

CRITERION 1	Vision, Mission and Program Educational Objectives	50
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1.1 STATE THE VISION AND MISSION OF THE DEPARTMENT AND INSTITUTE **(5)**

About NIT Srinagar

National Institute of Technology, Srinagar is one of the premier Educational Institutes in the Northern Regions of the country. It was established in 1960 and has been one of the eighteen Regional Engineering Colleges sponsored by the Govt. of India during the 2nd Plan. The Institute acquired the status of National Institute of Technology with deemed to be University status during August 2003 and attained full autonomy in its Academics.

The Institute is situated at the banks of world-famous Dal Lake, with the far-famed Hazratbal Shrine on another side of the campus. NIT Srinagar is a residential Institute with accommodation facility in Hostels and Staff-Quarters. There are four Boys and one Girls hostel which swallows about 1500 boys and 200 girls. Besides running the B. Tech. Programme the Institute also offers M. Tech programme in many streams. In addition to that, a large number of students are registered for M. Phil and Ph.D. Programmes.

Facilities and amenities are available at the institution such as NCC, NSS, Bank, Consumer cum Society, Shopping Complex, Recreational Centre, Dispensary with Ambulance, Guest House, Students Activity Centre, Gymnasium, Internet Centre, Telephone Booths, Fax Services, Diesel Generator, and Bus Facility. The Institution has an Industry Interaction cell which was established in 1989 with the aim to remain at the fore-front on the Scientific and Technological development and to share its experience with industries in utilizing. Man-power and other resources are available at the Institute effectively with the assistance of the participating industries. The Institute has one of the best technical library in J&K State. It has a collection of over 60,000 books on Engineering Science and humanities and about 6,000 bound volumes/Journals, both foreign and Indian. The library remains open from 9.00 am to 10 pm. It has online repository of A.S.C.E, A.S.M.E.A.E.L, J.C.C.C etc in addition to journals through I.N.S.E.S, COMSORTIEM. It also has a collection of I.S.I codes, in the C.D-Rom format.

VISION OF THE INSTITUTE

To establish a unique identity of a pioneer technical Institute by developing a high-quality technical manpower and technological resources that aim at economic and social development of the nation as a whole and the region in particular keeping in view the global challenges.

MISSION STATEMENT OF THE INSTITUTE	
M1.	To create a strong and transformative technical educational environment in which fresh ideas, moral principles, research and excellence nurture with international standards.
M2.	To prepare technically educated and broadly talented engineers, future innovators and entrepreneurs, graduates with understanding of the needs and problems of the industry, the society, the state and the nation.
M3.	To inculcate the highest degree of confidence, professionalism, academic excellence and engineering ethics in budding engineers.

DEPARTMENT**ABSTRACT**

Ever since its establishment, the department of electrical engineering has produced scientists and technocrats of high calibre. In order to ascertain these achievements, a committee was established in the supervision of Head of department, to develop vision, mission and program educational objectives for a span of next 10 years. It comprises of analysis yearly achievements for all previous years. This assessment is used for interdepartmental achievements/ progress on annual basis.

To complete more result-oriented tasks, the committee carried out thorough discussions in order to understand the gaps in the present scenario and the desirable future of the department as well as institute.

VISION OF DEPARTMENT

The department of Electrical Engineering aims to be a frontrunner in producing globally competent technocrats who can set a benchmark in innovation and research to contribute in nation building by making a demonstrable environmental, social and economic impact.

MISSION OF DEPARTMENT

M1. To create technocrats by imparting quality education to meet industrial and societal needs.

M2. To provide a cordial environment that attracts and develops talent for excellence in research, innovation and leadership.

M3. To inspire students to become responsible citizens and inculcate value based, socially committed professional ethics to cause of holistic development.

M4. To enable sustainable and cost-effective innovations, showcasing the importance of green energy technology with a focus on energy efficiency.

M5. To bridge the gap between academia and industries by framing appropriate curricula and syllabi.

1.2 STATE THE PROGRAM EDUCATIONAL OBJECTIVES (PEOS) (5)**Program Educational Objectives**

- PEO1.** To imbibe analytical and professional skills in students to succeed in diverse fields.
- PEO2.** To create enthusiasts to pursue advanced education supplementing their career growth.
- PEO3.** To develop the necessary skill set for industries in students by imparting state of art technology in various areas of electrical engineering.
- PEO4.** To promote the culture of problem solving and design skills for lifelong learning.

