

## **VISION**

To emerge as a nationally recognized centre of excellence in the science and application of civil engineering, fuelled by a rigorous and dynamic academic programme nurturing research and development in cutting edge areas, with strong emphasis on Industry linkages by way of rendering state of the art consultancy services.

## **MISSION**

To impart quality civil engineering education attuned to the needs of the Industry with emphasis on practical exposure aided by well-equipped laboratories, which in turn feed a vigorous research and development programme in addition to creating capabilities for industrial consultancy.

## **PROGRAMME EDUCATION OBJECTIVES**

1. To train the students so that they can work and contribute to the infrastructure development projects being undertaken by Govt. and private or any other sector companies.
2. To train students in such a way that they can pursue higher studies and can contribute to the teaching profession/ research and development of civil engineering and other allied fields.
3. To train students in a manner that they should function effectively in the multicultural and multidisciplinary groups for the sustainable development and growth of civil engineering projects and profession.

## **INTRODUCTION**

The four years Bachelor of Technology (B. Tech.) programme in Civil engineering with batch strength of 30 students was initiated under the auspices of Guru Nanak Dev University (GNDU) Amritsar in the year 1990. During the formative years of the Development, this programme was known as B. Tech. in Structural Engineering and Construction Management. The current nomenclature was adopted when the degree programme was affiliated to the newly established Punjab Technical University, Jalandhar for the period July 1997 through October 2002. The Department has been enjoying complete academic autonomy in running its degree programme after the conferment of Deemed University status on the erstwhile Regional Engineering College with effect from October 2002.

Being the oldest engineering discipline in vogue, Civil Engineering is the father of all engineering disciplines. With such a distinguished history behind it and centuries of accumulated knowledge and skills it becomes a delicate and often onerous task while framing the course curriculum to do justice to the reservoir of knowledge inherited from the past while at the same time reconciling it to the dramatic changes brought about by the digital revolution.

While framing a dynamic and all-inclusive course curriculum emphasis has been laid on including the basic aspects of all facets of the discipline, namely, construction materials, structural analysis, structural design in steel and concrete, water resources engineering, transportation engineering, environmental engineering, surveying and geotechnical engineering. At the same time, in recognition of the importance of computer applications, course like structural analysis in particular, have been framed in such a manner as to encourage the student to exploit the potential of computers for solving engineering problems.

A strong curriculum is only one important component of the tripod of the Departments' competitiveness. The second component is a competent, well qualified and dedicated faculty and supporting staff. The Department boasts of maximum number of faculty members with PhDs' from premier institutes. The faculty reputation is enhanced by its commendable publication record and its effectiveness is complimented by trained and skilled supporting staff. The third component of relevance is a vigorous and dynamic research programme aided by well-equipped laboratories which also serve to add value to the undergraduate programme. The following broad areas of research have been identified in the Department:

- Fibre Reinforced Cementitious Composites
- High Performance Concrete / Self Compacting Concrete
- Recycling of Materials
- Geosynthetics, Reinforced Soil Systems
- Ground Improvement
- Geotechnical and Geo-Environmental Engineering
- Fatigue Behaviour of Reinforced Concrete and other Composites
- Laminated Composites and Finite Element Analysis
- Numerical Modelling and Analysis
- Earthquake Resistant Analysis and Design and Detailing of Structures
- Off shore Structures and Reliability Analysis

The Department has powerful softwares for linear as well as non-linear finite element based analysis of structures, e. g. STAAD PRO, ATENA, ANSYS, PLAXIS 3D, Geo-studio and ABAQUS. All the faculty members of the Department are actively involved in teaching, research and providing consultancy services to the construction industry. The department has also started M.Tech. Program in Structural and Construction Engineering from the academic session 2004 – 2005, whereas, Ph.D. programme was started in the year 2006.