

# STRATEGIC PLAN

## (2020-2025)



**Department of CIVIL Engineering**  
**J.C. BOSE UNIVERSITY OF SCIENCE AND TECHNOLOGY,**  
**YMCA, FARIDABAD**

*(Formerly YMCA University of Science and Technology)*

NAAC 'A' Grade accredited State University

Sector-06, Delhi Mathura Road, Faridabad -121006 (Haryana)

## 2. About Civil Engineering Department

The historical background of present J C Bose University of Science & Technology, YMCA goes back to 1969, wherein YMCA Institute of Engineering was established as a joint venture of the National Council of YMCAs of India, Govt. of Haryana, and the Central Agencies for Development Aid, Bonn, Germany.

Civil Engineering Department Established in 2018 with intake of 60 UG Students. The Department is committed to provide the quality education in the area of Civil Engineering to transform students into graduates with high professional values. The goal of department is to produce high quality technical manpower needed by industry, R&D organizations, and academic institutions and above all to meet the engineering needs of the nation.

### DEPARTMENTAL FACILITIES

The department is well equipped with the following facilities at present:

Sr. No.	Facility	Count/Details
1.	Lab	04
2.	Lecture Halls with digital boards	03
3.	Drawing Hall, Conference Hall	01
4.	Projector Rooms	02
5.	Faculty Room	03

### FACULTY PROFILE

Sr. No.	Name	Designation	Highest Qualification with year	Area of Specialization	Total Experience (years)
1	Yogesh Kumar Morya	Assistant Professor	M.Tech. (2018)	Highway Safety and Engineering	2 Years
2	Dr. Vishal Puri	Assistant Professor	Ph.D(2019)	Structural Engineering	2 Years
3	Dr. Rajni Saggu	Assistant Professor	Ph.D	Geotechnical Engineering	15 Years

## Inauguration of Civil Engineering Block on 24-07-2019



## Inauguration of Civil Lab Block 30.11.2020



### **3. VISION AND MISSION: CIVIL ENGINEERING DEPARTMENT**

#### **VISION**

“To be a centre of excellence by producing high calibre, competent and self-reliant CIVIL engineers, who possess scientific temperament and would engage in activities relevant to industries with ethical values and flair to research.”

#### **MISSION**

The CIVIL engineering department is committed to

- Provide efficient engineers for global requirements by imparting quality education with an emphasis on practical skills and social relevance.
- Explore, create and develop innovations in various aspects of engineering through industries and institutions.

## 4.Strategic Goals

### **Goal 1: Promote Equity**

#### *Objectives*

- 1.1 Align the budget and resource allocation process with the mission
- 1.2 Ensure and promote diversity in committee participation, hiring, and professional development
- 1.3 Foster cultural humility and inclusion within programs and services

### **Goal 2: Promote a collaborative institutional culture for communication, governance and decision-making**

#### *Objectives*

- 2.1 Increase understanding of and participation in the College's governance and decision-making
- 2.2 Implement assessment of governance and decision-making processes
- 2.3 Improve communication between faculty and staff
- 2.4 Improve responsiveness to student input

### **Goal 3: Offer students the highest quality curriculum and services**

#### *Objectives*

- 3.1 Increase student job placement
- 3.2 Increase numbers of GATE qualified students.
- 3.3 Increase degree completion
- 3.4 Improve course outcomes
- 3.5 Increase completion of good training in industries.
- 3.6 Improve the capacity for the development and assessment of curriculum
- 3.7 Increase the number of students with a comprehensive education plan
- 3.8 Create a seamless application, enrollment and onboarding process for new and returning students

### **Goal 4: Cultivate a culture of belonging, pride and self-reflection for continuous improvement**

#### *Objectives*

- 4.1 Ensure all the facilities are clean, safe, functioning, well-equipped, and attractive
- 4.2 Restructure current professional development activities to provide regular and ongoing professional development for all staff
- 4.3 Adopt program review and update.
- 4.4 Develop and provide a student first-year experience program to promote greater student engagement
- 4.5 Design and deliver purposeful and seamless student support

### **Goal 5: Increase awareness and access to disproportionately impacted communities**

#### *Objectives*

- 5.1 Increase the number of field engineers, industrial exposures to students
- 5.2 Develop and implement outreach strategies for targeted populations in the community
- 5.3 Grow and maintain stronger relationships with community-based organizations

## **5. Program Educational Objectives (PEO'S) & PO's**

### **Program Educational Objectives (PEO'S)**

PEO-1:

A fundamental knowledge of the basic and engineering sciences and develop mathematical and analytical skills required for civil engineering.

