Guru Nanak Institute of Engineering and Technology, Nagpur (M.S.)

Institute Vision and Mission:

VISION

To become a world class, globally competitive and flexible, technical and management institution, responsive to the growth of an individual, society, and the institute itself, satisfying the developmental needs of the people of Maharashtra and India.

MISSION

To educate students from all over India & other countries especially those from the local & rural areas, so that they become enlightened individuals, improving the living standards of their families, industries & the society. We will provide the world class quality education & pay serious attention towards the development of an individual for character building & the nation building.

To implement a program of education in Engineering Technology and management studies, relevant to the current needs of the industry, alive to the long term requirements and responsive to the anticipated changes and developments.

To serve as a centre for fostering the co-operation, exchange of ideas between the academicians and the research community.

To create linkages between institute, industrial community and Government organizations to promote the entrepreneurship and skill development among the students.

Principal
Guru Nanak Institute of Engineering &
Technology Nagpur- 441501

Department of Computer Science & Engineering

Department Vision and Mission:

VISION

Nurturing globally competent computer science & engineering graduates by inculcating values of research qualities and society.

MISSION

- To impart high quality professional training with an emphasis on basic principles of computer science and engineering
- To strengthen links with industry through partnerships and collaborative development works.
- To attain self-sustainability and overall development through research, consultancy and development activities.
- To make the students as for as possible industry ready to enhance their employability in the industries.
- To improve department industry collaboration through internship program and interaction with professional society through seminar/workshops.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Department of Computer Science & Engineering

PROGRAM EDUCATIONAL OBJECTIVES (PEO):

- **PEO1:** To provide the imperatives knowledge of science and engineering concepts fundamental for a computer professional and equip the proficiency of mathematical foundations and algorithmic principles for competent problem solving ability.

- **PE02:** To inculcate ability in creativity & design of computer support systems and impart knowledge and skills for analyze, design, test and implement various software applications

- **PE03:** To exhibit leadership capability, triggering social and economical commitment and inculcate community services and protect environment

- **PE04:** To provide an educational foundation that prepares computer professional for excellence, leadership roles along diverse career paths with encouragement to professional ethics and active participation needed for a successful career.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Department of Computer Science & Engineering

PROGRAM OUTCOMES (PO)

PO-1 Engineering knowledge: Apply the knowledge of mathematics, science, Computer Science and Engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO-2 Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Computer Science and Engineering.

PO-3 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.

PO-4 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 in the field of Computer Science and Engineering.

PO-5 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.

PO-6 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 Computer Science and Engineering practices.

PO-7 Environment and sustainability: Understand the impact of the professional Computer Science and Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO-8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO-9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO-10 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.

PO-11 Project management and finance: Demonstrate knowledge and understanding of the Computer Science and 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.

PO-12 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.

Department of Computer Science & Engineering

PROGRAM SPECIFIC OUTCOMES (PSO)

- **PSO1:** The Computer Science and Engineering graduates are able to gain critical understanding of hardware and software tools catering to the contemporary needs of IT industry for the development of different projects in inter-disciplinary field.

- **PSO2:** The Computer Science and Engineering graduates are able to analyze, design, develop, test and apply computational expertise, mathematical foundations and managerial skills to solve complex Engineering problems considering environmental and ethical and social issues.

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Technology Nagpur- 441501

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Principal
Guru Nanak Institute of Engineering
Technology Nagpur- 441501

Department of Electronics & Telecommunication Engineering

Department Vision and Mission

VISION

Nurturing globally competent Electronics & Telecommunication engineering graduates by inculcating values of research qualities and society.

MISSION

- To impart high quality professional training with an emphasis on basic principles of computer science and engineering
- To strengthen links with industry through partnerships and collaborative development works.
- To attain self-sustainability and overall development through research, consultancy and development activities.
- To make the students as for as possible industry ready to enhance their employability in the industries.
- To improve department industry collaboration through internship program and interaction with professional society through seminar/workshops.

Principal
Guru Nanak Institute of Engineering &
Technology Nagpur- 441501

Department of Electronics & Telecommunication Engineering

PROGRAM EDUCATIONAL OBJECTIVES (PEO):

- **PEO1:** To provide the imperatives knowledge of science and engineering concepts fundamental for a Electronics professional and equip the proficiencyof mathematical foundations and algorithmic principles for competent problem solving ability.

