SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY,
LONGOWAL, DISTRICT SANGRUR
(Deemed to be University)

DEPARTMENT OF ECE

Ref. No. ECE/539 **Date:** 23/11/26

Minutes of the Meeting (Academic Year 2025–26)

A meeting of the Academic Audit Committee for the academic year 2025–26 was held on **23.11.2026 at 11:00 AM** in the office of the Head of the Department (HoD), Electronics and Communication Engineering (ECE).

Members Present:

1. Dr. Dilip Kumar Singh, Professor and HOD (ECE)-Convener
2. Dr. Balwinder Raj, Professor (ECE), NIT Jalandhar Punjab - [External Member]
3. Dr. Indraj Singh, Associate Dean (UG & ICD) - [Member]
4. Dr. Navdeep Jindal, Professor, Coordinator (IQAC) - [Member]
5. Dr. Surinder Singh, Professor (ECE) - [Member]
6. Dr. P.K Dhiman, Professor (M&H) - [Member]
7. Dr. Major Singh, Professor (CSE) - [Member]

Proceedings of the Meeting:

The Head of the Department (ECE) warmly welcomed all the members of the Academic Audit Committee. The members were briefed about the Academic Audit Report for the academic year 2025–26, highlighting the relevant academic activities and departmental performance.

The following suggestions and observations were given by the committee members

- The committee appreciated the actions taken by the Department against the observations of the previous Academic Audit (2024–25).
- Since the report showing progressive placement trend and suggested further efforts to improve students' placement readiness through regular mentoring and assessment of students' technical and aptitude skills.
- More expert talks by industry professionals should be organised to familiarise students with emerging technologies, job opportunities and industry requirements.

- More industrial visits should be arranged to provide students with practical exposure to industries and their working environment.
- The Student–Faculty Ratio (SFR) needs improvement.
- Emphasis should be given to hands-on training through structured course programmes.
- Faculty members should be encouraged to develop digital learning materials, including lecture notes, presentations and instructional videos.

The meeting concluded with a vote of thanks to the Chair and all the members present for their valuable time and participation.

Dr. Major Singh,
Professor (CSE)
[Member]

Dr. P.K Dhiman,
Professor (M&H)
[Member]

Dr. Surinder Singh,
Professor (ECE)
[Member]

Dr. Navdeep Jindal,
Professor (FET)
[Member]

Dr. Indraj Singh,
Professor (ME)
[Member]

Dr. Balwinder Raj,
Professor (ECE),
NIT, Jalandhar
External Expert

Dr. Dilip Kumar,
HOD (ECE), Convener

Dean (Academic)

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LONOGOWAL-148106

ACADEMIC AUDIT (2025 - 2026)

PROFORMA OF ASSESSMENT

1. **Name of the Department:** Electronics and Communication Engineering
2. **Reviewer (Name, Designation & Address):**
   - Dr. Dilip Kumar Singh, Professor and HOD (ECE)-Convener
   - Dr. Indraj Singh, Associate Dean (UG & ICD)
   - Dr. Navdeep Jindal, Professor, Coordinator (IQAC)
   - Dr. Surinder Singh, Professor (ECE)
   - Dr. P.K Dhiman, Professor (M&H)
   - Dr. Major Singh, Professor (CSE)

External Expert: Dr. Balwinder Raj, Professor (ECE), NIT Jalandhar Punjab

3. **Date of Review:**

A. ACADEMICS

A.1	ICD Programme	Score	
		Self-assessment	Expert assessment
1.	Curriculum (Structure, Course Syllabi, Flexibility), Theory/ practical (contents/ratio)	10	10
2.	Equivalence and Relevance of curriculum at the national level	10	10
3.	Formal Academic Load on Students [Teaching, Laboratory/Practical, Projects(minor/major)]	10	10
4.	Evaluation Process (Continuing Evaluation and End-Term Evaluation)	10	10
5.	Tour/Training/Industrial visits/Internship opportunities provided during the year	4	4
6.	Effectiveness of Assisted Learning, Tutorial System for ICD Students/ Seminars (Refer Course File)	8	8
7.	Faculty Mentoring/Faculty Advisor System for Students/Class of Students	10	10
8.	Practical activities, non-academic and totally related to a specific trade for skill development and developing expertise in a particular group of techniques	10	10
9.	Linkage of ICD programs to outcome-based vocational education (Industry linkage)	8	8
10.	Availability of workshop-type lab/laboratory for providing hands-on training to the students for skill development	10	10
	Total Score (out of 100)	**90**	**90**

