

संत लौंगोवाल अभियांत्रिकी एवं प्रौद्योगिकी संस्थान

(शिक्षा मंत्रालय, भारत सरकार के अधीन सम विश्वविद्यालय)

लौंगोवाल, जिला संगरूर, पंजाब - १४८१०६



Sant Longowal Institute of Engineering and Technology

(Deemed-to-be-University under Ministry of Education, Government of India)

Longowal, District Sangrur, Punjab – 148106

Department of Mechanical Engineering

Ref. No. SLIET/ME/ 1193

Date : 04/Nov/2025

From : HOD (ME)

To : Dean (Academics)

Subject : Submission of Academic Audit for Academic Year 2024-25 -regarding.

Please refer to letter with Ref. No. SLIET/REG/2025-26/5501 dated 16.10.2025 on the subject cited above, please find enclosed herewith complete Academic Audit (2024-25) proforma containing score of self-assessment as well as expert assessment.

[Signature]
04/11/2025
HOD (ME)
- R

Encl: As above.

Copy to :

1. Coordinator, IQAC: for information, please.
2. File copy

"Proud To Be Part of Team SLIET"

LONGOWAL, DISTRICT. SANGRUR-148106 (PUNJAB), INDIA PHONE No. :+91-1672-253123, 253124

लौंगोवाल, जिला: संगरूर- 148106 (पंजाब), भारत, दूरभाष सं: + 91-1672-253123, 253124

SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY
(Deemed-to-be-University Under MoE, Govt. of India)
LONOGOWAL-148106

ACADEMIC AUDIT (2024 - 2025)

PROFORMA OF ASSESSMENT

1. Name of the Department: Mechanical Engineering
2. Reviewer (Name, Designation & Address): Prof. Pulak Mohan Pandey, Professor (HAG), Department of Mechanical Engineering, Indian Institute of Technology, New Delhi.
3. Date of Review: 04-11-2025

NOTE:

- Please grade in the box provided for the following parameters in the range of 1-10 with 10 being the highest.
- Leave 'blank' for 'No Comment'.
- Kindly give your opinion on the strength and weakness of the Department and your suggestions for future growth.

A. ACADEMICS

A.1	ICD Programme	Score	
		Self-assessment	Expert assessment
1.	Curriculum (Structure, Course Syllabi, Flexibility), Theory/ practical (contents/ratio).	10	08
2.	Equivalence and Relevance of curriculum at national level	10	08
3.	Formal Academic Load on Students [Teaching, Laboratory/Practical, Projects(minor/major)]	10	09
4.	Evaluation Process (Continuing Evaluation, and End-Term Evaluation)	10	08
5.	Tour/Training/Industrial visits/Internship opportunities provided during the year	10	08
6.	Effectiveness of Assisted Learning, Tutorial System for ICD Students/ Seminars (Refer Course File)	10	09
7.	Faculty Mentoring/Faculty Advisor System for Students/Class of Students	10	08
8.	Practical activities, non-academic and totally related to a specific trade for skill development and <i>developing expertise in a particular group of techniques.</i>	08	07
9.	Linkage of ICD programs to outcome based vocational education (industry linkage)	10	07
10.	Availability of workshop type lab/laboratory for providing hand on training to the students for skill development	10	09
	Total Score (out of 100)	98/100	81/100

Prof. R.K. Saxena (ME)

Prof. C. S. Riar, Asst (Research)

Prof. P. Kumar (FET)

Registrar, SLIET

Prof. Jagtar Singh (ME)

Prof. P.M. Pandey (HAG)
IIT, Delhi; External Expert

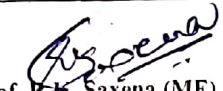
Prof. P.K. Jain (M&H)

