

**SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

Internal Quality Assurance Cell (IQAC)

1st Floor, Library Building, SLIET, Longowal

Phone No. 01672-253421, Email I.D. iqac@sliet.ac.in

Ref. No. IQAC/4/5/237-248

Dated: 18/10/19

URGENT/VIA EMAIL

From : Coordinator, IQAC

To : All HODs

Subject : Academic Audit for the Academic Year 2018-19

This has the reference of Office Order No. SLIET/DIR/2525 dt. 29.01.2019 (COPY ENCLOSED) of Director, SLIET regarding conducting of Academic Audit at the earliest.

You are requested to supply a copy of the compliance report to this effect **on or before 23.10.2019** for inclusion of this data in the IQAC Report for the Academic Year 2018-19.

J. Gillon
18.10.2019
Coordinator, IQAC

Encl: 01

Copy to : Director, SLIET for kind information, please.

The academic audit report for the year 2018-19 is attached for further n/s.
pl.

Dean (FSW) / Coordinator, IQAC

J. Gillon
21/10/19

21/10/19

SLIET/PHY/535
21/10/2019

Subject: Academic audit report.

Pl. find herewith academic audit report of physics department duly signed by committee members for further n/s pl. Submitted please.

Dean (Acad)

27/5/19
(HOD (Physics))

SUJET (PHY) 112
27-5-2019

SANT LONGOWAL INSTITUTE OF ENGINEERING & TECHNOLOGY

PROFORMA OF ASSESSMENT

1. NAME OF THE DEPARTMENT : Physics
2. YEAR OF ESTABLISHMENT : 1991
3. REVIEWER(S) :
 1. Dr. V. Sahni, Prof (ME)
 2. Dr. J.S. Dhillon, Coordinator IQAC cell
 3. Dr. A S Dhaliwal, Member-HOD Nominee
 4. Dr. Mandeep Ghai-member
 5. Dr. M.M. Sinha, HOD (Physics)- convener
4. DATE OF REVIEW : 24th May 2019
5. COURSES OFFERED: (Branch and specialization, year of start:

ICD	UG	PG	Ph.D
		MSc (Physics) since 2011	Since 2008

6. INTAKE OF THE COURSE:

Name of Courses/Branch	Admitted	Graduated	Admitted	Graduated	Admitted	Graduated
	2015-16		2016-17		2017-18	
ICD						
UG						
PG	19	05	20	19	20	20
Ph.D.	Full Time	02	01	04	02	01
	Part Time	02	-	-	01	-

7. LABORATORY FACILITY:

S. No.	Name of the lab	Status of Lab (Quite modernized/Need to be modernized)	Status of Lab Equipment (Functioning properly/ Need maintenance/ upgradation)	No of experiments (Adequate /Need to be increased)
1	ICD Lab-I	Quite modernized	Functioning properly	Adequate
2	ICD Lab-II	Quite modernized	Functioning properly	Adequate
3	UG Lab	Quite modernized	Functioning properly	Adequate
4	MSc Lab	More space is required	Functioning properly	Adequate

- Number of laboratories : Adequate / Need addition

8. RESEARCH GROUP(S)/ INTERDISCIPLINARY GROUP(S):

Research Groups (Broad Area of Research)	Name of Faculty Involved
Radiation Physics	A S Dhaliwal, K S Kahlon and K S Mann
Synthesis and characterization of nano-materials	A S Dhaliwal
Theoretical study of Plasmonics	S S Verma and M M Sinha
Dielectric characterization of biological materials	K S Mann and P Kaur
Theoretical study of Phonons	M M Sinha and S S Verma

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9. CONTRIBUTION OF FACULTY AND STAFF (Last three years):