1.3 Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders (15)

Locations where the Vision, Mission, PEOs and PSOs are published:

Sr. No.	Location	Institute		Department			
		Vision	Mission	Vision	Mission	PEO	PSO
1.	Institute Website/ Departmental Webpage	✓	✓	✓	✓	✓	✓
2.	Department News Letter & Notice Board	✓	✓	✓	✓	✓	✓
3.	Course file	✓	✓	✓	✓	✓	✓
4.	Lab Manual	✓	✓	✓	✓	✓	✓
5.	Conference workshop/ Brochures	✓	✓	✓	✓		

Locations where the Vision, Mission, PEOs and PSOs are disseminated:

Sr. No.	Location	Institute		Department			
		Vision	Mission	Vision	Mission	PEO	PSO
1.	Department Office	✓	✓	✓	✓	✓	✓
2.	HOD Room	✓	✓	✓	✓	✓	✓
3.	Class Rooms	✓	✓	✓	✓	✓	✓
4.	Laboratories	✓	✓	✓	✓	✓	✓
5.	Department Notice Board	✓	✓	✓			
6.	Seminar/ Conference Hall	✓	✓	✓	✓	✓	✓
7.	Corridor	✓	✓	✓	✓	✓	✓

Apart from this Vision, Mission, PEOs and PSOs are disseminated to all the stakeholders of the programs through faculty meetings, student awareness workshops, student induction programs and placement and training activities at regular intervals.

List of stake holders of the program

1. Students.
2. Alumni.
3. Parents and Society.
4. Faculty and Staff Members.
5. Industries and Research Organisations.

1.4 STATE THE PROCESS FOR DEFINING THE VISION AND MISSION OF THE DEPARTMENT, AND PEOS OF THE PROGRAM (15)

Process for defining Vision and Mission of Department

The Department established the Vision and Mission through a consultative process involving the stakeholders of the Department, the future scope of the department and the societal requirements as shown in Figure 1.1. In establishing the Vision and mission of the Department, the following steps were followed:

Step 1:	<i>The Vision and Mission statements of the Department were first proposed by the committee setup by the Department under chairmanship of Head of the Department keeping Vision and Mission of Institute in view.</i>
Step 2:	<i>Proposed Vision and Mission statements have been circulated among the stake holders.</i>
Step 3:	<i>Deliberations on the suggestions received regarding new draft of Vision and Mission statements were modified as per feedback received by stake holders.</i>
Step 4:	<i>The modified Vision and Mission of the Department were kept in front of the Departmental Faculty Board (DFB) for approval.</i>
Step 5:	<i>Departmental Faculty Board (DFB) approved the Vision and Mission Statements under the chairmanship of Head of the department.</i>

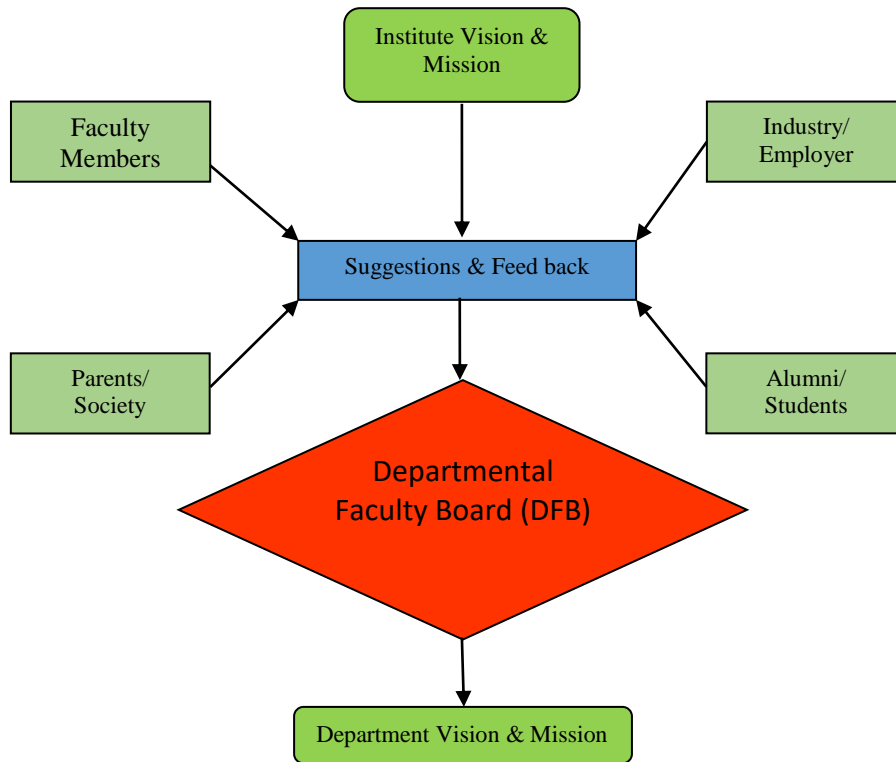


Figure 1.1: Process of Establishing Vision and Mission of the Department

Process for establishing PEOs

For defining the Program Educational Objectives (PEO) of the Department, the following steps were followed (Figure 1.2):