- **PE02:** To inculcate ability in creativity & design of computer support systems and impart knowledge and skills for analyze, design, test and implement various software applications

- **PE03:** To exhibit leadership capability, triggering social and economical commitment and inculcate community services and protect environment

- **PE04:** To provide an educational foundation that prepares computer professional for excellence, leadership roles along diverse career paths with encouragement to professional ethics and active participation needed for a successful career.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Department of Electronics & Telecommunication Engineering

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Department of Electronics & Telecommunication Engineering

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- **PSO2:** The Electronics and Telecommunication Engineering graduates are able to analyze, design, develop, test and apply computational expertise, mathematical foundations and managerial skills to solve complex Engineering problems considering environmental and ethical and social issues.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Department of Electrical Engineering

VISION

To produce globally competent technocrats in the field of electrical engineering capable of accepting challenges, serve the nation for the growth of stakeholders.

MISSION

- To transform rural and under privileged students into skilled, globally competent and ethical professionals in the field of Electrical Engineering and improving the individuals' quality of life, their family, industries and the society.

- To implement a curriculum that involves analytical tools, design techniques and efficient management principles to bridge the gap between academia, research and industry.

- To nurture their sustainability in such a way that they predict the dynamics and appropriately accommodate themselves in changing market scenario through Industry/Institute Interaction for innovation and product development.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Department of Electrical Engineering

PROGRAM EDUCATIONAL OBJECTIVES

PEO-I: Preparation: To prepare students to succeed in employment/profession and/or to pursue post graduate and research educations in Electrical Engineering discipline in particular and allied Engineering discipline in general.

PEO-II: Core Competence: To provide students with a solid foundation in mathematical, scientific and engineering fundamentals required to formulate, analyze and solve engineering problems requiring knowledge of Electrical Engineering.

PEO-III: Breadth: To prepare students with engineering breadth to innovate, design, and develop software products and to contribute in providing solutions related to multidisciplinary real life problems.

PEO-IV: Professionalism: To inculcate in students professional and ethical attitude, effective communication skills and team work to become a successful professional.

PEO-V: Learning Environment: To provide students with an academic environment that makes them aware of excellence and lifelong learning in emerging technologies.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Department of Electrical Engineering

PROGRAMME SPECIFIC OUTCOMES: UG

PSO [1]: Graduates will demonstrate their knowledge in effective implementation during their practice of profession of Electrical Engineering with due regard to environment and social concerns.

PSO [2]: Graduates will demonstrate their knowledge in analysis, design, erection and laboratory experimentation regarding Electrical Engineering.

PSO [3]: Graduates will be motivated for continuous self learning in engineering practice and pursue research in advanced areas of Electrical Engineering in order to offer engineering services to the society, ethically.

PROGRAMME SPECIFIC OUTCOMES: PG

PSO [1]: Demonstrate specialized knowledge in power electronics & power systems, its operation and control with an ability to combine existing and recent practices.

PSO [2]: Analyze and solve complex problems to obtain optimal solution in power system operation and control to meet the needs of industry and society.

PSO [3]: Demonstrate research competence in power system to design innovative products and provide services in the field of power electronics & power systems and related areas.

PSO [4]: Apply modern tools, techniques and resources to provide solutions to complex engineering problems related to power electronics & power systems.

Department of Electrical Engineering

PROGRAMME OUTCOMES: UG

PO [1]: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO [2]: Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO [3]: 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.

PO [4]: 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.

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PO [7]: 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.

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PO [12]: 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.

Department of Electrical Engineering

PROGRAMME OUTCOMES: PG

PO [1]: Acquire in-depth knowledge in the domain of power systems.

PO [2]: Ability to critically analyze various power system components, models and their operation.

PO [3]: Ability to apply fundamentals and concepts to analyze, formulate and solve complex problems of electrical power systems and its components.

PO [4]: Apply advanced concepts of electrical power engineering to analyze, design and develop electrical components, apparatus and systems to put forward scientific findings at national and international levels.

PO [5]: Ability to use advanced techniques, skills and modern scientific and engineering tools for professional practice.

PO [6]: Preparedness to lead a multidisciplinary scientific research team and communicate effectively.

PO [7]: Demonstrate and apply knowledge and understanding of engineering principles for project management.

PO [8]: To motivate exploring ideas and to encourage for independent, reflective and lifelong learning.