Name of Faculty/ Staff	Designation/ Qualification/ Status	Contribution in Teaching (punctuality/ innovation/ use of ICT)	Contribution in B Tech or ICD projects	Contribution in Research (Publications#/ Projects/ Ph.D. & M Tech guidance/ Consultancy/ Patent)	Other (Department/ Institute/ National/ International)
Dr. A S Dhaliwal	Prof/Ph.D	Good	N A	SCI, Scopus/WOS: 12 Ph.D. awarded: 02 M.Sc. Projects: 04	1. Course Co-ordinator Certificate course and M.Sc. Physics 2. Member BOS 3. Member Senate, 4. Chairman Central Facility Lab, 5. Member various committees for academic/Administrative matters at institute level 6. Presented papers in International Conference
Dr. K S Kahlon	Prof/Ph.D	Good	N A	SCI, Scopus/WOS: 02 Ph.D. awarded: 02 M.Sc. Projects: 04	1. Course Co-ordinator M.Sc. Physics 2. Member BOS 3. Member Senate, 4. Member various committees for academic/Administrative matters at institute level
Dr. K S Mann	Prof/Ph.D	Good	N A	SCI, Scopus/WOS: 03 M.Sc. Projects: 06	1. Course Co-ordinator Certificate and UG courses 2. Member BOS 3. Member Senate, 4. Member various committees for academic/Administrative matters at institute level
Dr. M M Sinha	Prof/Ph.D	Good	N A	SCI, Scopus/WOS: 10 Ph.D. awarded: 01 M.Sc. Projects: 06	1. Course Co-ordinator M.Sc. Physics 2. Member BOS 3. Member Senate, 4. Member various committees for academic/Administrative matters at institute level 5. Presented papers in International Conference
Dr. S S verma	Prof/Ph.D	Good	N A	SCI, Scopus/WOS: 15 Ph.D. awarded: 01 M.Sc. Projects: 06	1. Course Co-ordinator M.Sc. Physics 2. Member BOS 3. Member Senate
Dr. S S Ghumman	AsP/Ph.D	Good	N A	SCI, Scopus/WOS: 03 M.Sc. Projects: 06	1. Course Co-ordinator M.Sc. Physics 2. Member BOS 3. Presented papers in International Conference
Ms. Kanika Agarwal	AP/M.Tech	Good	N A	M.Sc. Projects: 05	1. Course Co-ordinator M.Sc. Physics 2. Member BOS 3. Member various committees for academic/Administrative matters

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Dr. P.Kaur	AP/Ph.D	Good	N A	SCI, Scopus/WOS: 08 M.Sc. Projects: 04	1. Course Co-ordinator M.Sc. Physics 2. Member BOS 3. Member various committees for academic/Administrative matters at institute level 4. Presented papers in International Conference
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publications category wise- Conference, SCI, other Scopus, Refereed

S. No.	Academic Year/ semester	Name of Faculty	Class/batch	Subject code	No. of Students	Pass % age
1.	2015-2016 (July-Dec. 2015)	A S Dhaliwal	M.Sc. -II GME/14	PH-9104 MS-6101/ 6151	04 65	100% 100%
2.	2015-2016 (Jan-June 2016)		M.Sc.-II GCS/14	PH-9204 MS-6201/6251	04 90	100% 100%
3.	2016-2017 (July-Dec. 2016)		M.Sc.-II GME/15	PH-9104 PH-511	19 76	100% 100%
4.	2016-2017 (Jan-June 2017)		M.Sc.-II CDE/16 (C-D Group)	PH-9204 PH-121	19 60	100% 50%
5.	2017-2018 (July-Dec. 2017)		M.Sc.-II CDE/17 (A-B Group)	PH-9104 PH-111	20 62	100% 70 %
6.	2017-2018 (Jan-June 2018)		M.Sc.-II CDE/17 (A-B Group)	PH-9204 PH-121	20 60	100% 90%
1.	17-18	K S Kahlon	MSc 18	PH8101	19	100%
2	16-17		MSc 17	PH 8204	19	100%
3	16-17		MSc 17	PH8251	19	100%
4	15-16		MSc 16	PH8204	20	100%
1.	2015-16	K S Mann	MSc-II/14	PH-9203	04	100
	2015-16, 1st		GME/15	PH-411 T	31	94
	2015-16		GME/15	PH-411 P	30	100
2.	2015-16, 1st		GWT/15	PH-411 T	22	77
	2015-16		GWT/15	PH-411 P	23	100
	2015-16, 2nd		GEC/15	PH-421 T	11	100
	2015-16, 2nd		GIN/15	PH-421 T	09	89
	2015-16, 2nd		GEC/	PH-421 P	11	100
	2015-16, 2nd		GIN/15	PH-421 P	09	100
	2015-16		MSc-I/15	PH-8103	19	100
	2016-17		GIN/16	PH-421 P	06	100
	2016-17		GEC/16	PH-421 P	15	100
	2016-17		CWG/16	PH-121	29	100
3.	2016-17		MSc-I/16	PH-8103	19	100
	2016-17		MSc-I/16	PH-8151	19	100
	2017-18		MSc-II/16	PH-9203	19	100
	2016-17		DCT-ICD/16	PH-121 T	55	76
	2017-18		DFT-ICD/17	PH-121 T	60	77
	2017-18		GWT/17	PHT-411	08	88
	2017-18		GME/17	PHT-411	18	94
	2017-18		DCT-CPT-A/17	PH-121 P	29	100
	2017-18		DFT-CFP-A	PH-121 P	35	100