Step 1:	<i>The Program Educational Objectives (PEO’s) of the department were first outlined by the committee setup by the Head of the Department keeping Departmental Vision and Mission, Institute Vision and Vision and Program Outcomes in view.</i>
Step 2:	<i>Proposed Program Educational Objectives (PEO’s) have been circulated among the stake holders.</i>
Step 3:	<i>Discussion on the suggestions received regarding new draft of Program Educational Objectives (PEO’s) statement were modified as per feedback received by stake holders.</i>
Step 4:	<i>The modified Program Educational Objectives (PEO’s) were sent to the Departmental Faculty Board (DFB) for approval.</i>
Step 5:	<i>Departmental Faculty Board (DFB) approved the PEO’s under the chairmanship of Head of the Department.</i>

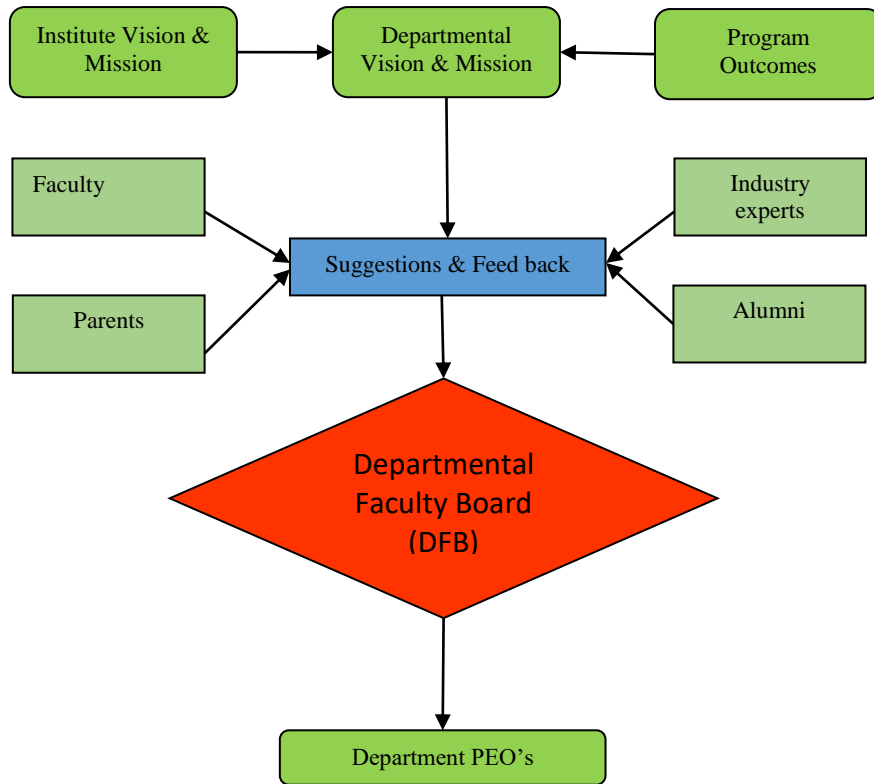


Figure 1.2: Process for defining the PEOs of the Department

1.5 ESTABLISH CONSISTENCY OF PEOS WITH MISSION OF THE DEPARTMENT (10)

MAPPING (PO/PSO with PEO)

Program Outcomes (PO)/ Program Specific Outcomes (PSO)	Mission			
	Analytical and professional skills (PEO1)	Advanced Education (PEO2)	Industrial exposure (PEO3)	Problem solving and design skills (PEO4)
PO1	3	3	3	3
PO2	3	3	3	2
PO3	3	3	3	3
PO4	3	3	3	3
PO5	3	3	2	3
PO6	3	2	3	2
PO7	3	3	3	3
PO8	3	3	3	3
PO9	3	2	3	3
PO10	3	3	3	3
PO11	3	3	3	2

PO12	3	3	3	3
PSO1	3	3	2	2
PSO2	3	3	3	3
PSO3	3	2	3	3

1: Slightly related

2: Moderately related

3: Substantially related

Justification:

J1:

1. **PO1 – PEO1:** Analytical and professional skills are very much necessary for best understanding of any problem and its solution.
2. **PO1 – PEO2:** Creating enthusiast to pursue advanced education will require the deep engineering knowledge.
3. **PO1 – PEO3:** Practical knowledge comes from environment with the skill set for Industries.
4. **PO1 – PEO4:** Skillful problem solving and design culture is very necessary explaining the knowledge gained.

