

SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY
(Deemed-To-Be-University)
LONOGOWAL-148106

ACADEMIC AUDIT (2021 - 2022)

PROFORMA OF ASSESSMENT

1. Name of the Department: Food Engineering & Technology

2. Reviewer (Name, Designation & Address) :

Dr. B.S. Khatkar, Professor, Department of Food Technology, GJUS&T, Hisar, Haryana
Dr. H.K. Chopra, Prof, Dept of Chemistry, SLIET
Dr. Parveen Kaur, Prof, Dept of M&H, SLIET
Dr. A.S. Arora, Prof, Dept of EIE, SLIET
Dr. C.S. Riar, Prof, FET, SLIET (HoD Nominee)
Dr. Vikas Nanda, HoD, FET, SLIET

3. Date of Review: 26/08/2022

NOTE:

- i. Please grade in the box provided for the following parameters in the range of 1-10 with 10 being the highest.
- ii. Leave 'blank' for 'No Comment'.
- iii. 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).	08	08
2.	Equivalence and Relevance of curriculum at national level	10	09
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	08	07
6.	Effectiveness of Assisted Learning, Tutorial System for ICD Students/ Seminars (Refer Course File)	08	08
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 <i>developing expertise in a</i>	08	08

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	<i>particular group of techniques.</i>		
9.	Linkage of ICD programs to outcome based vocational education (Industry linkage)	08	08
10.	Availability of workshop type lab/laboratory for providing hand on training to the students for skill development	10	10
Total Score (out of 100)		90	88
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	09
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	10
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)	08	08
8.	Tour/Training/Industrial visits/Internship opportunities	08	08
9.	(a) Effectiveness of Assisted Learning in Tutorial classes/seminars for Students	08	08
	(b) Faculty Mentoring/Faculty Advisor System for Students/Class of Students		
10	Placement %age/higher studies options (last three years)	08	07
Total Score (out of 100)		92	90
A.3	PG Programme (Separate for each 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

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4.	Relevance of contents of courses taught to the students and scope of improvement	08	08
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) ii. Multi-Media Assisted Teaching	10	10
6.	Technical Societies/ Colloquium for Students i. Departmental Society ii. Student Chapter(s) of Professional Societies	08	08
7.	Tour/Training/Industrial visits/Internship opportunities	06	06
8.	Collaboration with other departments (within 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)		92	92

A.4	Doctoral (Ph.D.) Programmes	Score	
		Self-assessment	Expert assessment
1.	Intake of Ph.D. Students	10	10
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	09
6.	Research Facilities available in the Department	10	09
7.	Average No. of Research Students/Faculty	08	08
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	08	08
Total Score (out of 100)		88	86

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B. RESEARCH

B.1 Research and Industrial collaboration	Score	
	Self-assessment	Expert assessment
Research Ambience in the Department	10	10
Research Awareness among Doctoral Students	10	10
Thrust areas of research in the department	10	10
Quality of Research	08	08
Collaborations with other departments (within the institute) and at National, and International levels.	08	08
Impact and Quality of Publications	10	10
Relevance of Research to Knowledge Generation and Social Relevance	10	09
Student Exposure for Attending Quality Conferences/Symposia	08	08
Inter departmental collaborations	10	09
Industry/externally funded sponsored research (Numbers and amount)	10	10
Total Score (out of 100)	94	92

General Comments on:**1. Plan of action of the department for the next five years (in view of NEP 2020)****a) Action Plan (Academic Standard)**

The quality of teaching will be improved by:

- Introducing skill-development courses leading to professional advancement.
- Carrying out frequent interaction with industry and aligning research with Industrial problems.
- Starting of a new inter disciplinary UG and PG program.
- Combining existing courses with specific hands-on learning.
- Ensuring student-learning outcomes for each academic program.
- Arranging expert lectures by experienced faculty or scientists from National/International laboratories or institutes on latest developments in the subject.
- Procurement of software for design and Modeling & simulation of food engineering processes like ASPEN/HYSIS etc. followed by imparting training to faculty and students.
- Integrating conventional Food Engineering with artificial intelligence, bio informatics and nanotechnology etc.
- Setting up of technology incubators, Pilot plant and departmental workshop.
- Setting up of Centre for excellence.
- MoU with Industry, research institute for dissemination of knowledge and use of their research facilities.
- Amalgamation of courses/internship offered by different national and international bodies/organizations like SWYAM, NPTEL, course Era etc. along with regular curricula.



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b) Action Plan (Student Mentoring)

- Help the students to lower stress and build confidence through effective counselling.
- Tailor mentoring style and content to the student to overcome differences based on factors including culture, ethnicity, gender, social background.
- Impart career guidance through an interpersonal engagement by sharing experience and expertise.
- Constructive interaction with a mentor and participation in collective activities.

c) Short term goals

- To upgrade laboratories and teaching learning infrastructure.
- Further enhancement of technical knowledge/skills upgradation of faculty and staff.
- To make extra efforts for starting new master's programme.

d) Long term goals

- To get UG program accredited for six years by the NBA.
- To implement externally funded schemes for Ph.D. programme.
- To accomplish consultancy services through industries/research organizations.
- To procure specialized/high end equipment for Food Engineering Labs.

