

ANNUAL REPORT

2021-22



GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA

(An Autonomous College u/s 2 (f) and 12 (B) of UGC Act, 1956)

1. Preamble

Nankana Sahib Education Trust (NSET) was founded in memory of the most sacred and historic place Sri Nankana Sahib, the birthplace of Guru Nanak Dev Ji. The institute was conceived and developed by NSET with active support of Shiromani Gurdwara Prabandhak Committee, Punjab Government and the Panchayat of 'Gill' Village under the mission 'Removal of economic backwardness through technology'. Commitment of a new initiative - to uplift the weaker section of Rural Punjab by admitting 70% of students belonging to rural areas - was made to the Nation on 8th April, 1956, whereby foundation stone of the College building was laid by Dr. Rajendra Prasad, the first President of India. Over 37000 engineers who graduated from the College during more than 65 years of its existence have played a significant role in nation building. Many of our alumni have reached the highest echelons of industry, both at the national and international spectrum.

2. Academic Programs

At the time of inception, a Bachelor's degree course was offered in Civil Engineering but the very next year, 'Electrical Engineering' and 'Mechanical Engineering' streams were also included. Thereafter, diversified degree courses in 'Electronics & Communication Engineering', 'Production Engineering', 'Computer Science & Engineering' and 'Information Technology' were introduced to meet the changing requirements of the industry. A full-time Post-graduate course in 'Production Engineering' and Part-Time courses in other disciplines (one offered by each department) were started in the early eighties.

In the year 2019, the School of Architecture was also founded which is a 5-year Bachelors program - duly recognized by the Council of Architecture under I.K.G Punjab Technical University, Kapurthala.

Presently, the institute offers following programs:

Program Name	Sanctioned Seats
i. B.Tech. (CE/CSE/ECE/EE/IT/ME/PE)	795

ii. BCA	60
iii. BBA	60
iv. B.Arch.	40
v. M.Tech. (Struc./Geo.Tech/Env./CSE/ECE /EE/Power/Production/Industrial)	169
vi. MBA	60
vii. MCA	30
viii. Ph.D. (CE/EE/ME) - under QIP	6
Total	1220

3. Ranking/Accreditations

In view of the consistent academic and research attainments of the faculty and students, the college has been highly ranked by different sources.

- a) **NIRF 2021** - The institute was placed in the rank-band 201-250 (Engineering Colleges Category)
- b) **NIRF 2020** - The institute was placed in the rank-band 251-300 (Engineering Colleges Category)
- c) Institute ranked 3rd in Punjab and 8th in India by CSR-GHRDC Engineering Colleges Survey in 2021.
- d) Institute rated **A** by **Swayam-NPTEL** based on NPTEL Online Certification Courses

The college possesses following accreditations:

- a) **NAAC (A Grade)**

- b) B.Tech. (Information Technology) program is accredited by **NBA** under TIER-I (Washington Accord)
- c) All Undergraduate courses are accredited by IEI
- d) The institute is registered by Intertek as conforming to the requirements of ISO 9001:2015
- e) The institute is recognized as Green Campus in UI green metric ranking for the third consecutive year

4. Academic Autonomy

The College was granted academic autonomy under 2 (f) and 12 (B) of UGC Act, 1956 in the year 2012 which has been further extended till 2022-23. Thus, we take need-based independent decisions to develop and modify the syllabi, incorporate new courses, conduct examinations and prepare results independently. The degree is awarded by IKG Punjab Technical University, Jalandhar.