J2:

1. **PO2 – PEO1:** Analytical and professional skills is must for analyzing complex engineering problems reaching substantiated conclusions.
2. **PO2 – PEO2:**For promoting advanced Education it requires best understanding of problem analysis.
3. **PO2 – PEO3:** Skill set for Industries creates more interest to understand complex engineering and its practical solution.
4. **PO2 – PEO4:** Designing skills can be helpful for better understanding for problem analysis.

J3:

1. **PO3 – PEO1:**Analytical and professional skills are very helpful for better designing of solution. It makes it easy to understand solutions.
2. **PO3 – PEO2:**Better designing and development of solutions promotes the culture for going for higher education.
3. **PO3 – PEO3:**Industrial Exposure gives practical advantages for better designing and developments of solutions.
4. **PO3 – PEO4:**Skillful problem solving and design culture is must for solving complex engineering problems and its design.

J4:

1. **PO4 – PEO1:**Analytical and professional skills make the students to investigate the research-based problems.
2. **PO4 – PEO2:**Promoting students for higher education helps them inexploringthe complex problems.
3. **PO4 – PEO3:**Industrial skills development by imparting state of art technology in various areas of electrical engineering requires complex problem investigation.

4. **PO4 – PEO4:** Problem solving culture and skillful design require to conduct investigation of complex problems.

J5:

1. **PO5 – PEO1:** Analytical and professional skills help to use the modern tools for analysis of problems.
2. **PO5 – PEO2:** Higher education promoting culture helps the students to look for modern tool usage.
3. **PO5 – PEO3:** Industrial culture supports modern tool usage in their research and development program.
4. **PO5 – PEO4:** It requires modern tool usage for better development of problem solving skills.

J6:

1. **PO6 – PEO1:** Professional skills are must for reasoning given by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
2. **PO6 – PEO2:** Advanced education motivates the engineers in their individual growth which helps them in promoting the society in terms of better technically advanced standards.
3. **PO6 – PEO3:** Promoting industrial culture environment helps the students to design and develop the components with an assessment of societal parameters like health, safety and other issues.
4. **PO6 – PEO4:** Problem solving environment and design skills may be helpful for improvement of societal parameters.

J7:

1. **PO7 – PEO1:** Analytical and professional skill is must for understanding the impact of professional engineering solution with reference to environmental context and helps in development of sustainable solution.
2. **PO7 – PEO2:** Advanced education helps in better understanding of environmental concern, its solution and sustainable development.
3. **PO7 – PEO3:** Promoting industrial culture helps the students to understand the impact of their designed solutions to make it more environmental friendly.
4. **PO7 – PEO4:** Problem solving environment and design skills are must to analyze the impact of environmental context based professional engineering solution in society.

J8:

1. **PO8 – PEO1:** Analytical and professional skills must include professional ethics.
2. **PO8 – PEO2:** Promoting Higher education culture must require professionalism and ethical principles.
3. **PO8 – PEO3:** Better development of industries requires professional ethics to be followed strictly.
4. **PO8 – PEO4:** The genuine environment for design skills and problem solving must come by following the norms of the engineering practicing.

J9:

1. **PO9 – PEO1:** Professional and analytical skills are must for the students to solve any problems within a team or even as an individual.
2. **PO9 – PEO2:** Promoting higher education culture is for own individual growth
3. **PO9 – PEO3:** Industrial environment helps the students to work in a team for effective and faster results
4. **PO9 – PEO4:** Problem solving environment and design skill is must to function effectively as an individual and as a member or leader in multidisciplinary teams.

J10:

1. **PO10 – PEO1:** Professional and analytical skills are must for effective communication of complex engineering problems.
2. **PO10 – PEO2:** Promoting higher education culture requires skills to communicate the research ideas efficiently.
3. **PO10 – PEO3:** Industrial environment requires the students to be more efficient towards better communication of the industrial problems.
4. **PO10 – PEO4:** Problem solving environment and design skills help in making it easy to communicate the complex problems.

J11:

1. **PO11 – PEO1:** Professional and analytical skills are required to understand the concerned project in a better way which helps in managing its finance.
2. **PO11 – PEO2:** Higher education improves the quality in students which helps them in managing the project including its finance efficiently.
3. **PO11 – PEO3:** Industrial environment is best suited to demonstrate the knowledge and understanding the engineering and management principles and applying these to one's own work as a member or leader in a team, to manage projects in multidisciplinary environments.
4. **PO11 – PEO4:** Design and problem solving skills may be required for project management and its finance.