PO [9]: To understand the impact of engineering solutions in a global, economic, environmental and societal context.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Department of Applied Sciences & Humanities

B.Tech First Year

(Session 2022-23)

CO,PO, PSO, PEO,VISION AND MISSION OF ASH DEPARTMENT

GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur-441 501

DEPARTMENT OF FIRST YEAR ENGINEERING

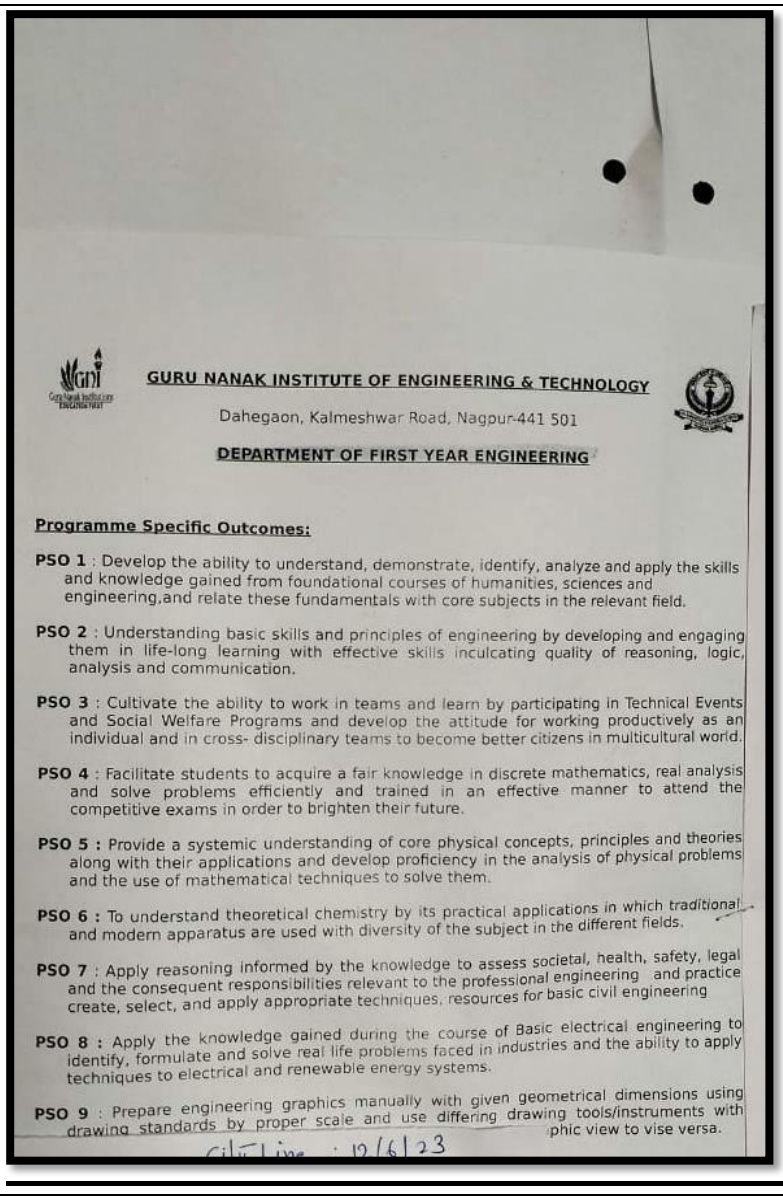
VISION

Academic excellence with total commitment to quality education, research & improvement in human values with a holistic concern for better life, environment & society.

MISSION

To Groom - Motivated, Environment Friendly, Self-esteemed, Creative and Oriented Engineers.

* Promoting Value Education through motivated trained faculty.
* Maintaining Conducive Environment for education at affordable cost.
* Promoting Industry Institute Interaction, and involving alumni.



GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur-441 501

DEPARTMENT OF FIRST YEAR ENGINEERING

Programme Specific Outcomes:

PSO 1 : Develop the ability to understand, demonstrate, identify, analyze and apply the skills and knowledge gained from foundational courses of humanities, sciences and engineering,and relate these fundamentals with core subjects in the relevant field.

PSO 2 : Understanding basic skills and principles of engineering by developing and engaging them in life-long learning with effective skills inculcating quality of reasoning, logic, analysis and communication.

PSO 3 : Cultivate the ability to work in teams and learn by participating in Technical Events and Social Welfare Programs and develop the attitude for working productively as an individual and in cross- disciplinary teams to become better citizens in multicultural world.

PSO 4 : Facilitate students to acquire a fair knowledge in discrete mathematics, real analysis and solve problems efficiently and trained in an effective manner to attend the competitive exams in order to brighten their future.

PSO 5 : Provide a systemic understanding of core physical concepts, principles and theories along with their applications and develop proficiency in the analysis of physical problems and the use of mathematical techniques to solve them.