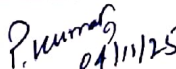
Prof. Shankar Singh
HOD (ME) & Convener

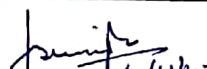
Academic Audit Proforma of Assessment

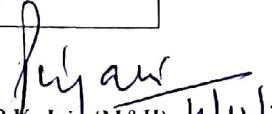
A.2	UG Programme	Score	
		Self-assessment	Expert assessment
1.	Curriculum (Structure, Course syllabi, Flexibility, Choice based credit system)	10	09
2.	Status of study material developed by faculty for students	10	09
3.	Relevance of contents of courses taught to the students and scope of improvement (revision of syllabus, addition of new experiments)	10	08
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	10	08
6.	Evaluation Process (Continuing Evaluation, and End-Term Evaluation) (i) Theory and tutorial (ii) Practical (case studies)	10	09
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	10	07
9.	(a) Effectiveness of Assisted Learning in Tutorial classes/seminars for Students (b) Faculty Mentoring/Faculty Advisor System for Students/Class of Students	10	08
10	Placement %age/higher studies options (last three years)	10	09
	Total Score (out of 100)	100/100	87/100

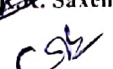
A.3	PG Programme (Separate for each programme)	Score	
		Self-assessment	Expert assessment
1.	Curriculum (Structure, Course Syllabi, Flexibility)	10	08
2.	Formal Academic Load on Students [Teaching, Laboratory/Practical, Projects(minor/major)]	10	09
3.	Evaluation Process (Continuing Evaluation, and End-Term Evaluation)	10	08
4.	Relevance of contents of courses taught to the students and scope of improvement	10	07
5.	Modern teaching methods in practice other than the conventional method: E-Assisted Learning i. Availability of Library Resources and Major Search Engines (like Scopus, Web of Science)	10	09

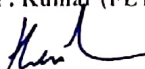

Prof. P.K. Saxena (ME)

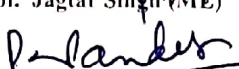

Prof. P. Kumar (FET)

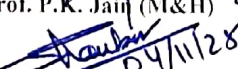

Prof. Jagtar Singh (ME)


Prof. P.K. Jain (M&H) 4/11/25


Prof. C. S. Riar, AsD (Research)


Registrar, SLIET


Prof. P.M. Pandey (HAG)
IIT, Delhi; External Expert


Prof. Shankar Singh
HOD (ME) & Convener

Academic Audit Proforma of Assessment

	ii. Multi-Media Assisted Teaching		
6.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	---	
7.	Tour/Training/Industrial visits/Internship opportunities	---	
8.	Collaboration with other departments (within institute)	---	
9.	Faculty Mentoring/Faculty Advisor System for Students/Class of Students	10	08
10.	Monitoring and continuous evaluation of the project work assigned to the students (mechanism)	10	09
	Total Score (out of 100)	70/70 100/100	58/70 83/100

A.4	Doctoral (Ph.D.) Programmes	Score	
		Self-assessment	Expert assessment
1.	Intake of Ph.D. Students	08	07
2.	Admission Process	10	09
3.	Pre-Ph.D. Courses and Evaluation Process	10	09
4.	Breadth and Depth of Knowledge of Students	08	06
5.	Seminar/ Presentations and Technical Communication	10	09
6.	Research Facilities available in the Department	10	08
7.	Average No. of Research Students/Faculty	---	--
8.	Average No. of Research Papers of Ph. D. Students (Indexed Journals)	10	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)	82/90 91/100	72/90 80/100

B. RESEARCH

B.1	Research and Industrial collaboration	Score	
		Self-assessment	Expert assessment
1.	Research Ambience in the Department	10	08
2.	Research Awareness among Doctoral Students	10	09
3.	Thrust areas of research in the department	10	07
4.	Quality of Research	10	08
5.	Collaborations with other departments (within the institute) and at National, and international levels.	10	08
6.	Impact and Quality of Publications	10	09
7.	Relevance of Research to Knowledge Generation and Social Relevance	10	08
8.	Student Exposure for Attending Quality Conferences/Symposia	10	08
9.	Inter departmental collaborations	10	08
10.	Industry/externally funded sponsored research. (Numbers and amount)	--	---
	Total Score (out of 100)	90/100	73/90 81/100

Prof. V.R. Saxena (ME)

Prof. P. Kumar (FET)

Prof. Jagtar Singh (ME)

Prof. P.K. Jain (M&H)

Prof. C. S. Riar, AsD (Research)

