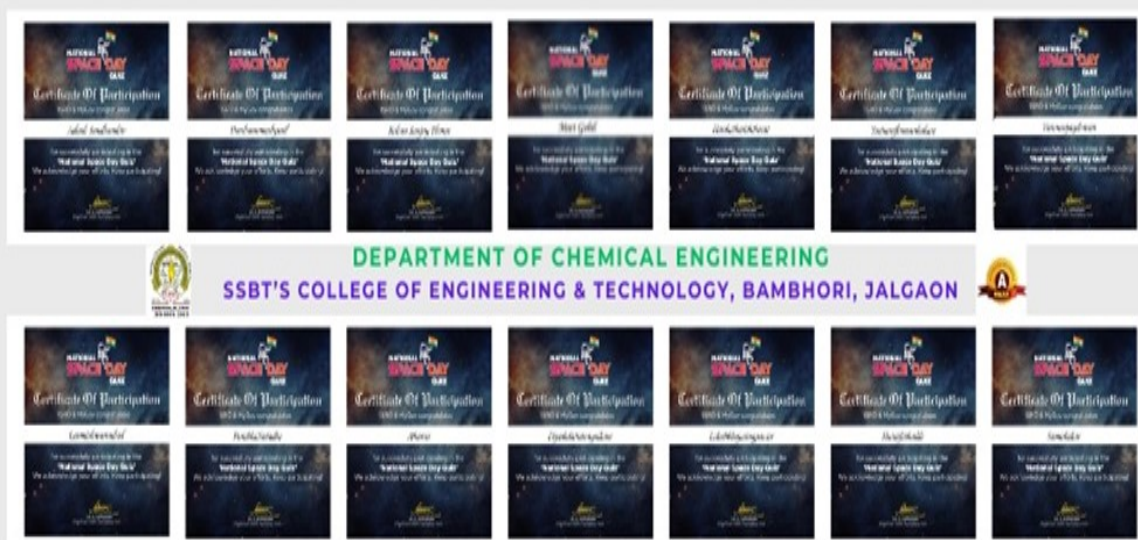
## S.E. Chemical Engineering Students Rank in KBCNMU Dec.2024 Exam. Sem.-III (2024-25)

Merit No.	Name of the Student	SGPA
1	PATIL RUSHIKESH BHARAT	6.50



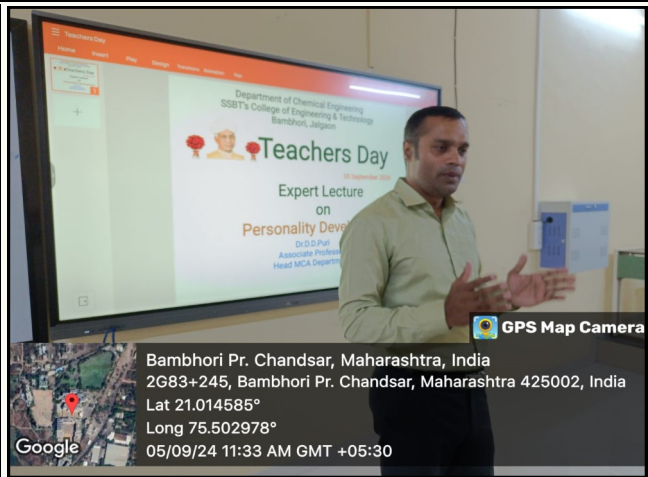
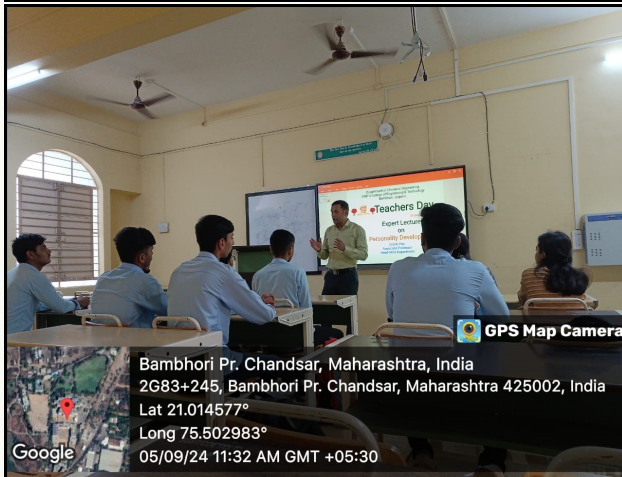
## Brief Report on “National Space Day Celebration”

- Date and Venue / Location : 23/08/2024, Department of Chemical Engineering.
- Aim / Purpose : To promote awareness amongst students about India’s achievement in space science and technology.
- Objectives :
- To inspire curiosity and interest in space science and technology amongst students.
  - To educate attendees on recent advancements in space research and exploration.
  - To encourage young minds to pursue careers in space science and technology.
  - To celebrate national and global achievements in space exploration
- Participant’s Profile : Students of chemical engineering program.
- Description about the Program : India became the fourth country to land on the moon and the first to reach its southern polar region on August 23, 2023. To honour this landmark achievement, nation celebrated August 23 as "National Space Day" with the theme "Touching Lives while Touching the Moon: India's Space Saga" Students of the department celebrated it through actively participation in National Space Day quiz.
- Feedback & Analysis : The maiden National Space Day celebration successfully achieved its objectives by providing an enhanced understanding of ISRO’s space initiatives and future space programs.
- Outcomes : Increased awareness among students regarding space science & technology and space exploration.



National Space Day Quiz Participation

## Glimpses of Activities



# 10 Essential Concepts in Chemical Engineering

## 1. Material and Energy Balances

The backbone of process engineering: ensuring input equals output for mass and energy across any system.

## 4. Heat Transfer

Crucial for designing heat exchangers and thermal systems using conduction, convection, and radiation principles.

## 6. Chemical Reaction Engineering

Designing reactors to optimize reaction rates, yield, and selectivity for batch and continuous systems.

## 8. Separation Processes

Techniques like distillation, filtration, crystallization, and membrane separations for product purification.

## 2. Thermodynamics

Governs energy transfer, phase equilibrium, and reaction feasibility (Gibbs free energy, enthalpy, entropy).



## 9. Process Simulation and Design

Leveraging tools like Aspen Plus, HYSYS, and Matlab to model, simulate, and optimize processes.

## 3. Fluid Mechanics

Analyzing fluid flow, pressure drops, and pump design to ensure efficient transportation of gases and liquids.

## 5. Mass Transfer

Enables separation processes (distillation, absorption, drying) using diffusion and convective transfer fundamentals.

## 7. Process Control

Using control loops, PID controllers, and instrumentation to maintain operational safety and process stability.

## 10. Safety and Environmental

Integrating HAZOP studies, risk analysis, and environmental controls to ensure sustainable and safe operations.

### News Letter Committee

Faculty Members: Dr. V R. Diware (Editor)

Mr. V.P.Sangore (Content Organizer)

Student Coordinators : Laxmi Rathod (SE)

Yuti Thakare (TE)

Dev Patel (BE)



**Dr.V.R.Diware**  
Head, Chemical Engineering



**Prof. (Dr). G. K. Patnaik**  
Principal

