BHARATI VIDYAPEETH
(Deemed to be University)

COLLEGE OF ENGINEERING, PUNE - 411 043
Department of Chemical Engineering

INNOVATIVE PRACTICES

(I) Employability Enhancement Programme

Employability Enhancement Programme (EEP) is a programme designed to improve the ability of the students to crack the aptitude test which includes training on mathematics, logical reasoning, relationships, quantitative, qualitative and numerical analysis, English grammar, time and distance etc. EEP also furnishes group discussion and personal interview skills in the students of pre-final year of B. Tech programme which improves the chances of students to get selected in final year campus placements. EEP is primarily 100 hours module that comprises 50 hours, aptitude; 20 hours, english communication; 10 hours, group discussion; and 10-20 hours, company specific question. Six reputed training agencies viz. Campus Bridge Solutions, 6Pi, IEF, SMART, SCOUT, and APAART were appointed to conduct EEP programme. 59 Chemical Engineering undergraduate students have participated in EEP in last three years that eventually has enhanced the placement of the students.

(II) Engagement of People with Science and Technology

"Engagement of People in Science and Technology" is a unique program initiated in the department to promote the social movement of educating the nearby schools about the importance of Science and Technology in day to day life. Under this program, faculty members and students of Chemical Engineering Department frequently visit the nearby schools and conduct various activities to create awareness regarding the application of science and technology. Recently, the students and faculty members have visited Mamasaheb Mohol, Vidyalaya, Warje, Pune and PMC Vidyaniketan, No-19, Chandrabhaganagar, Pune under this program. The major activities organized during such visits included Career Guidance, Demonstration of scientific experiments, Essay writing, Competition, Quiz competition, Demonstration of concept of periodic table, Concept of acid and base by doing live demonstration, and Live demonstration of salt formation. These visits have witnessed tremendous response from the school students. Total 143 students from Mamasaheb Mohol Vidyalaya and 120 students from PMC Vidyaniketan have participated in all activities organized during visits.

(III) Sat@BV

"Saturday @ BV" is an innovative program initiated in the department to enhance the interaction of students and faculty members with eminent personalities of Industry, Academia and Research fraternity. Under this program, various entrepreneurs, notable researchers and high ranked corporate have visited the department and have guided the students with their vast knowledge and experience in the field of Chemical Engineering. Few notable personalities who have visited the department includes Mr. Kushal Mishra, General Manager, CADD Centre Pune, Dr. Mayadevi, Senior Scientist, CSIR-National Chemical Laboratory, Pune, Dr. Ganesh Visawale, CFD Head, Centre for Computational technologies, Sharad Vithaldas Naik, Managing Director, Aniruddha Engineering consultancy, Pune, Mr. A. G. Patil, Managing Director, Synergy Systems and Solutions, Pune. This activity is very popular among the students, since such interactions have helped them to bridge the gap between requirements of Industry and skill sets acquired by the students during graduation.

(IV) Professional Skill Development

Professional Skill Development (PSD) courses are introduced in Choice Based Credit System course (2014) from semester I to VI with a prime objective to increase employability of undergraduate students. It is essential that students should some additional skills along with technical knowledge to meet ever changing need of industry. Accordingly, PSD courses primarily deal with vocabulary, aptitude, communication, interpersonal skills, self awareness and conflict resolution. All these issues are highly essential while actual industrial practice. There are 18 credits allotted to PSD courses in curriculum out of total 200 credits.

(V) Flipped classrooms

The main goal of a flipped classroom is to enhance student learning and achievement by reversing the traditional model of a classroom, focusing class time on student understanding rather than on lecture. To accomplish this, NPTEL videos are provided to the students to view at home prior to the next class session. This allows class time to be devoted to expanding on and mastering the material through collaborative learning exercises, projects, and discussions. Essentially, the homework that is typically done at home is done in the classroom, while the lectures that are usually done in the classroom are viewed at home. The institute is Nodal center for virtual laboratory. The laboratory courses are conducted virtually before conducting experiments in the laboratories.

(V) Promotion of Research Work

Promotion of research activities have resulted in meaningful contribution of faculty members and students in the publication of research papers in reputed journals and award of substantial research funds/ grants. The department has prioritized the research activities and is actively engaged in quality research in frontier areas of Chemical Engineering. The research work initiated in these thrust areas is well supported by the research grants received by the faculty members from various government and autonomous funding agencies. By and large, the department has received a total research funding of approximately Rs. one crore and 35 lakh in last five years. The department has developed four new laboratories viz. (i) Multiphase reaction Engineering, (ii) Bioprocess Engineering, (iii) Wastewater Treatment and (iv) Membrane separation. The department has many research publications to its credit. Total 84 research papers have been published in national and international peer-reviewed journals of repute in last four years, out of which 23 research papers are listed in Scopus, 22 are listed in Web of science and 54 are listed in Google Scholar. The originality of thesis submitted and research papers published is meticulously maintained by using the facility of plagiarism checking tool "Turnitin".