2. Significant achievements of the department (faculty/Staff/Students)**Faculty**

- Recipient of Young Scientist Award, Prof. Jiwan Singh Sidhu, Dr JS Pruthi Award and Prof. Carl Hosney Award by AFSTI, Mysuru
- Listed in "World Ranking of Top 2% Scientists" compiled by Stanford University, USA
- Director and Officiating Chairman, Board of Governors NIT Agartala
- Recipient of Eminent Engineer Award, Outstanding Engineering Personality and Fellow to Institution of Engineers (I)
- Seconded Faculty at Department of Food Engineering & Bioprocess Technology, Asian Institute of Technology, Bangkok (Thailand)
- INSA Teachers Award (2020)' by Indian National Science Academy, New Delhi
- Awarded BOYSCAST fellowship by DST, New Delhi
- Fellow Award 2018 in "Food Biotechnology" by 'The Biotech Research Society of India

Students

- ❖ Students clearing competitive examinations GATE, CAT SET etc every year and perusing for higher studies,
- ❖ Students are participating in various events.
- ❖ Received several Awards in Technical Presentations
- ❖ Publishing Research Articles in Journal
- ❖ Contribution in solving a problem during internship was appreciated.

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

Students Progression	2019-20	2020-21	2021-22
Placement	66.67	50.00	9*
Higher studies	6.67	22.00	*

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*Batch 21-22 is just passed out so data will be improved in coming months.

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.**

All the faculty and staff members are encouraged to regularly attend the training program. Recently many faculty members have enrolled themselves in AICTE approved comprehensive teachers training programs.

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

The various ways of monitoring the faculty/ staff mentioned below:

- Class counsellor-student meeting
- Students feedback form
- Course counsellor-student meeting
- Feedback received by HOD

At the end of the semester, feedback is taken from students based on faculty punctuality, presentations, ability to clear doubts, availability of teachers beyond class hours etc. This helps the faculty understand the problems faced by the students during lecture hours and gives faculties an insight into their teaching methods so that the teaching-learning process can be strengthened.

Lecture classes are monitored by senior faculty members and the HOD. Constructive comments are given to improve the quality of the teaching and learning process. Once the feedback is collected, it is analyzed by the DAAC and the necessary decision is made competent authority. The faculty members who have below-average feedback and comments for the improvement, if any, in the feedback would be:

- Counselling and motivated by the HOD to improve their skills and abilities.
- Requested to attend FDPs for improving the knowledge of faculty.

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

(i) **Departmental Society**

Department of Food Engineering and Technology, SLIET Longowal has AFST(I) Longowal Chapter. In association with AFST(I) Longowal Chapter, Department Celebrated the "World Bee Day" on May 20, 2021, in the online mode. Various competitions like poster making, quiz, debate, food craft and product development were organized under different themes.

(ii) **Student Chapter(s) of Professional Societies**

A student self-help group is formed and on the concept of peer learning they are mentoring the slow learner students. Further, towards over all grooming, the students are encouraged to participate in a greater number of Academic co-curricular and Extra co-curricular activities. Also, the students are continuously motivated to go for the industrial, institutional or internship during vacations.


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

Improvement in Teaching learning resources	<ul style="list-style-type: none"> • Use of plag software to check the assignments
Research and Professional Practices	<ul style="list-style-type: none"> • Student and faculty exchange program • Collaborative research with different universities and industry • Publishing research articles in SCI/Scopus journal • Attending various conferences and seminar
Graduation Outcomes	<ul style="list-style-type: none"> • Interaction with industry to get placement • To improve Entrepreneurship ability • To enrol in higher degree with GRE/TOFEL
Outreach and Inclusivity	<ul style="list-style-type: none"> • To increase outreach program annually • To visit different institutions lab • To work with different institutions faculty.

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

Expertise	Name of the faculty
Functional food products	Dr. P. S. Panesar, Professor Dr. K. Prasad, Professor&HOD Dr. Vikas Nanda, Professor Dr. C. S. Riar, Professor Dr. Pradyuman Kumar, Professor Mr. Ashwani Kumar, Asst. Prof.
Value addition of dairy and agro industry products ad by-products	Dr. Vikas Nanda, Professor Dr. Pradyuman Kumar, Professor Dr. C. S. Saini, Professor Dr. Navdeep Jindal, Assoc. Prof
Processing of cereal, pulses, oilseed, millets and bakery product	Dr. D. C. Saxena, Professor Dr. C. S. Riar, Professor Dr. Sukhcham Singh, Professor Dr. C. S. Saini, Professor. Dr. Navdeep Jindal, Assoc. Prof Mr. Ashwani Kumar, Asst. Prof.
Food product quality control and analysis	Dr. M. B. Bera, Professor Dr. D. C. Saxena, Professor Dr. P. S. Panesar, Professor Dr. K. Prasad, Professor& HOD Dr. Vikas Nanda, Professor Dr. C. S. Riar, Professor Dr. Sukhcham Singh, Professor Dr. Pradyuman Kumar, Professor

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	Dr. C. S. Saini Professor Dr. Navdeep Jindal, Assoc. Prof Mr. Ashwani Kumar, Asst. Prof.
Postharvest technology of fruits and vegetables	Dr. K. Prasad, Professor & HOD Dr. Sukhcham Singh, Professor Dr. C. S. Saini, Professor Dr. Navdeep Jindal, Assoc. Prof.