A.2	UG Programme	Score	
		Self-assessment	Expert assessment
1.	Curriculum (Structure, Course syllabi, Flexibility, Choice based credit system)	10	10
2.	Status of study material developed by faculty for students	10	10
3.	Relevance of contents of courses taught to the students and scope of improvement (revision of syllabus, addition of new experiments)	10	10
4.	Formal academic load on students [Teaching, Laboratory/Practical, Projects(minor/major)]	10	10
5.	Modern teaching methods in practice other than the conventional methods E-Assisted Learning I. Availability of Library Resources II. Multi-Media Assisted Teaching	8	8
6.	Evaluation Process (Continuing Evaluation, and End-Term Evaluation) I. Theory and tutorial II. Practical (case studies)	10	10
7.	Faculty–Student Interaction (Whether any slot is fixed for the students to interact with a teacher, after classes/labs	10	10
8.	Tour/Training/Industrial visits/Internship opportunities	8	8
9.	(a)Effectiveness of Assisted Learning in Tutorial classes/seminars for Students (b)Faculty Mentoring/Faculty Advisor System for Students/Class of Students	10	10
10.	Placement %age/higher studies options (last three years)	6	6
	Total Score (out of 100)	**92**	**92**

A.3	PG Programme	Score	
		Self-assessment	Expert assessment
1.	Curriculum (Structure, Course Syllabi, Flexibility)	10	10
2.	Formal Academic Load on Students [Teaching, Laboratory/Practical, Projects(minor/major)]	10	10
3.	Evaluation Process (Continuing Evaluation and End-Term Evaluation)	10	10
4.	Relevance of contents of courses taught to the students and scope of improvement	10	10
5.	Modern teaching methods in practice other than the conventional method E-Assisted Learning Availability of Library Resources and Major Search Engines (like Scopus, Web of Science) Multi-Media Assisted Teaching	8	8
6.	Technical Societies/ Colloquium for Students 1. Departmental Society 2. Student Chapter(s) of Professional Societies	10	10
7.	Tour/Training/Industrial visits/Internship opportunities	2	2
8.	Collaboration with other departments (within the institute)	10	10
9.	Faculty Mentoring/Faculty Advisor System for Students/Class of Students	10	10
10.	Monitoring and continuous evaluation of the project work assigned to the students (mechanism)	10	10
	Total Score (out of 100)	**90**	**90**

A.4	Doctoral (Ph.D.) Programmes	Score	
		Self-assessment	Expert assessment
1.	Intake of Ph.D. Students	04	04
2.	Admission Process	10	10
3.	Pre-Ph.D. Courses and Evaluation Process	10	10
4.	Breadth and Depth of Knowledge of Students	08	08
5.	Seminar/ Presentations and Technical Communication	10	10
6.	Research Facilities available in the Department	10	10
7.	Average No. of Research Students/Faculty	02	02
8.	Average No. of Research Papers of Ph. D. Students (Indexed Journals)	08	08
9.	Average Duration to Complete Ph.D. (years)	06	06
10.	Participation of Research Scholars in Conferences/Workshops	10	10
	Total Score (out of 100)	**78**	**78**

B. RESEARCH

B.	Research and Industrial Collaboration	Score	
		Self-assessment	Expert assessment
1.	Research Ambience in the Department	8	8
2.	Research Awareness among Doctoral Students	10	10
3.	Thrust areas of research in the department	10	10
4.	Quality of Research	10	10
5.	Collaborations with other departments (within the institute) at national and international levels.	10	10
6.	Impact and Quality of Publications	10	10
7.	Relevance of Research to Knowledge Generation and Social Relevance	10	10
8.	Student Exposure for Attending Quality Conferences/Symposia	10	10
9.	Inter-departmental collaborations	10	10
10.	Industry/externally funded sponsored research	10	10
	Total Score (out of 100)	**98**	**98**

General Comments on,

Plan of action of the department for the next five years (in view of NEP 2020)

Action Plan (Academic Standard)

The quality of teaching will be improved by:

- Promoting project-based and experiential learning through hands-on laboratory sessions and industry-supported projects
- Introducing skill-development courses leading to professional advancement.
- On Job training (OJT) will be further strengthened in the department.
- Arranging expert lectures by experienced faculty/scientists from National/International laboratories or institutes. Also, emphasize on hands-on practice by Industry experts on the latest practical trends.
- Organizing conferences, seminars, workshops and industry visits for faculty and students.
- Collaborative research, especially in the thrust areas and interdisciplinary research with other departments would be focused.
- More focus will be laid down on consultancy in thrust areas and technology transfer.
- Strengthening outcome-based education through effective COs–POs mapping, attainment analysis and continuous curriculum improvement.

