

# Department Mission

## Department of Dyestuff Technology

**Vision:** To build world class programs of excellence in education and research in specialized areas of dyestuff chemistry and technology for the benefit of society through problem solving competencies.

**Mission:** The department aspires to be one of the world's top ten color chemistry department.

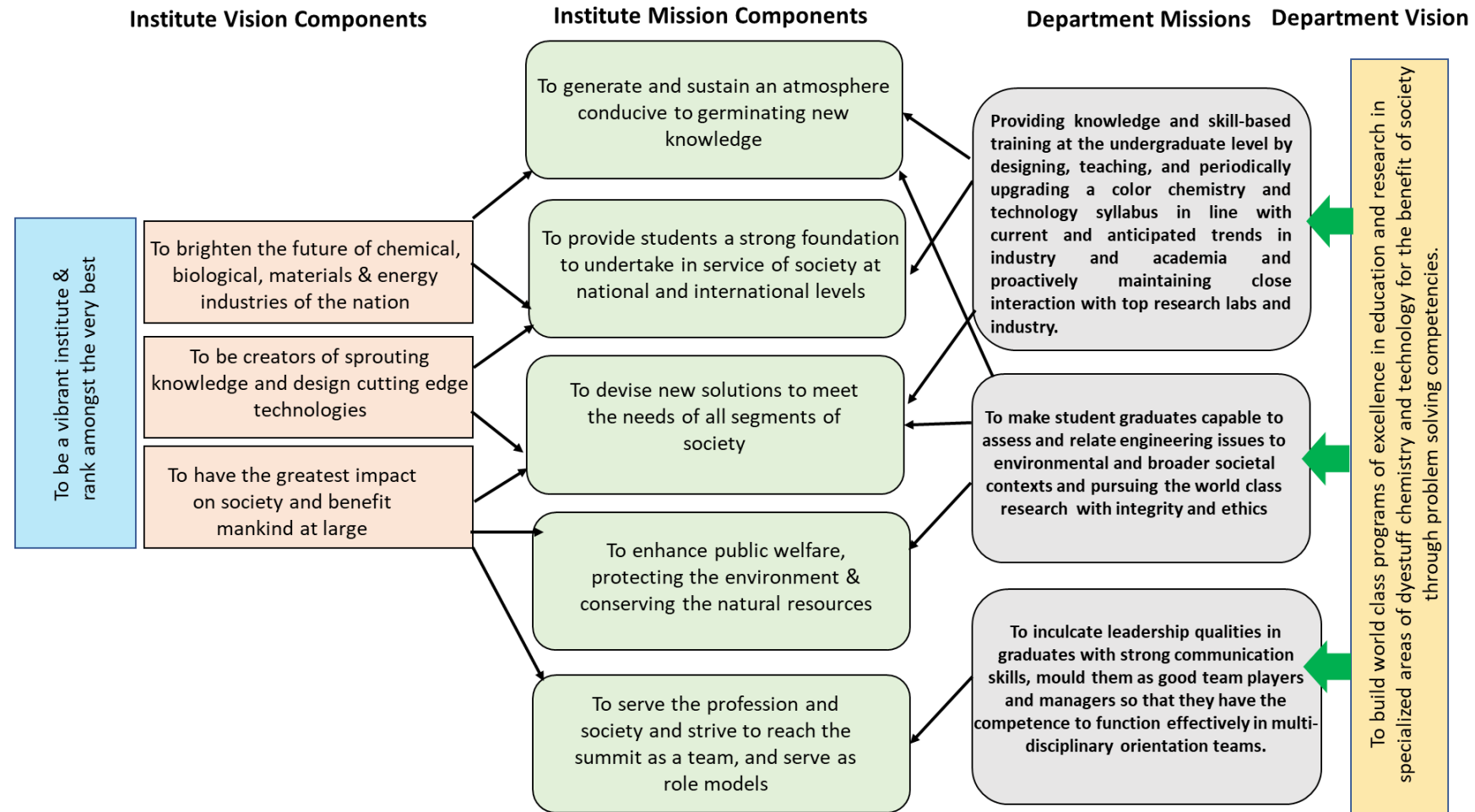
It will do so by:

- **M1:** Providing knowledge and skill-based training at the undergraduate level by designing, teaching, and periodically upgrading a color chemistry and technology syllabus in line with current and anticipated trends in industry and academia and proactively maintaining close interaction with top research labs and industry.
- **M2:** To make student graduates capable to assess and relate engineering issues to environmental and broader societal contexts and pursuing the world class research with integrity and ethics
- **M3:** To inculcate leadership qualities in graduates with strong communication skills, mould them as good team players and managers so that they have the competence to function effectively in multi-disciplinary orientation teams.

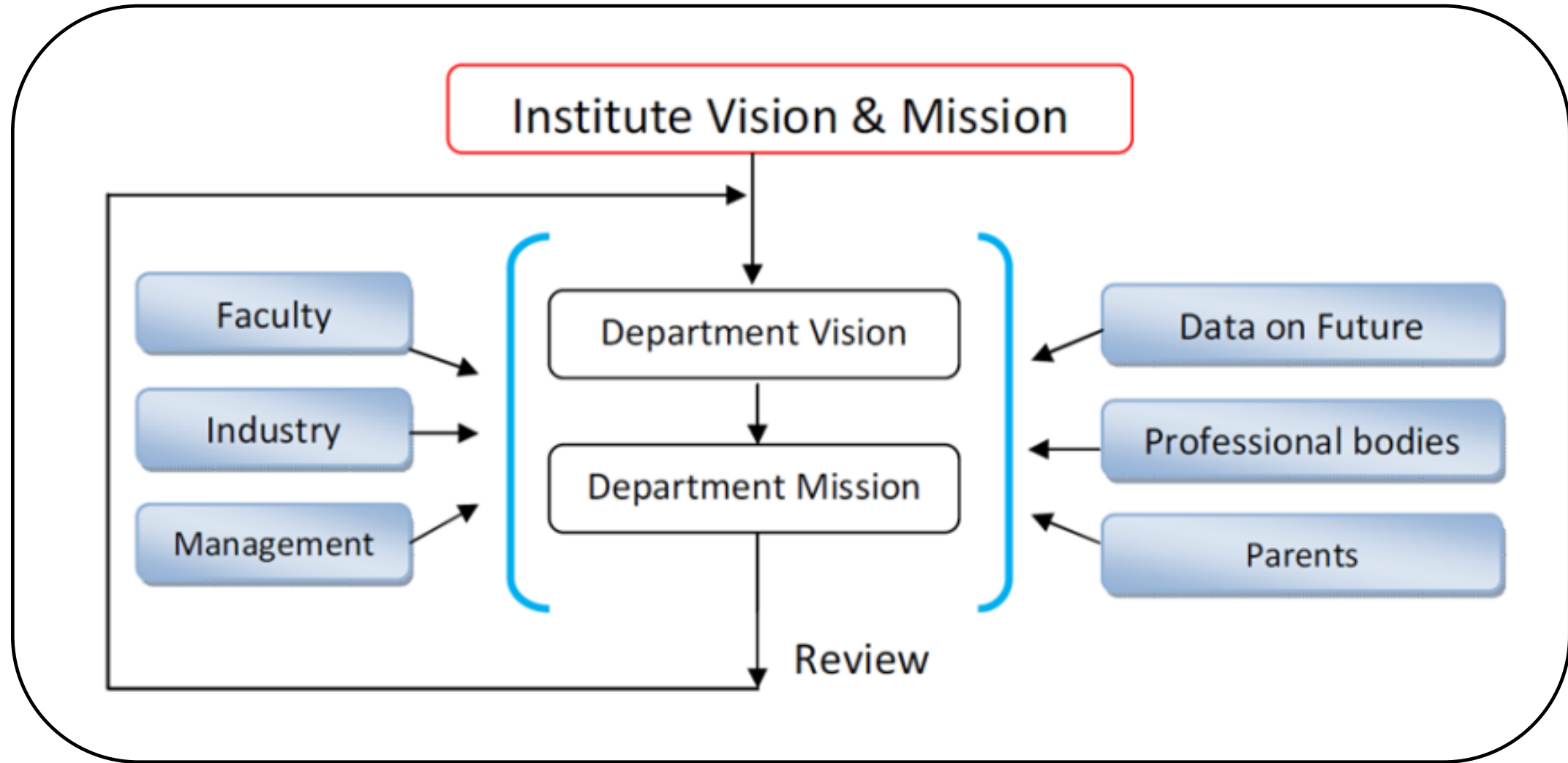
# Corelation Between the Department Mission, Vision with Institute Mission and Vision