5. Foreign Collaborations

The college has entered into academic collaborations and exchange programmes for students and faculty with a number of foreign institutes. The MoUs in place include those with the following institutes/universities:

- a) Waikato Institute of Technology, New Zealand.
- b) Cambridge University, UK.
- c) San Jose State University, USA.
- d) UCT- the Arctic University of Norway

6. Infrastructure

- a) **Academic**

In order to provide congenial academic milieu to the students, smart class-rooms, updated labs, adequately equipped workshops, modern seminar halls, air conditioned reading rooms in the library with access to the internet, departmental computer laboratories and a central computer center form an integral part of college infrastructure. The college has Wi-Fi facility in the whole campus area.

b) Central Library

The institution has a well-established Air-Conditioned Central Library having a rich collection of over 96000 books and subscriptions to 6929 online books, 07 print journals, 26259 online journals and 54 magazines. Also, there are departmental libraries in all the departments, catering to the academic needs of students and faculty. The main library has a working area of around 1800 sq.mt. There is a separate welfare section in the library dedicated to provide books to the financially weaker sections of the students. The books are classified according to DDC 23rd latest edition through Web Dewey service. Library is fully computerized with the E-Granthalaya software package which is an integrated multi-user library management system supporting all in-house operations of the Library. E-Journals worth Rs. 50 Lac are subscribed every year. On-line public access catalog facility is available at the Reference Desk. Library collection can also be accessed through Web OPAC at any terminal on the campus network. The reference collection of the library is continuously updated and augmented with acquisition of CD-ROM databases and access to on-line databases on the Internet. Library is also connected with DELNET for inter library loan and document delivery services. Central library is all set to start Institutional Repository services with D-space digital library software. Through this service research work will be accessible easily.

c) Sports

The institution has an outdoor stadium with an attached pavilion consisting of a 400 m grassy track and a cricket pitch. The complex comprises indoor gymnasium, table tennis hall, billiard room & guest rooms. There are well maintained Hockey, Football, Badminton, Lawn Tennis playgrounds and a swimming pool for the students to develop various dimensions of personality and wellness. We provide a competitive, safe and enjoyable

atmosphere that encourages teamwork, leadership development and a life-long pattern of positive activity.

d) Residential

Apart from the newly constructed multistoried hostel with the facility of an elevator, the college has two additional hostels for boys and an exclusive hostel for girls. The facility for accommodation on the campus for teaching and non-teaching staff is also provided.

e) Cafes/Canteens

The three cafes on the campus, besides a canteen, offer a variety of snacks/eatables at affordable rates to the students and the staff.

f) Guest House

The Alumni of the college who are spread all over the globe and occupy vantage positions have pooled their resources to construct a modern and well equipped guest house in the college campus.

g) Gurudwara

Besides the intellectual stuff which is dished out to the students in class rooms and laboratories, the students are motivated to seek spiritual consolation in the holy premises of college gurdwara. The foundation stone of Gurdwara Sahib was laid by Great Sant Isher Singh Ji in 1962.

7. Faculty Detail

There are 201 faculty members who are arranged designation wise and qualification wise as shown below:

a) Current Number (Designation Wise)

<i>i.</i> Professors	16
<i>ii.</i> Associate Professors	20
<i>iii.</i> Assistant Professors	165

b) **Current Number (Qualification Wise)**

<i>i.</i> Ph.D.	64
<i>ii.</i> Post Graduate (M.Tech/MBA/MCA/Others)	137

8. **Research Activities**

a) **Research Projects**

Various research initiatives - in the areas of smart grid technology, road safety, non-conventional energy, automation, computer aided manufacturing and image processing - are currently in progress. A centre of excellence for 'road safety' has also been set up in the department of Civil Engineering.

b) **Research Publications**

Following number of research publications have been contributed by the faculty:

Year	2020	2021
Journals	101	75
Conferences	48	50

9. **Academic programs Organised**

All departments have taken initiative to hold workshops and faculty development programs. Three conferences including one international conference, twelve seminars and over thirty workshops/FDPs were organised during the last two years.

To promote the culture of entrepreneurship, eight Entrepreneurship Awareness Camps, two Entrepreneurs Development programs and one Women Entrepreneurship Development program were conducted in the last year by Science & Technology Entrepreneurs' Park (STEP), an integral part of the institute. STEP has given flip start to around twenty eight Start-ups in the last five years. Currently, fourteen number of first generation incubators are running their enterprises in the premises of STEP.