Registrar, SLIET

Prof. P.M. Pandey (IITG)
IIT, Delhi; External Expert

Prof. Shankar Singh
HOD (ME) & Convener

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

- Skill development courses may be planned and collaborated as per the industry requirement.
- Setting up of few "Centers of Excellence" in (i) Materials processing & Characterization (ii) Material testing & Evaluation Centre, will be proposed.
- More emphasis on software training modules on Software like Auto-CAD, ANSYS, Solid works, Pro-E, CATIA etc.
- Faculty will be motivated to plan & propose externally funded/Sponsored research projects.
- More National conferences have been planned and more would be planned.
- Five STTP/FDP courses have been conducted in 2024-2025 & three are planned in FY 2025-2026** STC, with an aim to plan and organize Workshops/Seminars (at least twice every year).
- More Collaborative research especially in the thrust areas would be focused.
- Interdisciplinary research with other departments would be planned with special focus on UG projects, PG thesis and Ph. D.

2. Significant achievements of department**a. Patents filed/granted/published**

Name of Faculty	Patent/ application Number	Title of the patent	Year of Award of patent	Date of filing/ granting / publishing /licensing	Status of Patent (Filed/ Granted/ Published/ licensed)
Dr. Sumit Kumar, Dr. Vivek Kumar AsP, Dr. Surinder Kumar AP, Dr. Sunil AsP, Karan Singh (Student), Gurdeep Singh (Student), Harshpreet Singh (Student), Ritik Bansal (Student)	202511038621	RETROFIT ATTACHMENT FOR CONVERTING BICYCLE TO E- CYCLE- Technical Patent	--	Date of Filing: 22.04.2025	Published
Prof. Dhiraj Sud, Prof. Jagtar Singh, Dr. Anil Kumar Singla, Payal Malik, Dr. Anuj Bansal, Prof. Mani Kant Paswan, Pankaj Jain (Verbio India Private Limited, Lehragaga))	461333-001	DEVICE FOR LIQUID EXTRACTION FROM AGRIWASTE	--	Date of Filing: 05.06.2025	Filed
Dr. Sumit Kumar AP, Dr. Vivek Kumar AsP, Dr. Surinder Kumar, Dr. Sunil AsP, Aditya Raj (Student), Adarsh Kumar (student), Ankit Kumar (student), Rudra Kasoudhan (Student)	461411-001	AUTONOMOUS SOLAR GRASS CUTTER CLASS- Design Patent	--	Date of Filing: 06.06.2025	Filed

b. Conferences/ Seminars Organized by the department.

S No	Name of the program	Duration	No of participants	Sponsoring Agency, if any	Name of Organizer (s)
1.	Faculty Development Program (FDP) on "Advanced Functional Materials 2024:	29th July 2024 to 09th August 2024	147	SLIET Longowal	Chairperson: Prof. Shankar Singh, HOD (Mechanical) Coordinators: Dr. Harish Arya

Prof.  (ME)

Prof. P. Kumar (FET)

Prof. Jagtar Singh (ME)

Prof. P.K. Jain (ME)

Prof. C. S. Riar, AsD (Research)

Registrar, SLIET

Prof. P.M. Pandey (HAG)
IIT, Delhi; External ExpertProf. Shankar Singh
HOD (ME) & Convener

Academic Audit Proforma of Assessment					
	Current Research and Innovations"				(Mechanical), Dr (Ms) Subita Bhagat (Chemical)
2	Short Term Training Programme (STTP) Cum Faculty Development Programme (FDP) on MATLAB Programming and Applications in Engineering	23 rd September to 30 th September 2024	97	SLIET Longowal	Dr. R.K. Saxena, Dr. Mohd. Majid
3	Faculty Development Program (FDP) on Outcome-Based Education (OBE 2024)	21st October-25th October 2024	103	SLIET Longowal	Chairperson: Prof. Shankar Singh, HOD (Mechanical) Coordinators: Dr Sunil Kumar, Er. Jonny Singla
4	One-week Faculty Development Program (FDP) on "Emerging Advancements in Electric Vehicle Technology (EAEVT-2025)"	29th January to 31st January 2025	95	SLIET Longowal	Chairperson: Prof. Shankar Singh, HOD (Mechanical) Coordinators: Dr Vivek Kumar, Dr Sumit Kumar
5	One-week Faculty Development Program (FDP) on "Additive Manufacturing and Material Characterization (AMMC-2025)"	24th February to 28th February 2025	104	SLIET Longowal	Chairperson: Prof. Shankar Singh, HOD (Mechanical) Coordinators: Dr. Anil Kumar Singla, Dr. Anuj Bansal, Co-coordinator Er. Jonny Singla