J12:

1. **PO12 – PEO1:** Analytical skills create more interest in learning different aspects of complex problems for life long period.
2. **PO12 – PEO2:** Promoting advanced education environment builds more learning lifetime qualities.
3. **PO12 – PEO3:** Practical knowledge coming from an industry helps in promoting life-long learning environment.
4. **PO12 – PEO4:** Design and problem solving skills help in keeping up the interests for more and more learning throughout the life.

J13:

1. **PSO1 – PEO1:** Students will be creative enough to solve the complex problems by applying professional and analytical approach.

2. **PSO1 – PEO2:**Higher Education environment requires the students to be more creative and imaginative towards the engineering problems required to be solved with higher levels of learning.
3. **PSO1 – PEO3:**Promoting Industrial environment helps the students to be more competent (rather being creative and imaginative) electrical engineersemployable in fields of design, research, manufacturing, safety, quality and technical services.
4. **PSO1 – PEO4:**Design and problem solving skills more focused on the practical solutions rather being more creative and imaginative.

J14:

1. **PSO2 – PEO1:**With analytical and professional skills, students will be able to get engaged in field of research and academia.
2. **PSO2 – PEO2:**Higher education environment is must for the progress through an advanced degree, certificateprograms or participation in continuing education.
3. **PSO2– PEO3:** Industrial exposure is necessary for the students to do projects during their advanced degrees or certificate programs.
4. **PSO2 – PEO4:**With design and problem solving skills, students will be able to get engaged in the field of research and academia effectively.

J15:

1. **PSO3 – PEO1:**Professional and analytical skills are essentially required in managing the entrepreneurship and innovative activitiesefficiently.
2. **PSO3 – PEO2:**Higher education may be helpful in overall growth of an entrepreneur or an innovator.
3. **PSO3 – PEO3:**Industrial exposure helps in making one’s interest in the field of related innovativeand entrepreneurship activities.
4. **PSO3 – PEO4:**Problem solving and design skills are very much required for accomplishing innovative ideas and entrepreneurship activities effectively.

MAPPING (PEO with Mission)

Program Educational Objective	Mission				
	Quality education M1	Sound foundation M2	Constructive environment M3	Green energy M4	Framing curricula M5
1. Analytical and professional skills (PEO1)	3	3	3	2	3
2. Advanced Education (PEO2)	3	3	3	3	3
3. Industrial exposure (PEO3)	3	3	2	3	3
4. Problem solving and design skills (PEO4)	3	3	2	3	3

- 1: *Slightly related*
- 2: *Moderately related*
- 3: *Substantially related*

Justification:**J1:**

1. **PEO1 – M1:** For developing analytical and professional skills, quality education is must.
2. **PEO1 – M2:**For implementation of concepts in practice.
3. **PEO1 – M3:**For overall development,bilateral flow of ideas and knowledge are required.
4. **PEO1 – M4:**Analytical and professional skills may be required for research and development in the field of renewable energy.
5. **PEO1– M5:** Both are directly dependent.

J2:

1. **PEO2 – M1:**Quality education is a pre-requisite for higher education.
2. **PEO2 – M2:**Sound foundation promotes advance education.
3. **PEO2 – M3:**Constructive environment motivates towards higher education.
4. **PEO2 – M4:**Research in clean energy inspires to pursue higher education.
5. **PEO2 – M5:**Well defined curricula helps in pursuingthe advanced education.

J3:

1. **PEO3 – M1:**Quality Education is the backbone of all industrial activities.
2. **PEO3 – M2:**Sound foundation of concepts is the base for progressive industries.
3. **PEO3 – M3:**Student in constructive environment translates in to an excellent technocrat.
4. **PEO3 – M4:**Green energy is a trending field for engineers in industries.
5. **PEO3 – M5:** Curricula should be developed to cater the need of industries.

J4:

1. **PEO4 – M1:**Quality Education leads towards better decision making and problem solving.
2. **PEO4 – M2:**Sound foundation is a key to develop design skills.
3. **PEO4 – M3:**Problem solving becomes easier in interactive environment.
4. **PEO4 – M4:** For pollution free tomorrow, problem solving in non-conventional areas is must.
5. **PEO4 – M5:** Various techniques and practices for design should be included in curricula.

SUMMARY:

Sub-criterion	Max. Score	Obtained/ Claimed Score
1.1	5	5
1.2	5	5
1.3	15	15
1.4	15	15
1.5	10	10
Total	50	50

Marks claimed: 50 out of 50