Action Plan (Student Mentoring)

- Encouraging students to participate in hackathons, technical competitions, innovation activities and research projects.
- Encouraging students to develop industry-supported projects.
- Helping students to build confidence in a stress-free environment through effective counselling.
- Encouraging students to participate in competitive examinations.
- Providing guidance for higher studies, competitive examinations, internships, placements and entrepreneurship.
- Promoting student participation in interdisciplinary projects
- Constructive interaction with a mentor foractive participation of students in technical and extracurricular activities.

Short term goals

- To upgrade laboratories, strengthen skill-based learning, and teaching infrastructure.
- Technical Knowledge/ skills upgradation of faculties, staff, and students through STCs/workshops.
- Enhancement in industrial interaction and collaborations.

Long term goals

- To procure specialized/high-end equipment for existing and new developed labs.
- Strengthen precision agriculture initiatives through skill development addressing nation priorities in rural development and social impact.

1. **Significant achievements of the department (faculty/Staff/Students)**
   The department has been awarded NBA accreditation. Also, the institute has been accredited with NAAC A grade. Dr. Dilip Kumar, Professor (ECE), and Dr. Surinder Singh, Professor (ECE) have been recognized as among the top 2% of scientists in the world, according to a Stanford University survey.

2. **Project funding details**
   - Externally funded research project grant of Rs. 57.23 Lacs for a duration of 3 years titled as "Design and Development of Safer Capsule Endoscopic Devices Assisted by Low SAR, Biocompatible Conformal Microstrip Patch Antenna Sensor" by ANRF, New Delhi under IRG research program. Chief Investigator: Prof. Surinder Singh.
   - Externally funded research project grant of Rs. 90.88 Lacs for a duration of 3½ years by the Ministry of Electronics and Information Technology (MeitY), New Delhi, under the Chips to Start-up (C2S) program. Chief Investigator: Prof. J S Ubhi and Co-Chief Investigator: Prof. Surinder Singh.
   - Externally funded research project grant of Rs 23.22 Lacs for the duration of 3 years by Science & Engineering Research Board (SERB), New Delhi, titled "Design and Development of Noble C-Band Parametric Optical Frequency Comb Generator to Realize Backbone Optical Transport Network for 6G Communication". PI: Prof. Surinder Singh, ECE Department, Co-PI: Prof. J.S. Ubhi.

3. **Placement record of the department (Last three years).**
   The number of students placed in 2023-24 is 14/70
   The number of students placed in 2024-25 is 24/64
   The number of students placed in 2025–26 is 44/60.

4. **Scope for the training of faculty/staff to further strengthen the teaching-learning process and the curriculum by adding new courses relevant to National and international levels.**
   - Encourage faculty members to attend FDPs, workshops, seminars, conferences and training programmes to update their knowledge and skills.
   - Motivate faculty to use interactive teaching, practical examples, ICT tools and project-based learning to make classroom teaching more effective.
   - Provide opportunities for faculty and technical staff to improve their technical skills and learn the proper use, maintenance and handling of laboratory equipment.
   - Encourage faculty and students to make use of platforms such as SWAYAM, NPTEL and other online learning resources.

5. **Effective/Continuous monitoring of faculty/staff in delivering the course contents (at the departmental level) to enhance the teaching-learning process.**

To implement it in the ECE department, suggestions are regularly invited from the stakeholders like faculty members and industry persons regarding revisions in the syllabus, COs-POs mapping, attainment, etc. Changes suggested by the students, if any, are also taken into consideration. Based on the suggestions received, matters are discussed in the DAAC meeting, and minutes are recorded and forwarded to the HOD(ECE) for further consideration in the Board of Studies (BoS).

6. **Technical Societies/ Colloquium for Students**

- Electronics Society
- Student Chapter(s) of Professional Societies (IEI and IEEE)
- Participation in technical activities, interdisciplinary projects, innovation initiatives, hackathons and project competitions organised through the Mavericks Group and IIC, SLIET.