c. Training programmes held for students

S No	Name of the program	Duration	No of participants	Sponsoring Agency if any	Name of Organizer (s)
1.	AutoCAD and Pro/ENGINEER (Pro/E) for UG Students'15-days Training Program	5-20 June, 2025	17	SLIET, Longowal	Chairperson: Prof. Shankar Singh, HOD (Mechanical) Coordinator Prof. R. K. Saxena, Co-coordinator Dr Sunil Kumar

d. Expert/ Invited lectures delivered

S. No.	Name of faculty member	Topic of delivered lecture/ expert lecture	Event Name	Organizer	Date/ Year of the event
1	Dr. Sunil Kumar	Industry 4.0	SV Polytechnic college Bhopal MP	SV Polytechnic College Bhopal	4/10/2024
2	Divesh Bharti	Kinematics of Mechanisms and	Rajiv Gandhi Govt. Engineering College	Department of Mechanical	21/10/2024

Prof. R.K. Saxena (ME)

Prof. P. Kumar (FET)

Prof. Jagtar Singh (ME)

Prof. P.K. Jain (M&H)

Prof. C. S. Riar, AsD (Research)

Registrar, SLIET

Prof. P.M. Pandey (HAC)
IIT, Delhi; External Expert

Prof. Shankar Singh
HOD (ME) & Convener

Academic Audit Proforma of Assessment

		machines	(RGGEC) Kangra at Nagrola Bagwan	Engineering RGGEC, Kangra.	
3	Dr. Sunil Kumar	Role of Blooms Taxonomy in OBE	FDP on OUTCOME-BASED EDUCATION (OBE-2024)	Department of Mechanical Engineering, SLIET, Longowal.	21 st to 25 th October 2024
4	Dr Anuj Bansal	Attainments calculation for OBE: Case study	FDP on OUTCOME BASED EDUCATION (OBE 2024) conducted by the Department of Mechanical Engineering, SLIET, Longowal	Department of Mechanical Engineering, SLIET, Longowal.	21st to 25th October 2024
5	Dr. Sumit Kumar	CNC Technology	SV Polytechnic college Bhopal MP	SV Polytechnic college Bhopal	11/11/2024
6	Dr. Sumit Kumar	CNC M/Cs and its operations	SV Polytechnic college Bhopal MP	SV Polytechnic college Bhopal	16/11/2024
7	Dr. Surinder Kumar	CNC M/Cs and its operations	SV Polytechnic college Bhopal MP	SV Polytechnic college Bhopal	16/11/2024
8	Dr Anuj Bansal	Direct and Indirect attainment of COs and POs	AICTE Recognized National Level ONLINE Faculty Development Programme (FDP) on 'OUTCOME BASED EDUCATION AND ACCREDITATION PROCESS' organized by Curriculum Development Centre of National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh	Curriculum Development Centre of National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh	November 24-29, 2024
9	Dr. Sunil Kumar	CNC Programming	SV Polytechnic College Bhopal MP	SV Polytechnic College Bhopal	29/11/2024
10	Dr. Sunil Kumar	Robotics in Industry 4.0	SV Polytechnic College Bhopal MP	SV Polytechnic college Bhopal	14/12/2024
11	Prof. Shankar Singh	Advanced Composite for Electric Vehicles	One Week Faculty Development Program (FDP) on EMERGING ADVANCEMENTS IN ELECTRIC VEHICLE TECHNOLOGY (EAEVT 2025) (Hybrid Mode) held at SLIET, Longowal.	Department of Mechanical Engineering, SLIET, Longowal.	27th - 31st January 2025
12	Dr. Vivek Kumar	Modeling Electric Vehicle Using Bond Graph	One Week Faculty Development Program (FDP) on EMERGING ADVANCEMENTS IN ELECTRIC VEHICLE TECHNOLOGY (EAEVT 2025) (Hybrid Mode) held at SLIET, Longowal.	Department of Mechanical Engineering, SLIET, Longowal.	27th - 31st January 2025
13	Er. Jonny Singla	Practical Sessions-I on WAAM-CMT	One-week Short Term Training Programme (STTP) in online mode on Additive Manufacturing and Material Characterization (AMMC-2025) organized by the Department of Mechanical Engineering, SLIET Longowal	Department of Mechanical Engineering, SLIET, Longowal.	24-28 February 2025