10. Academic Distinctions/Awards

a) PhD awarded

Following faculty members completed Ph.D. degrees since 2019:

Dr. Heena Malhotra, CE
Dr. Hardeep Singh Kang, CSE
Dr. Navneet Kaur, ECE
Dr. Gurpurneet Kaur, ECE
Dr. Harsimranjeet Singh Gill, ECE
Dr. Sandeep Singla, IT
Dr. Manjot Kaur, IT
Dr. Raman Kumar, ME
Dr. Deepinder Singh, ME
Dr. Amrinder Singh Pannu, ME
Dr. Chatwant Singh Pandher, ME
Dr. Ramandeep Singh Sidhu, ME
Dr. Harnam Singh Farwaha, ME
Dr. Gagandeep Kaur Lotey, Applied Science

b) Awards and recognitions

- The institute was awarded a grant of Rs. 7 Crore under the TEQIP-III scheme of MHRD, Govt. of India.
- An Indian patent has been granted to the institute for developing a technology for wire cut electrical discharge machining.

- ISTE Section Best student Award in 2021 awarded to Ms. Saloni, Mr. Vipul Sharma, Mr. Jappanjot Singh and Ms. Ruchi
- ISTE Best Teacher Award won by Dr. Raman Sehgal, ME
- Three international patents (Australian) to Dr. Arvind Dhingra, EE
- Dr. Harvinder Singh from the department of civil engineering released a book on Structural Materials, published by Springer.

11. Infrastructure and Faculty Developmental Activities

- A 500 kWp Grid connected roof top solar PV plant was installed on the main building of the campus and hostel Number 2. The plant is planned to result in a saving of Rs. 45 lacs per annum.
- New equipment to modernise the laboratories were added in Power Systems Lab and Microcontroller and PLC lab in Electrical department and in Central Workshop with the help of alumni.
- Centre of excellence for road safety in collaboration with Traffic Police, Punjab was set up in the Civil Engineering Department. Generous alumni have contributed to this endeavour.
- More than 250 faculty and staff members were sponsored to improve their skills through attending various workshops/FDPs/training programs, etc.

12. Testing and Consultancy Services

The institute has a vibrant consultancy cell that caters to the needs of government, industry and individuals. The details are as given below:

a) Consultancy Services Offered

- i.* Structural Design
- ii.* Soil Investigation
- iii.* Material Testing
- iv.* Surveying
- v.* Energy Auditing & Management
- vi.* Motor Testing

vii. Pump testing

b) Revenue Earned

The consultancy cell earned revenue of Rs. 3.23 crores by providing extensive consultancy services to various government and industrial sectors during the year 2020-21.

13. Training and Placement Record

Continuing with the excellent record of placements, the training and placement cell of the college was instrumental in getting all eligible graduates placed. More than forty companies visited the campus for recruitment and around 380 students have been placed till date. The major companies visiting the campus were Accenture, TCS, Cummins, Saint Gobain, Thermax, Trident, BYJU's, Hewlett Packard, Jaro and Zydus. The annual package offered varied from Rs.5.5 lakhs to Rs 18.0 lakhs per annum.

14. Events Organised

- a. Two weeks induction program was organised for the 2021 admission batch as per new guidelines of AICTE.
- b. Besides regular alumni meet, other meets for Silver Jubilee Batch and Golden Jubilee Batch were organised in November 2021.
- c. Students from civil and mechanical engineering departments visited 'Atal Tunnel' under YUVAK project grant from the AICTE.
- d. Over seventy events including seminars, workshops, expert talks, FDPs, training programs were organised.

15. Student Achievements

a. Academic Result

Our students have been performing consistently well in the university examinations. The overall pass percentage for the last three batches is as follows:

Batch	Pass Percentage
2015-19	76.40%
2016-20	89.80%
2017-21	94.30%

b. Recent Student Achievements at National Level

- Arjun Sharma of Batch 2014-18 of Department of Civil Engineering cleared IES conducted by UPSC by securing an all India rank of 42.

c. Extra/Co- Curricular Achievements

- Tanya Sharma and Simran Kaur Rajpal, both students of M.Tech. (Power Engineering) won first prize in national level competition organised by NITTTR, Chandigarh
- Mayank Bakshi and Puneet Singh Bedi, Students of B.Tech. (Electrical Engineering) won first prize of Rs.10000/- in energy conservation design project competition organised by Punjab Energy Development Agency (PEDA), Chandigarh
- Six teams of students from our institution participated in the National level Smart India Hackathon, 2020 event.

d. Sports

Sports have always been the strength of the institute. Sports activities are regularly conducted in both semesters every year. In the session 2019-20, prior to COVID-19, the college bagged a cash award of Rs. 2.00 lakh for winning the IKG PTU Overall combined Championship Trophy (Men & Women) that we won consecutively for the eighteenth time.