7. **Scope of improvement in the present teaching-learning process (Keywords: interactive pedagogy**

- Teaching-learning process can be further enhanced by delivering interactive videos related to fundamental as well.
- Case studies can be included in the curriculum.
- Industrial visits can be more effectively utilized for identifying research projects and consultancy.

8. **Strengthening laboratory infrastructure (adding new equipment and using of present facility for optimum use)**

To augment the existing lab infrastructure, new hardware and software equipment are procured from time to time. The lab equipment for potential areas, including IOT applications and 5G wireless communications, has been procured in the department. TaraNG software, SYNOPSIS Tools, and EDA Tools (Siemens and Cadence) for UG and PG students have also been purchased under the MAKE IN INDIA mission. Also, for UG project lab specifically various hardware equipment has also been procured.

Also, recently the fire extinguishers have been refilled to meet the safety needs of the lab. In the recent financial year, for each lab fresh consumable has also been procured.

C. DEPARTMENTAL INFRASTRUCTURE

C.	Departmental infrastructure	Score	
		Self-assessment	Expert assessment
1.	Adequacy of Classrooms and Multi-Media Facility	10	10
2.	Availability of Laboratories	10	10
3.	Availability of Conference/Seminar Room, etc.	9	9
4.	Availability of Seating Space for Faculty and Research Students	10	10
5.	Availability of Internet Services in Research Labs and Classrooms	10	10
6.	Departmental Library and E-Resources	10	10
7.	Computing Facilities and Software	10	10
8.	Adequacy of Offices and Furnishing for Faculty	10	10
9.	Faculty- Student Ratio	6	6
10.	Support Staff (Technical/Administrative) Adequacy	7	7
	Total Score (out of 100)	**92**	**92**

SWOT Analysis by the Department

Strength:

1. Experienced, Dedicated, and highly qualified faculty in specialized areas with a good number of publications in reputed journals (SCI-indexed).
2. Department graduates excel in prestigious positions and make meaningful contributions to nation-building.
3. Strong research environment with significant achievements in sponsored research projects, publications, patents, and doctoral research.
4. Well-established laboratories and research facilities in VLSI, optoelectronics, embedded systems, broadband communication, microwave engineering, and related areas.
5. MoUs with Industry, research institute for dissemination of knowledge and use of their research facilities.
6. Active student participation in interdisciplinary projects through the Mavericks Group and various hackathons organised by the Institution's Innovation Council (IIC), SLIET.
7. Smart classrooms, multimedia teaching facilities, departmental library and internet connectivity supporting effective teaching and learning.
8. Active professional student chapters, including IEEE and IEI, providing opportunities for technical learning and professional development.
9. Availability of research fellowships and financial assistance schemes such as QIP, ADF, Visvesvaraya Ph.D. and PDF Schemes and grant-in-aid.
10. Successful execution of externally funded research projects supported by agencies such as ANRF, AICTE, MeitY and other funding organisations.
11. Academic outreach with foreign Universities/ Institutes.
12. Student diversity (cultural and technical programs).

Weakness:

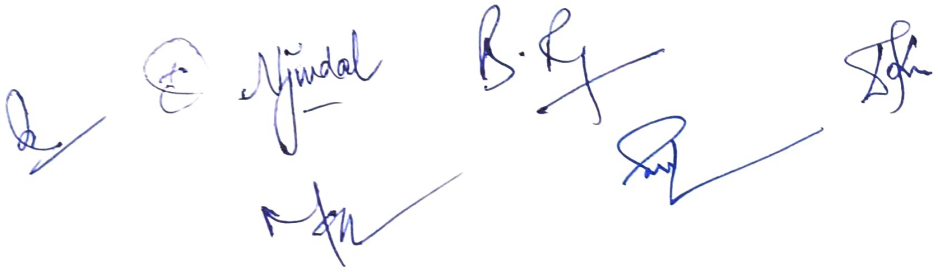
1. Limited consultancy activities and industry-sponsored projects.
2. Limited Industrial visits.
3. Faculty–student ratio needs further improvement to strengthen individual mentoring and academic interaction.
4. Limited entrepreneurial activities and startup initiatives among students.

Opportunities:

1. To strengthen industry–institute collaboration through internships, industrial training, consultancy and sponsored projects.
2. To establish Centres of Excellence in emerging areas.
3. To promote innovation, entrepreneurship and startup activities
4. To explore sponsored research and consultancy opportunities from national funding agencies and industries.