PEO-2:

Graduates to be equipped with practical skills and experimental practices related to core and applied areas of civil engineering to expand their knowledge horizon beyond books. This will prepare the students to take-up career in industries or to pursue higher studies in civil and interdisciplinary programs.

PEO-3:

Graduates will have improved team building, team working and leadership skills with high regard for ethical values and social responsibilities.

PEO- 4:

Civil Graduates will explore and create innovations in various aspects of engineering.

## **PROGRAMME OUTCOMES (PO'S) B.TECH. CIVIL ENGINEERING**

Engineering Graduates will be able to:

- 1) Engineering knowledge: Apply knowledge of mathematics, science, engineering fundamentals, and civil engineering to the solution of engineering problems.
- 2) Problem analysis: Identify, formulate, review literature and analyze civil engineering problems to design, conduct experiments, analyze data and interpret data.
- 3) Design /development of solutions: Design solution for civil engineering problems and design system component of processes that meet the desired needs with appropriate consideration for the public health and safety, and the cultural, societal and the environmental considerations.
- 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 civil engineering.
- 5) Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to civil engineering activities with an understanding of the limitations.
- 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 civil engineering practice.
- 7) Environment and sustainability: Understand the impact of the civil engineering solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.
- 8) Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the civil engineering practice.
- 9) Individual and team work: Function affectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings in civil engineering.
- 10) Communication: Communicate effectively on complex engineering activities with the engineering committee and with society at large, such as, being able to comprehend and write affective reports and design documentation, make effective presentations in civil engineering.
- 11) Project Management and finance: Demonstrate knowledge & understanding of the civil engineering principles 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 in civil engineering.
- 12) Life- long learning: Recognize the need for, and the preparation and ability to engage in independent research and lifelong learning in the broadest context of technological changes in civil engineering.

### **PROGRAM SPECIFIC OUTCOMES (PSOs):**

- 1) To apply practical skills, knowledge of engineering fundamentals and civil engineering, to industries and institutions.
- 2) To explore, create and develop innovations in various aspects of engineering. The student will be ready to take-up career or to pursue higher studies with high regard to ethical values and social responsibilities.

## 6. SWOC Analysis

### **Strength**

- Reputed Organization
- Good organizational knowledge

### **Weakness**

- Senior faculty guidance to be improved.
- Slow in New Technology Adoption .

### **Opportunities**

- In NCR region lot of Infrastructure development
- Consultancy and Training opportunities

### **Threats**

- Industry needs readymade sight engineers.
- Maintaining quality with fast changing technology.



## 7.Action Plan

### **For Student Community**

During 2020-25 ,the following activities will be improved every year:

- Expert Lectures : from eminent scientists, educationists, industrialists and other resource persons.
- Internship and Placement Support : Final year project internship in industries and corporate training on placement preparation and placement with reputed companies
- Exposure to modern corporate world : through seminars, workshops and techno-cultural festivals.
- Curricular and Co-curricular Activities : students will be encouraged to take part in curricular and co-curricular activities.
- Development of Leadership Qualities : Students will be encouraged to organise seminars, quiz programmes and many other such activities.

### **For Faculty**

During 2020-25 ,the following activities will be improved every year:

- Faculty Development Programmes: Faculty will be encouraged to participate in faculty development programmes both in-house and external.
- Research Facilities: Research facilities will be created to carry out research of their own interest.
- Resources: Good library support, e-books and access to e-journals.
- Encouragement to deliver guest lectures: Faculty will be encouraged to deliver guest lectures on various platforms.
- Incentives:
  - for deriving good results from students
  - for authoring text books
  - for publishing research papers
  - for delivering corporate training
  - for industrial consultancy and research work
  - awards

## **Program Action Plan**

Introduction of Ph D Program in 2021-22

Introduction of M Tech in Civil Engg. 2022-23

Project and consultancy : Continuous increase from 2020-2025

Updation of Laboratory: Continuous updation from 2020-25

Faculty Addition : Increased to 15 (04 at present) by 2025