Prof. P.K. Saxena (ME)

Prof. P. Kumar (FET)

Prof. Jagtar Singh (ME)

Prof. P.K. Jain (M&H)

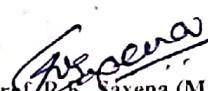
Prof. C. S. Riar, AsD (Research)

Registrar, SLIET

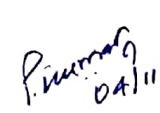
Prof. P.M. Pandey (HAG)
IIT, Delhi; External ExpertProf. Shankar Singh
HOD (ME) & Convener

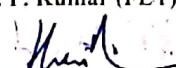
Academic Audit Proforma of Assessment

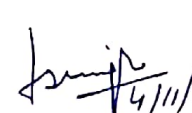
14	Dr. Sunil Kumar	Robotics and Additive Manufacturing	Govt. Polytechnic College, Jammu - J&K	SPoC, CIIT Jammu and Kashmir	25th February 2025
15	Dr. Anuj Bansal	Challenges in Development of Aluminium and Titanium Components using WAAM	One-week Short Term Training Programme (STTP) in online mode on Additive Manufacturing and Material Characterization (AMMC-2025) organized by the Department of Mechanical Engineering, SLIET	Department of Mechanical Engineering, SLIET, Longowal.	24-28 February 2025
16	Dr. Sumit Kumar	Project Writing	Project Execution: Conceptualization, Presentation and Report Writing (PECPRW-2025)	Department of Mechanical Engineering, SLIET, Longowal.	28/04/2025
17	Er. Divesh Bharti	Goal Report	Project Execution: Conceptualization, Presentation and Report Writing (PECPRW-2025)	Department of Mechanical Engineering, SLIET, Longowal.	28/04/2025
18	Dr. Sunil Kumar	Goal Report	Project Execution: Conceptualization, Presentation and Report Writing (PECPRW-2025)	Department of Mechanical Engineering, SLIET, Longowal.	28/04/2025
19	Dr. Sunil Kumar	Robotics	UGC-Malaviya Mission Teacher Training Centre Guru Ghasidas Vishwavidyalaya	MMTTC, GGV, Bilaspur	21/05/2025
20	Dr. Sunil Kumar	Industry 4.0	UGC-Malaviya Mission Teacher Training Centre Guru Ghasidas Vishwavidyalaya	MMTTC, GGV, Bilaspur	21/05/2025
21	Dr. Sunil Kumar	Robotics	UGC-Malaviya Mission Teacher Training Centre Guru Ghasidas Vishwavidyalaya	17th FACULTY INDUCTION PROGRAMME (FIP) programme	09/06/2025
22	Dr. Sunil Kumar	Industry 4.0	UGC-Malaviya Mission Teacher Training Centre Guru Ghasidas Vishwavidyalaya	18th FACULTY INDUCTION PROGRAMME (FIP) programme	9/6/2025

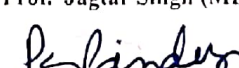

Prof. R.K. Saxena (ME)

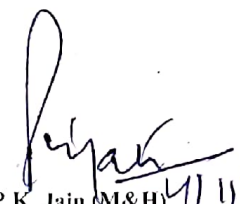
Prof. C. S. Riar, AsD (Research)

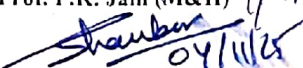

Prof. P. Kumar (FET)


Registrar, SLIET


Prof. Jagtar Singh (ME)


Prof. P.N. Pandey (HAG)
IIT, Delhi; External Expert


Prof. P.K. Jain (M&H)


Prof. Shankar Singh
HOD (ME) & Convener

e. Consultancy projects received during the year.