5. Launch formal and informal courses in Precision Agriculture to equip students with cutting-edge skills in sensor-based farming, drone analytics, and data-driven crop management.
6. To initiate research projects in Semiconductor and chip design to contribute national initiatives such as India Semiconductor Mission and Make in India.

Threats: Low admission in PG Program.



D. Outcomes

	Placement/ higher studies/ Publications/ Consultancy, Ph.D. awarded etc.	Score	
		Self-assessment	Expert assessment
1.	i. Placements for ICD ii. Placement of B.Tech. iii. Placement of M.Tech. Students iv. Placement of Ph. D. Students	9.5	9.5
2.	Average No. of Ph.Ds Awarded per Year	9	9
3.	Publications per Faculty in Indexed Journals/Year (Average of last three years)	10	10
4.	Average Citations per Faculty/Year (Last-Three Years) (Web of Science/Scopus)	10	10
5.	Recognitions; Awards (National/International) to Faculty/Students	8	8
6.	Consultancy and Externally Funded Projects	10	10
7.	No. of Ph.D. graduates who took Academics as Career (Last 5 Years)	10	10
8.	Students offered for higher studies	4	4
9.	No. of qualified students NET/GATE/CAT etc (State/Central Civil Services)	8	8
10.	Entrepreneurship	2	2
	Total Score (out of 100)	**80.5**	**80.5**

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LONOGOWAL-148106

ACADEMIC AUDIT (2025 - 2026)

SUMMARY SHEET

1.	Name of the Department	Electronics and Communication Engineering	
2.	Name of Reviewer Designation & Address	**From Academia**	**From Industry**
		• Dr. Dilip Kumar Singh, Professor and HOD (ECE)- Convener • Dr. Indraj Singh, Associate Dean (UG & ICD) • Dr. Navdeep Jindal, Professor, Coordinator (IQAC) • Dr. Surinder Singh, Professor (ECE) • Dr. P.K Dhiman, Professor (M&H) • Dr. Major Singh, Professor (CSE) **External Expert: Dr. Balwinder Raj, Professor (ECE), NIT Jalandhar Punjab**	
3.	Date of Meeting	23.11.2026	

Score Summary							
Academics (A)				Research (Max Score 100) (B)	Departmental Infrastructure (Max Score 100) (C)	Outcome (Max Score 100) (D)	Total Score (700) (A+B+C+D)
ICD Programme (Max Score 100) (A.1)	UG Programme (Max Score 100) (A.2)	PG Programme (Max Score 100) (Average of all PG programs) (A.3)	Doctoral Programme (Max Score 100) (A.4)				
90	92	90	78	98	92	80.5	620.5

23/11/2026

Dr. Dilip Kumar
HOD (ECE)

Action Taken by the Department against the Observations of the Academic Audit (2024–25)

Observations	Action Taken by the Department
The Committee appreciated the actions taken by the Department as suggested in the previous Academic Audit 2023–24 and advised continuing these efforts.	The Department has duly acknowledged and acted upon the recommendations of the previous Academic Audit Committee (2023–24). Significant efforts have been made to enhance teaching–learning practices, upgrade laboratory infrastructure in progress, and expand student-centric initiatives. These measures reflect the Department's continued commitment to quality enhancement, academic excellence, and the effective implementation of outcome-based education.
The curriculum must be updated as per NEP-2020 and should be outcome-based.	The revision of the UG curriculum is in progress to align it with NEP-2020 and outcome-based education. The revised curriculum incorporates contemporary courses such as Embedded System Design, Intelligent Systems and Networks, AI and Applications, AI-Powered Computer Vision, and Internet of Things.
The UG syllabus needs to be modified to meet the latest requirements of the electronics and communication industry.	The revision of the UG curriculum is currently underway, with a strategic focus on emerging technologies, evolving industry demands, and the development of industry-ready competencies. Upon completion, the revised curriculum will be placed before the Board of Studies (BoS) for consideration and approval.
Furniture procurement for departmental infrastructure must be expedited to ensure that laboratories and offices are fully functional and utilised to their maximum capacity.	Furniture has been procured for the Wireless and IoT Laboratory. Furniture procurement for the upgradation of other laboratories is in progress.
Procurement of state-of-the-art software and equipment must also be expedited to enhance the Department's infrastructure facilities.	A PCB design and fabrication machine, Computer Networking Workstation and 5G VoLTE Smart Phone Training System etc. has been procured to strengthen practical learning and technical skills. Procurement of additional standard software and modern laboratory equipment is in progress.

23/11/2026