Thirty five students of our college represented IKG PTU in various tournaments at All India/North Zone Inter-varsity level in the session 2019-20 and five students in session 2021-22.

Harshveer Singh Sekhon of the business administration department won different medals at the National Road Cycling Championship held at Mumbai in March 2021, and was declared “Best Cyclist” in the same competition. Same year, he again became a medalist in the All India Track Cycling Championship held at Punjabi University, Patiala in December 2021. Currently, he is in ‘India Camp’ and is training hard for the Common-Wealth Games and Asian Championship.

The college athletic meet is an annual mega event whereby students are awarded prizes for their performance in various events. During the session 2021-22, Jappanjot (CE) and Anu Grewal (IT) were declared Best Athlete whereas Jaspinder Singh (EE) and Jaismeen Kaur Toor (B.Arch) were declared 2nd Best Athletes.

Regarding sports infrastructure development, the new Boys Gymnasium was made operational during 2020-21.

16. Student Forums/Bodies/Activities

a) NSS

Special lectures were conducted by the institute for students and staff to provide them information on constitutional obligations: values, rights, duties and responsibilities of citizens. Various national days were celebrated in the institution like Republic Day, Independence Day, Teacher’s Day, Engineer’s Day, and Constitutional Day. Year 2020 and 2021 were affected by various Lockdowns and restrictions but still college was able to celebrate on few occasions including Republic Day, International Women’s Day, Sikh Environment Day, Independence Day, Constitution Day (Samvidhan Divas) of India, Teachers’ Day, Engineers’ Day, etc.

b) NCC

The NCC Unit of the college comprises 306 cadets for Army and 35 cadets for air wing. The cadets attended the mandatory NCC Training Camps. More than a dozen cadets have qualified NCC-C Certificate which is a gateway to entry into Armed Forces in the Officer Cadre. Yoga Day was celebrated. Two ten days' camps at State level were organized in which more than 500 cadets participated. Two cadets were selected through SSB Examination for commissioning in the armed forces.

c) Students Chapters

The college has well established and vibrant students chapters of various national and college level organizations viz. IEEE, ISTE, IETE, SCIE, SAE, CSI, ACES. In addition to these, we have various clubs to hone the personality & skills of the students which include photography club and cultural club.

17. College Magazine and Newsletter

With a view to inculcate the creative writing skills of the students, the College Magazine spread over three sections in English, Hindi and Punjabi is brought out each year. It provides a platform to the students to demonstrate the art of narration of stories, anecdotes, poems and readable jokes apart from the articles bordering on technical subjects and matters of common interests to the students. Each section of the magazine has Student Editors on the board who are supervised by the senior teachers for honing the skills of the budding writers. The pictorial magazine provides graphic details about various events and activities organized by different departments/clubs/societies etc.

Besides this, every year, a newsletter capturing an admirable kaleidoscopic view of collaborative journey of strivings and accomplishments of faculty and students is released. I am delighted to announce that the latest version of college e-newsletter has been released with a new makeover. The newsletter is compiled and released using a collaborative platform GitHub. This newsletter is one such platform enabling us to showcase unswerving efforts put by our competent faculty and students while staying steadfast on their ongoing march of attaining excellence in their respective fields. To my mind, education is not just a process of giving knowledge for a future job but a lifelong process which enriches minds

and provides varied experiences that last a lifetime. GNDEC is dynamic place of learning where all endeavours are focused at transforming lives of our budding technocrats for evolving better worlds of their fulfilled dreams. The extensive list of our globally settled alumni speaks volumes about it.