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

Currently, Department has twelve laboratories. All the laboratories are equipped adequately to perform the experiment of ICD, UG, PG and Project work. Minor repair and maintenance of equipment's are taken up at laboratory level as and when required. 2. Major repair of equipment's is carried out by the suppliers under AMC or by the experts present locally or at nearby places.

10. Any other point


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C. Departmental Infrastructure

C.1	Departmental resources	Score	
		Self-assessment	Expert assessment
1	Adequacy of Classrooms and Multi-Media Facility	09	08
2	Availability of Laboratories	10	09
3	Availability of Conference/Seminar Room, etc	10	09
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	08	08
8	Adequacy of Offices and Furnishing for Faculty	10	10
9	Faculty- Student Ratio	08	08
10	Support Staff (Technical/Administrative) Adequacy	10	09
Total Score (out of 100)		95	91

SWOT analysis by the department

Strength	Weakness
<ul style="list-style-type: none"> Nominal Fee structure External funded project Contemporary curriculum as per guidelines by AICTE etc. Highly qualified faculty in specialized areas with good number of publications in reputed journals (SCI indexed). Significant contribution of the department faculty and staff at Institute level in various capacities. 	<ul style="list-style-type: none"> Student faculty ratio Limited interaction with Industry for accessing industrial needs and carrying out industry specific research and consultancy project. Lack of running informal courses. Locational disadvantage Limited Campus Placement
Opportunities	Threats
<ul style="list-style-type: none"> Collaborative projects with industry. Establishment of Centre of Excellence. To establish Centre for skill development. Starting of new interdisciplinary courses and PG courses for working professionals in line with NEP-2020. To collaborate with industry for the 	<ul style="list-style-type: none"> Poor schooling of the students Lack of basic knowledge to the students. Poor communication and writing skills of the students.

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designing and development of curriculum and laboratory experimentation for students as well as for providing technical guidance to budding entrepreneurs for starting their industry in local areas.	
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Suggestions for improvement:

- ❖ Need to enhance interact with alumni to improve the campus placement.
- ❖ Individual project should be given to the UG students.
- ❖ More emphasis must be on the skill development of ICD and UG students.
- ❖ Consultancy work by the faculty need to be accelerated in the field of specialization.
- ❖ There efforts should be done to get industry -institute participation projects.

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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's Student iv. Placement of Ph. D. Students	08	07
2	Average No. of Ph. Ds Awarded per Year	10	10
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	10	10
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	10	09
9	No. of qualified students NET/GATE/CAT etc (State/Central Civil Services)	06	06
10	Entrepreneurship	06	06
Total Score (out of 100)		90	88

Comments & Suggestions for Improvement

1. Faculty members should put effort for consultancy and industry collaborative projects.
2. Faculty members should submit research projects at least one per year/faculty member.
3. More emphasis should be given on the industrial and other research institute tours by students.
4. Industry institute linkage to be strengthened.
5. Efforts should be made towards running new programs according to NEP.
6. Alumni must be invited to guide the students for qualify GATE, Opting for higher studies & entrepreneurship etc.

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ACADEMIC AUDIT (2021 - 2022)


SUMMARY SHEET

1.	Name of the Department	Food Engineering and Technology	
2.	Name of Reviewer Designation & Address	From Academia	From Industry
		Dr B.S.Khatkar, Prof., Deptt of Food Tech. GJUS&T, Hisar	
3.	Date of Meeting	26 th August, 2022	

Score Summary							
Academics (A)				Research (Max Score 100)	Departmental Infrastructure (Max Score 100)	Outcome (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)	Doctoral Programme (Max Score 100)				
(A.1)	(A.2)	(A.3)	(A.4)	(B)	(C)	(D)	(A+B+C+D)
88	90	92	86	92	91	88	627

Note: 1. Marks mentioned above are the average of the marks given by the experts.

2. If marks have not been allotted for some attributes by the experts, total score can be scaled to maximum marks.



Prof. C.S. Riar


Prof. Vikas Nanda



Prof. H.K. Chopra


Prof. Parveen Kaur

For
Prof. A. S. Arora


26/8/2022
(Dr. Shankar Singh)
Co-ordinator, IBAC.


26/8/2022
Prof. B.S. Khatkar


(Vikas Nanda)
Name & Signature of HOD