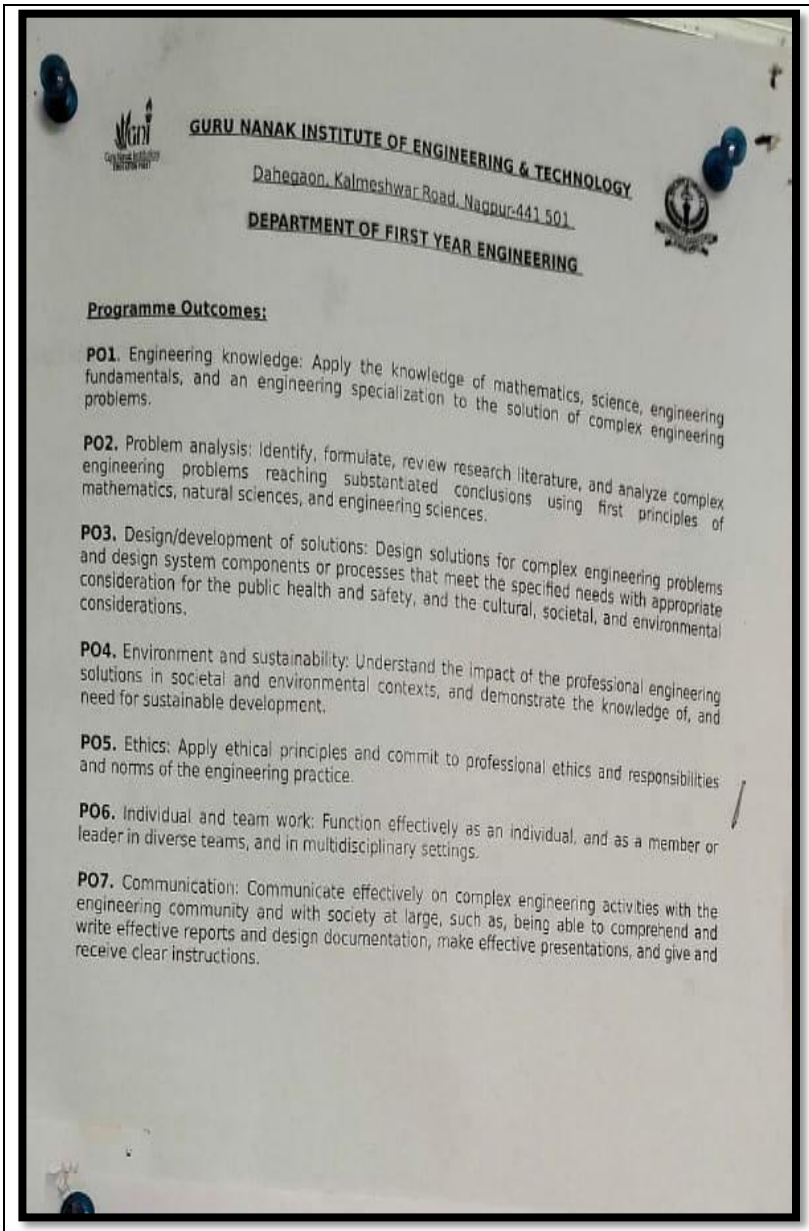
PSO 6 : To understand theoretical chemistry by its practical applications in which traditional and modern apparatus are used with diversity of the subject in the different fields.

PSO 7 : Apply reasoning informed by the knowledge to assess societal, health, safety, legal and the consequent responsibilities relevant to the professional engineering and practice create, select, and apply appropriate techniques, resources for basic civil engineering

PSO 8 : Apply the knowledge gained during the course of Basic electrical engineering to identify, formulate and solve real life problems faced in industries and the ability to apply techniques to electrical and renewable energy systems.

PSO 9 : Prepare engineering graphics manually with given geometrical dimensions using drawing standards by proper scale and use differing drawing tools/instruments with phic view to vise versa.

Circular : 12/6/23



GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur-441 501

DEPARTMENT OF FIRST YEAR ENGINEERING

Programme Outcomes:

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.