The departmental guiding principles for students in **B. Tech Dyestuff Technology** are as follows:

- To empower our students with ethics and integrity about strong fundamentals, knowledge, and skills
- Practices through industrial in-plant training and industrial visits so that they can serve the Dyestuff and Intermediate industry.
- The program is committed to nurture the spirit of innovation and creativity among students, faculty, and staff.



## Process For Defining the Vision and Mission of the Department



# Program Educational Objectives Statements

**PEO No. 1**

**Successful career:** To produce efficient organic chemical technology graduates with strong fundamentals in intermediate and dyestuff chemistry and specialty chemicals

**PEO No. 2**

**Real-time problem solver:** To make student graduates capable to assess and relate engineering issues to environmental and broader societal contexts and practice it with integrity and ethics

**PEO No. 3**

**Multidisciplinary skills:** To inculcate leadership qualities in graduates with strong communication skills, mould them as good team players and managers so that they have the competence to function effectively in multi-disciplinary orientation teams.

## Consistency of PEOs with Mission of the Department

PEO Statements	M1	M2	M3
PEO1: To produce efficient organic chemical technology graduates with strong fundamentals in intermediate and dyestuff chemistry and specialty chemicals	3	3	2
PEO2: To make student graduates capable to assess and relate engineering issues to environmental and broader societal contexts and practice it with integrity and ethics	2	3	3
PEO3: To inculcate leadership qualities in graduates with strong communication skills, mould them as good team players and managers so that they have the competence to function effectively in multi-disciplinary orientation teams.	2	2	3

3 = Strong correlation

2 = Medium correlation

1 = weak correlation

### Justification:

**PEO1 justification:** These missions focuses on imparting strong fundamentals, through teaching excellence in the department. It is justified through practical and tutorial sessions, seminars, research projects, product development, placements, expert lectures, industry-institute interactions.

**PEO2 justification:** It is justified through solving societal problems through engineering and technological solutions ethically.

**PEO3 justification:** It is justified through technical paper presentations, various case studies, their implementation in the form of mini projects, professional bodies, tech-fests, various clubs at institute level and workshops where student work in team and learn various team building activities in multiflavored environment.

## Program Outcomes and Program Specific Outcomes

PO1	<b>Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</b>
PO2	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	<b>Design/development of solutions:</b> 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	<b>Conduct investigations of complex problems:</b> 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	<b>Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	<b>The engineer and society:</b> 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	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	<b>Ethics:</b> 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	<b>Communication:</b> 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	<b>Project management and finance:</b> 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	<b>Life-long learning:</b> 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.
PSO1	Specialization in the synthesis, analysis and application and knowledge of dyeing techniques: Our graduates will be totally in tune with the current needs of the speciality chemicals including dyestuff industry and have considerable problem-solving acumen.
PSO2	Core organic chemistry, technology development and implementation: Our graduates have strong foundation in chemistry, and thus combined with their engineering skills and independent ability to develop new speciality chemicals including dyestuff and allied chemical industry related technologies and successfully implement them at an industrial scale.