Name of the consultant	Name of consultancy project	Consulting/ Sponsoring agency with contact details	Year	Revenue generated (INR in Lakhs)
"PI: Prof. Dhiraj Sud (SLIET) CO-PI: Prof. Jagtar Singh (SLIET), Dr. Anil Kumar Singla (SLIET), Dr. Payal Malik (SLIET), Dr. Anuj Bansal (SLIET), Prof. Mani Kant Paswan (SLIET)"	Processing and Utilization of Compressed Biogas (CBG) Plant's Residue	VERBIO India Private Limited, Lehragaga, Dugal, KM Stone 7-8, Tehsil - Lehragaga, Raidharana Road, Village Bhutal Kalan, Sangrur, Punjab – 148031 Phone: 6239329038 Fax: E-mail: pankaj.jain@verbio.in	2024-2025	Rs. 1,18,000

f. PhD Submitted/Awarded to students

S No	Regn. No.	Name of the scholar	Name of the guide/s	Year of award
1	PME 1604	Vivek Gupta	Dr. Arvind Jayant, Dr. Kulwant Singh	28.06.2024
2	PME 1705	Gulvir Singh	Dr. PK Singh	18.07.2024
3	PME 1805	Mahendra Kumar Jangid	Dr. Jagtar Singh, Dr. Sunil Kumar	24.10.2024
4	PME 1803	Nitin Yadav	Dr. Rajesh Kumar	06.11.2024
5	PME 1801	Vikrant Guleria	Late (Prof.) P.K. Singh, Dr. Vivek Kumar	13.11.2024
6	PME 2123	Vikrant Singh	Dr. Anuj Bansal, Dr. Anil Kumar Singla	15.01.2025
7	PME1601	Nitin Mahay	Dr. RK Yadav	24.01.2025
8	PME1901	Paramjeet Shakya	Dr. Kulwant Singh, Dr. Haish Kumar Arya	13.02.2025
9	PME1603	Arvind Tiwari	Dr. Arvind Jayant, Dr. Kulwant Singh	22.04.2025
10	PME1807	Sonu Ram	Dr. RK Yadav, Dr. Indraj Singh	06.05.2025
11	PME1808	Sandeep Kumar Yadav	Dr. Manoj Goyal, Dr. Sunil Kumar	15.05.2025

g. List of SQPA to be awarded

S. No.	Name of Ph.D Scholar and Regn. No.	Amount of Award	Supervisor (s)
1.	Vikrant Singh, PME 2123	Rs. 10,000/-	Dr. Anuj Bansal, Dr. Anil Kumar Singla
2.	Paramjeet Shakya, PME1901	Rs.10,000/-	Dr. Kulwant Singh, Dr. Haish Kumar Arya
3.	Ranbir Singh Rooprai, PME 2116	Rs. 5,000/-	Dr. Anuj Bansal, Dr. Jagtar Singh

h. Total number of students qualifying in state/national/international level examinations during the year (e.g.: NET/SLET/GATE/GMAT/CAT/GRE/JAM/TOEFL/Central Services/State Services/Any Other examinations)

Year	Names of students	Name of the test Qualified/selected.	Registration number
2025	Akshay Goel	GATE	1914507
2025	Amir Bashir	GATE	2140408
2025	Yuvraj Kumar Tandon	GATE	2246065

Prof. R.K. Saxena (ME)

Prof. P. Kumar (FET)

Prof. Jagtar Singh (ME)

Prof. P.K. Jain (M&H)

Prof. C. S. Riar, AsD (Research)

Registrar, SLIET

Prof. P.M. Pandey (HAG)
IIT, Delhi; External ExpertProf. Shankar Singh
HOD (ME) & Convener

i. Industrial Visit/Study tour for students:

Year	No. of students	Name of Industry	Place
2024-2025	60	Rail Coach Factory	Kapurthala, Punjab

3. Placement record of the department (Last three years):

UG students: 2022-23 = 118, 2023-24 = 115, 2024-2025 = 112 (Percentage: 92.56%)

4. Scope for training of faculty/staff for further strengthening the teaching-learning process for strengthening the curriculum with the addition of new courses having relevance at National and International levels.