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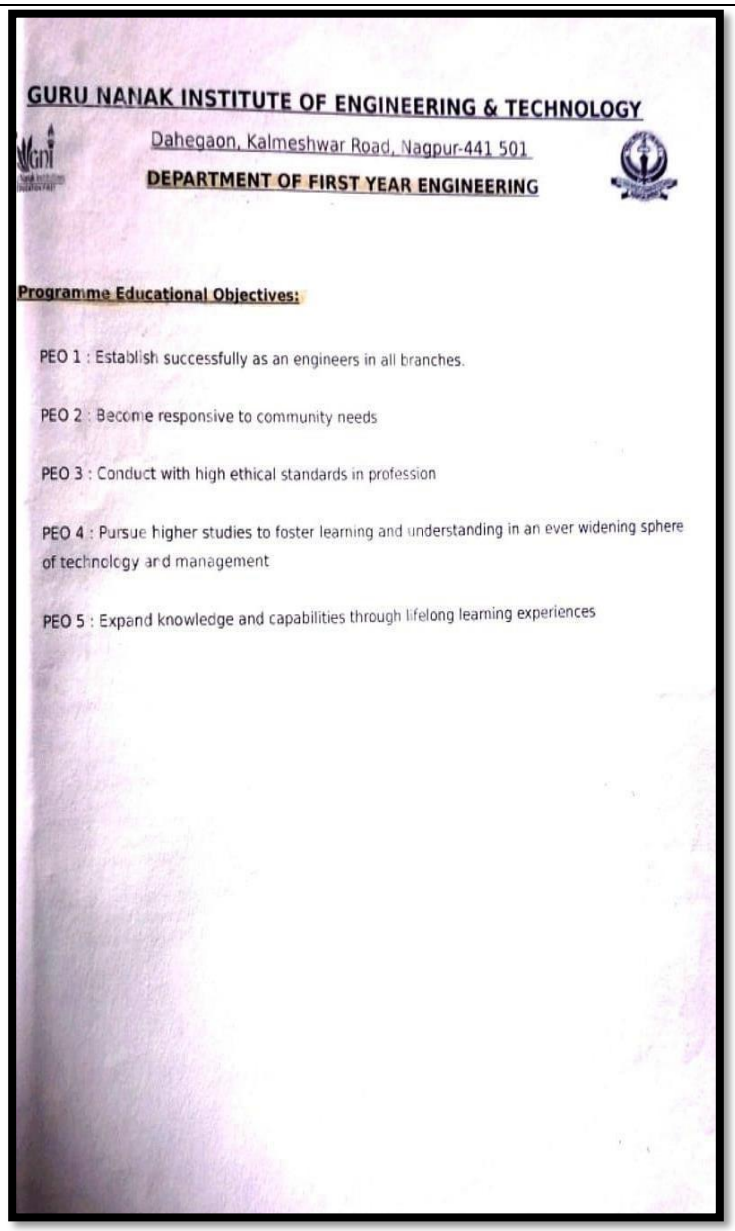

GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur-441 501

DEPARTMENT OF FIRST YEAR ENGINEERING

Programme Educational Objectives:

PEO 1 : Establish successfully as an engineers in all branches.

PEO 2 : Become responsive to community needs

PEO 3 : Conduct with high ethical standards in profession

PEO 4 : Pursue higher studies to foster learning and understanding in an ever widening sphere of technology and management

PEO 5 : Expand knowledge and capabilities through lifelong learning experiences

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501

Guru Nanak Educational Society's
GURU NANAK INSTITUTE
OF ENGINEERING & TECHNOLOGY
APPROVED BY AICTE, DTE & AFFILIATED TO RTM NAGPUR UNIVERSITY, NAGPUR
Dahegaon, Opp IOC Petrol pump, Kalmeshwar Road, Nagpur- 441501 Ph. 07118-661400
Website: www.gniet.ac.in E-mail: gnietnagpur@gmail.com

Department of Management Studies

VISION

To be recognized as a provider of learning environment that nurtures infinite potential of individuals to be future professional managers who are rooted in ethics and driven by environmental and social consciousness.

MISSION

- To nurture young individuals into knowledgeable and ethical professionals in their pursuit of Business and management studies.
- To nurture the faculty, students and expose them to world-class management practices.
- To create an environment of intellectual vibrancy and harnessing the best research and management practices.
- To develop globally competitive managers with a concern for society.

- The department endeavors to develop students into a new generation of leaders who possess love for values, ethics, truth, critical intelligence to pursue it and eloquence to articulate it.
- To encourage and facilitate Research Culture and to promote research by students and Faculty.
- To facilitate continuous up gradation and up dation of knowledge and use of technology by faculty and students.
- To enter into MOUs with Corporates and Industry Associations to promote Academia-Industry Linkages to enable Placements, internship, training etc for the students.
- To foster and strengthen relationship of Alumni with the institution.

- To introduce Job Oriented and Skill based courses.

Principal
Guru Nanak Institute of Engineering & Technology Nagpur- 441501