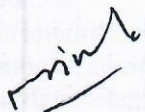
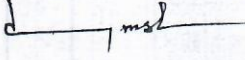
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S.No.	Academic Year / Semester	Name of Faculty	Class/batch	Subject code	No of Students	Pass %age		
1a)	2015-16 (odd sem)	S S Verma,	M.Sc./14 (GCT+GFT)/15	PH-9102	18	100		
				PH-411	42	100		
			b)	2015-16 (even sem)	M.Sc/15 GCS(A+B)/14	PH-8102	18	100
						PH-421	42	100
			2a)	2016-17 (odd sem)	M.Sc./15 ICD-CDE(C+D)/16	PH-9102	18	100
						PH-111	65	60
			b)	2016-17 (even sem)	M.Sc./16 GCS/16	PH-8102	18	100
						PH-421	42	100
3 a)	2017-18 (odd sem)	M.Sc./16 ICD-CDE(C+D)/17	PH-9102	18	100			
			PH-111	65	60			
b)	2017-18 (even sem)	M.Sc./17 GCS/17	PH-8102	19	100			
			PH-421	42	100			
1.	2015-2016 (July-Dec. 2015)	M M Sinha	M.Sc. -II/14 GME/15	PH-9101	04	100%		
				PH-9151	04	100%		
				PH-511(T)	86	98%		
				PH-511 (P)	86	100%		
			2.	2015-2016 (Jan-June 2016)	M.Sc.-II GCS(A& B)/14	PH-9201	04	100%
						MS-6201	43	93%
3.	2016-2017 (July-Dec. 2016)	M.Sc.-II/15 GWT/15	MS-6251	43	100%			
			PH-9101	19	100%			
			PH-9151	19	100%			
4.	2016-2017 (Jan-June 2017)	M.Sc.-II/15 GEC/15 GEC/15(A & B)	PH-511	76	95%			
			PH-511(P)	76	100%			
5.	2017-2018 (July-Dec. 2017)	M.Sc.-II/16 CSME/CTV/17	PH-9201	19	100%			
			PH-511	59	95%			
6.	2017-2018 (Jan-June 2018)	M.Sc.-II/16 CSME/CTV/17	PH-511 (P)	59	100%			
			PH-9101	20	100%			
1.	July-Dec, 2015	Prabhdeep Kaur	PH-111	66	70 %			
			PH-121	65	80%			
2.	July-Dec,2016	GCT	PH-511					
			M.Sc-I	PH-8104	19	100%		
			ICD-EC	PH-111(2 out of lectures)				
3.	Jan-May,2017	GCT	PH-511					
			GFT	PH-511				
			M.Sc-I	PH-8104	20	100%		
4.	July-Dec,2017	GEE	PH-511					
			M.Sc-II	PH-9202	19	100%		
			M.Sc-I	PH-8102	18	100%		
5.	Jan-May,2018	M.Sc-I	PH-8104	18	100%			
			PH-8203	18	100%			
			M.Sc-II	PH-9202	20	100%		

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10. INFRASTRUCTURE:

Special Facilities in the Department (if any)	Smart class room, library
Unique features of the department	Nil
Shortage in department (if any)	HOD room, Lab space for M.Sc., air-conditioning of PG labs, Computers & UPS for computational lab