- Faculty of the department would be encouraged for attending/online Industrial trainings/Workshops/Seminars/FDPs/STCs etc. especially pertaining to the topics related to thrust areas in Mechanical Engineering that are largely aligned with the industrial needs. Faculty would also be encouraged to strengthen the existing curriculum besides adding new courses of relevance.
- Technical Supporting staff would be encouraged to have more hands-on learning on various Research and testing equipment, via enhancing their learning through attending/online various workshops/training programmes held across the country.

5. Effective/Continuous monitoring of faculty/staff in delivery the course contents (at departmental level) for enhancing the teaching-learning process.

Class monitoring committee in the department periodically monitors the conduct of classes as well as quality of delivery of course contents.

6. Technical Societies/ Colloquium for Students

- Departmental Society: SLIET Mechanical Engineering Society (SMES)
- Student Chapter(s) of Professional Societies
 - Institution of Engineers (India), Kolkata-Student Chapter
 - Indian Society for Technical Education (ISTE) (Faculty and Student Chapter)

7. Scope of improvement in the present teaching – learning process

- Teaching-learning process can be further enhanced by delivering course contents through interactive videos related to fundamental as well as applied topics. *Game based learning*
- Process should be started if possible.* Case studies can be included in the curriculum.
- More Industrial visits can be more effectively utilized for identifying research projects/consultancy.

8. The skill and expertise of the faculty/Technical staff in the department (specific)

Faculty expertise includes areas like Thermal, Design, Manufacturing, Non-Conventional and Hybrid machining, Welding and materials, Industrial Engineering, Automobile Engineering etc.

9. Strengthening laboratory infrastructure (adding of new equipment's and use of present facility for optimum use)

- Laboratory infrastructure has been strengthened as per the plan/need of the department.
- The present facility is also being optimally used by the students as well as the faculty of the department for catering to the curriculum, project as well as research needs.
- A new lab on "Alloy designing and development" is started.

10. Any other point:

Specific suggestions by the external expert:

- Faculty should also try to fetch research/consultancy projects.
- Projects should focus more on industry oriented and/or current local problems.
- Modern research areas should be focused.

Prof. R. K. Saxena (ME)

Prof. P. Kumar (FET)

Prof. Jagtar Singh (ME)

Prof. P.K. Jain (M&H)

Prof. C. S. Riar, AsD (Research)

Registrar, SLIET

Prof. P.M. Pandey (HAC)
IIT, Delhi; External Expert

Prof. Shankar Singh
HOD (ME) & Convener

D. Outcomes

D.1	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 Master Student iv. Placement of Ph.D. Students	10	09
2	Average No. of PhDs Awarded per Year	10	09
3	Publications per Faculty in Indexed Journals/Year (Average of last three years)	10	09
4	Average Citations per Faculty/Year (Last-Three Years) (Web of Science/Scopus)	10	10
5	Recognitions; Awards (National/International) to Faculty/Students	10	09
6	Consultancy and Externally Funded Projects	06	05
7	No. of Ph.D. graduates who took Academics as Career (last 5 Years)	10	10
8	Students offered for higher studies	10	09
9	No. of qualified students NET/GATE/CAT etc. (State/Central Civil Services)	02	02
10	Entrepreneurship	---	--
	Total Score (out of 100)	78/90 87/100	72/90 80/100

Comments & Suggestions for Improvement

Already available in the SWOC analysis.

Prof. R. K. Saxena (ME)

Prof. C. S. Riar, AsD (Research)

Prof. P. Kumar (FET)

Registrar, SLIET

Prof. Jagtar Singh (ME)

Prof. P.M. Pandey (HAC)
IIT, Delhi; External Expert

Prof. P.K. Jain (M&H)

Prof. Shankar Singh
HOD (ME) & Convener

SWOC ANALYSIS BY THE DEPARTMENT:

Strengths:

- The department has experienced faculty. More than 75% of the faculty is Ph. D. and their retention rate is also high.
- Laboratory infrastructure is adequate with latest state-of-the-art equipment.
- Faculty is motivated towards research and strives to achieve higher quality levels of teaching-learning process.
- One Faculty enlisted in Top 2% Scientist of Elsevier Stanford List.
- Multi entry & Multi exit study scheme as per NEP-20 is followed.
- Department offers courses in core and interdisciplinary study scheme with core & integrated of study.

Weaknesses:

- Institute-industry interaction needs to be strengthened.
- Monitoring of the internship/training of final year students due to involvement in many activities needs to be reviewed and will be carried out by respective faculty.
- Faculty to student ratio is low.

Opportunities:

- Sufficient laboratory infrastructure is available in the department to offer vocational courses in different areas like Welding, Machining, Automation, Software training etc. that can help in generating IRG for the institute.
- New courses can be designed and offered for skilling and upskilling of manpower of industry as well as academic institutes in line with the faculty expertise and laboratory infrastructure.
- Industrial consultancy can be improved with active institute-industry interaction.
- Students' projects should be focused on industrial problems.

Challenges:

- Declining trend of admissions especially at the PG and PhD. level.
- Mindset of the students is slightly more inclined towards IT jobs rather than their core field.
- Communication and analytical skills of the students require significant improvement.

Suggestions for improvement:

- Emphasis needs to be laid down on providing hands-on practice on different equipment/ machinery/ software etc. to the students by way of offering On-job training (OJT).
- Faculty should develop fundamental lectures as well as videos (especially animated ones) for better understanding of engineering concepts. *and should be put on social media & youtube.*
- Virtual labs should be created.
- More case studies should be included in the curriculum.
- Curriculum should include visit to at least 2-3 companies/industries after completion of their 3rd semester.
- PG and PhD students should also be included in Departmental societies/committees meant for the students where currently only UG students are majorly involved.
- *New Rubrics should be added for Academic Audit taking a view from other NIT/IIIT/Universities.*

[Signature]
Prof. P.K. Saxena (ME)

[Signature]
Prof. C. S. Riar, AsD (Research)

[Signature] 04/11/25
Prof. P. Kumar (FET)

[Signature]
Registrar, SLIET

[Signature] 04.11.25
Prof. Jagtar Singh (ME)

[Signature]
Prof. P. Pandey (HAG)
IIT, Delhi; External Expert

[Signature] 7/11/25
Prof. P.K. Jain (M&H)

[Signature] 04/11/2025
Prof. Shankar Singh
HOD (ME) & Convener

ACADEMIC AUDIT (2024 - 2025)

SUMMARY SHEET

1.	Name of the Department	Mechanical Engineering	
2.	Name of Reviewer Designation & Address	From Academia	From Industry
		Prof. Pulak Mohan Pandey, Professor (HAG), Department of Mechanical Engineering, Indian Institute of Technology, New Delhi	Nil
3.	Date of Meeting	04-11-2025	

Academics (A)				Research (Max Score 100)	Departmenta l Infrastructur e (Max Score 100)	Outcom e (Max Score 100)	Total Score (700)
ICD Programme (Max Score 100)	UG Programme (Max Score 100)	PG Programme (Max Score 100) (Average of all PG programs) (A.3)	Doctoral Program me (Max Score 100) (A.4)	(B)	(C)	(D)	(A+B+C+D)
(A.1)	(A.2)						
81	87	83	80	81	80	80	572/700 (81.7%)

Note:

- Marks mentioned above are the average of the marks given by the experts.
- If marks have not been allotted for some attributes by the experts, total score can be scaled to maximum marks.

Prof. Shankar Singh
Head of the Department- Mechanical Engineering

Prof. P.K. Saxena (ME)

Prof. C. S. Riar, AsD (Research)

Prof. P. Kumar (FET)

Registrar, SLIET

Prof. Jagtar Singh (ME)

Prof. P.M. Pandey (HAG)
IIT, Delhi; External Expert

Prof. P.K. Jain (M&H)

Prof. Shankar Singh
HOD (ME) & Convener

SLIET/ME/Dispatch/...11...93
Dated.....04/11/2025