11. ANNUAL BUDGET OF THE DEPARTMENT (Allocated and Expenditure):

Year wise		2015-16	2016-17	2017-18	2018-19
Equipment's	Allocated	20 Lakhs	20 Lakhs	09 Lakhs	18 Lakhs
	Expenditure	18.74 lakhs	35.23 Lakhs	25.94Lakhs	14.63Lakhs
Repair & Maintenance	Allocated		0.5 lakhs	0.5 lakhs	0.5 lakhs
	Expenditure		NIL	NIL	NIL
Tour & Training	Allocated				0.5 lakhs
	Expenditure				0.17lakhs
Research & Development	Expenditure	NIL	NIL	NIL	12.82 Lakhs

12. NO. OF SEMINARS/CONFERENCES/SHORT TERM COURSES ATTENDED/ORGANIZED (last 3 years):

	2015-16	2016-17	2017-18
Details of Seminars/Conferences organized by the faculty in the institute	AMRP-2015	NIL	NIL
Details of Seminars/Conferences attended by the faculty outside the institute	List attached as Annexure -I		

13. RESEARCH PUBLICATIONS IN THE DEPARTMENT/CENTER:

	2015-16	2016-17	2017-18	2018-19
SCI/SCIE Journals	17	9	1	4
Scopus Indexed	19	8	5	10
Peer reviewed	8	3	7	10
Indexed conferences	Nil	Nil	Nil	Nil
National Conferences	08	Nil	Nil	Nil
International Conferences	Nil	Nil	Nil	Nil
Books Published	Nil	Nil	Nil	Nil
Any other	Nil	Nil	Nil	Nil

14. STUDENTS PERFORMANCE IN NATIONAL LEVEL COMPETITIVE EXAMS (Gate/NET etc.)

	2015-16	2016-17	2017-18	2018-19
GATE	NIL	02	06	02
CAT	NIL	NIL	NIL	NIL
Any other (NET)	NIL	01	01	

15. DETAILS OF STUDENT ACTIVITIES

(Workshops/ seminars/industrial tours/ Delivery beyond syllabi/ innovative practices/ remedial activities/ Tutor-Guardian scheme implementation)

1. Expert talk: 06
2. Industrial/scientific visit: 04
3. Participation of students to National science week events
4. Tutor guardian scheme implantation

16. (a) **NEW FACILITIES CREATED IN LAST 3 YRS**

1. Smart class room
2. M.Sc. lab modernized with new equipment

(b) **NEW EQUIPMENTS PROCURED IN LAST 3 YRS (BASIC EQUIPMENTS)**

1. ICD practical and UG practical equipment's
2. Grinding machine for UG Lab

(c) **PROCUREMENT OF SOME ADVANCED EQUIPMENTS (for research and consultancy)**

1. Precision impedance analyzer (Dr. SS Ghumann lab)
2. Electrochemical work station (Dr. A S Dhaliwal lab)
3. NMR spectrometer (M.Sc. lab)
4. Hall effect for metals (M.Sc. lab)
5. Digital Pico meter ((M.Sc. lab)
6. Hydraulic press (Dr. S S Ghuman lab)
7. X-ray apparatus (M.Sc. lab)
8. Electron gun (Dr. K S Kahlon Lab)
9. PH-meter (02) (Dr. AS Dhaliwal and Dr. KS Mann labs)
10. Electronics calibration module (Dr. K S Mann lab)
11. Oven up to 1400°C (Dr. SS Ghumman lab)

17. **REQUIREMENT FOR BETTERMENT:**

1. Augmentation of existing ICD, UG and PG lab
2. Enhancement of R & D activity by adding more state of arts equipment
3. FDTD simulation software
4. Computer work station for R & D activity
5. Start of new academic programme i.e. 5 year integrated M.Sc. programme after +2 level

18. **STRENGTH OF THE DEPARTMENT:**

1. Highly qualified and dedicated faculty and staff
2. Department is equipped with advance instruments
3. Faculty is highly motivated towards research and publishing good number of research papers in SCI/WOS/Scopus journals

WEAKNESS OF THE DEPARTMENT:

1. No Head of Department's office room
2. Insufficient lab space
3. No departmental seminar room
4. Shortage of faculty and technician
5. Need of regular MTS

19. **INTERNATIONAL EXPOSURE** (in the form of visiting professor or academic associates)

NIL

20. **FACULTY ATTENTIVENESS**

- Course File Preparation : Yes
- Attendance Register : Yes
- Display of attendance alert : Yes
- Preparation of model answer : Yes
- Makeup classes : Yes
- Use of ICT in Teaching : Yes

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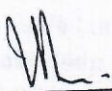
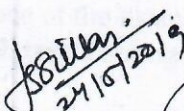
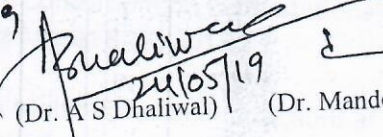
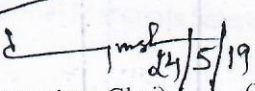
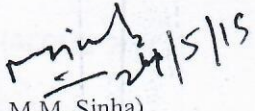
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Outcomes

		Details
1	Placements i. Placement of ICD ii. Placement of B.Tech iii. Placement of Masters Student iv. Placement of Ph.D Students	NA NA Higher studies/100% 100%
2	Average No. of Ph.D.s Awarded per Year	01
3	Publications per Faculty in Indexed Journals/Year (Average of last three years)	10
4	Average Citations per Faculty/Year (Last-Three Years) (Web of Science/Scopus)	30
5	Recognitions; Awards(National/International) to Faculty/Students	NIL
6	Consultancy and Externally Funded Projects	NIL
7	No. of Ph.D. graduates who took Academics as Career (Last 5 Years)	05

Overall observations for further improvement in existing academics:

1. Feedback of students and their analysis is required to be strengthen.
2. Placement records of the pass out students to be maintained.
3. Documentation of student's activities is required.
4. Course file indicating OBEs
5. Identification of slow and fast learner
6. Faculty members should be encouraged for consultancy
7. Faculty members should be encouraged to submit research projects.
8. There should be centralized research facilities at institute level for catering to the needs of faculty and students.

 (Dr. V. Sahni)  (Dr. J.S. Dhillon)  (Dr. A S Dhaliwal)  (Dr. Mandeep Ghai)  (Dr. M.M. Sinha)
 HOD (Physics)

Name & Signature of Audit Committee

Name & Signature of HOD

Training programme attended by faculty 2014-18

1. **Prof. A S Dhaliwal:**
 - a) Management capacity enhancement programme: Training programme at Udipur during Dec 15-20, 2014
2. **Prof. M M Sinha:**
 - a) Management capacity enhancement programme for administrators, at IIM Lucknow Noida Campus during May 25-29, 2015
 - b) Professional Development Training programme under TEQIP-III at IIM Trichy during 3-7 December 2018
3. **Dr. S S Ghumman, AsP**
 - a) Materials microstructure characterization using optical and scanning electron microscope at IIT-Hyderabad during Dec 20-24, 2015.
4. **Dr. P Kaur, AP**
 - a) Faculty development programme on soft skills & entrepreneurship development at SLIET, Longowal during Mar 18-22, 2014

Conference attended by faculty during 2014-18

1. **A S Dhaliwal**
 - a) 4th National Conference on Advanced Materials and Radiation Physics (AMRP-15) at S.L.I.E.T. Longowal (Pb.) during March 13-14, 2015.
 - b) International Conference 'Smart materials & Surfaces' held at Bangkok, 2014.
 - c) International Conference on Nanoscience and advanced materials held at Pataya, Thailand, 2018
2. **S S Ghumman**
 - a) European Nuclear Physics Conference held at Groningen, The Netherlands, 2015.
 - b) International conf. at Parage, Czech republic, 2018
3. **M.M.Sinha**
 - a) 4th National Conference on Advanced Materials and Radiation Physics (AMRP-15) at S.L.I.E.T. Longowal (Pb.) during March 13-14, 2015.
 - b) XXVII IUPAP Conference on computational Physics (CCP-2015) at I.I.T. Guwahati (Assam) during December 2-5, 2015.
 - c) International conference on Advances on Nanomaterials and Nanotechnology (ICANN-2016) at Jamia Millia Islamia, New Delhi during November 4-5, 2016
 - d) The 9th Conference of the Asian Consortium on Computational Materials Science (ACCMS-9) at Kuala Lumpur, **Malaysia** during August 8-11, 2017.
4. **Prabhdeep Kaur**
 - a) 9th international Workshop on Multiple Parton Interactions at the LHC (at Shimla, organized by Panjab University, Chandigarh)-2018
 - b) Orientation Programme-102, (Guru Nanak Dev University, Amritsar) -2017

