Admissions (Session 2025-26)

Established
1989

SET 2025

INFORMATION BROCHURE

nirf Ranking 76

All India SLIET Entrance Test-2025
अखिल भारतीय स्लाईट प्रवेश परीक्षा - 2025

A NAAC

Courses Offered

- Integrated Certificate Diploma
- Bachelor's Degree
- Master's Degree
- Doctoral Degree

SANT LONGOWAL INSTITUTE OF ENGINEERING AND TECHNOLOGY

भारत सरकार अधीन समरूप विश्वविद्यालय

Centrally Funded Technical Institute (CFTI)

भारत सरकार द्वारा संचालित Estd. By MoE, Government of India

CONTENTS

APPLICATION FEE FOR ALL INDIA SLIET ENTRANCE TEST (SET-2025)

Mode of registration shall be **ONLINE** only at www.sliet.ac.in and fee details are as follows:

Categories	**B.E. Lateral Entry/ Integrated B.Sc.-M.Sc./MBA/M.Sc./M.Tech./Ph.D**	**ICD**
General and Other Categories (Boys)	Rs.1750/-*	Rs.1000/-*
General and Other Categories (Girls)	Rs.1250/-*	Rs.750/-*
SC/ST Categories (Boys and Girls)	Rs.1000/-*	Rs.750/-*

Mode of Payment: Net Banking/Debit card/Credit card/UPI * 18% GST & Bank charges Extra

For any Information Contact: **Dr. Rajesh Kumar, Chairman, SET-2025**
Dr. Sukhcharan Singh, Vice Chairman, SET-2025
Contact No. 01672-296231, 253136
Email: chairmanset2025@gmail.com

ONLINE Application : ***www.sliet.ac.in , www.slietexam.co.in***
Help Desk Numbers: (9.00A.M. to 5.00P.M. on working days) : 01672-296231, 253136

IMPORTANT DATES FOR SET-2025

Last date for receipt of complete online Application Form (ICD/B.E. Lateral Entry/ M.Sc./Integrated B.Sc.-M.Sc./MBA/M.Tech.)	:	April 15, 2025
Last date for receipt of complete online Application Form (Ph.D.)	:	Aug 05, 2025
Last date for uploading of category documents for ICD/B.E. / M.Sc./Integrated B.Sc.-M.Sc./MBA/M.Tech. (OBC-NCL/SC/ST/EWS)	:	May 08, 2025

Admission to B.E.(4 Year), Integrated B.Sc.-M.Sc., M.Sc. and M.Tech. programmes will be as per details given below:

Programme	Name of Written Test	Counseling
B.E. (4 Year)	JEE (MAIN) -2025	JoSAA/CSAB -
Integrated M.Tech.(5 Year)	JEE (MAIN) -2025	JoSAA/CSAB -
Integrated B.Sc.-M.Sc. Program (Route 1)	JEE (MAIN)-2025	JoSAA/CSAB-2025
Integrated B.Sc.-M.Sc. Program (Route 2)*	JEE (Main)/CUCET(UG)/PUCET(UG)/SET-II	SLIET
M.Sc. (Route 1)	Valid JAM Score	CCMN-2025
M.Sc. (Route 2)*	JAM/PUCET(PG)/CUCET(PG)/SET-VI	SLIET
M.Tech. (Route 1)	Valid GATE Score	CCMT-2025
M.Tech. (Route 2)*	GATE/SET-VII	SLIET

*** Vacant seats if any in route 1 shall be added in admissions through route 2.**

Admission Procedure and Dates of Examination for SET 2025

1. 3-Year ICD Program (SET-I) May 03, 2025 Saturday 11:00 – 13:00 Hours
2. Integrated B.Sc.-M.Sc. (SET-II) May 03, 2025 Saturday 14:30—16:00 Hours
3. B.E. (Lateral Entry) (SET-III) May 03, 2025 Saturday 14:30 – 16:30 Hours
4. MBA (SET-IV) May 03, 2025 Saturday 14:30 – 16:00 Hours
5. Ph.D. Programme (SET-V) Aug 07, 2025 Thursday 11:00 – 13:00 Hours
6. M.Sc./M.Tech. (SET-VI/VII) May 03, 2025 Saturday 14:30 – 16:00 Hours

The entrance examination of SET-I/II/III/IV/VI/VII will be conducted in CBT Mode. The answer keys will be uploaded on the same day after completion of examination and challenges will be accepted through e-mail up to 05:00pm on 05.05.2025 for SET-I/II/III/IV/VI/VII.

For information related to Ph.D. (SET V) refer to the relevant section of the brochure.

7. **Declaration of Result (*SET-I/II/III/IV/VI/VII)* : May 14, 2025**

Online Counseling Schedule for SET 2025*

ICD Programme (SET I/IA)

Online Registration	31.01.2025 to 15.04.2025
Online Admit Card Allotment	30.04.2025
Examination Date	**03.05.2025 [Saturday) and Timings: 11:00-13:00**
Result	**14.05.2025**
Choice Filling	15.05.2025 to 20.05.2025
Round I	
Seat Allotment	23.05.2025
Fee payment (online only)	23.05.2025 to 28.05.2025
Round II	
Upgradation and Next Allotment	30.05.2025
Fee payment (online only)	30.05.2025 to 03.06.2025
Round III	
Upgradation and Next Allotment	06.06.2025
Fee payment (online only)	06.06.2025 to 10.06.2025
Upgradation of Branch	12.06.2025
Special Round (for SET qualified candidates)	
**Token Money Payment (Rs. 5000/-) and Choice filling	17.06.2025 to 22.06.2025
Seat Allotment	24.06.2025
Fee payment (online only)	24.06.2025 to 28.06.2025
Reporting/Document Verification in SET office	14.07.2025 and 15.07.2025
Start of Classes/Orientation Programme	16.07.2025

B.E. Lateral Entry (SET-III)

Online Registration	31.01.2025 to 15.04.2025
Online Admit Card Allotment	30.04.2025
Examination Date	**03.05.2025 [Saturday) and Timings: 14:30-16:30 hrs.**
Result Declaration	**14.05.2025**
Choice Filling	15.05.2025 to 20.05.2025 (for Group A & C only)
Round I	
Seat Allotment (Vertical)	25.06.2025
Fee payment (online only)	25.06.2025 to 28.06.2025
Round II	
Seat Allotment (Direct) & Allotment of vacant (vertical) seats	01.07.2025
Fee payment (online only)	01.07.2025 to 04.07.2025
Round III	
Up gradation and Seat Allotment	08.07.2025
Fee payment (online only)	08.07.2025 to 11.07.2025
Upgradation of Branch	14.07.2025
Special Round for SET III Qualified Candidates	
**Token Money Payment (Rs. 5000/-) and Choice Filling	15.07.2025 to 17.07.2025
Seat Allotment	18.07.2025
Fee payment (online only)	18.07.2025 to 22.07.2025
Reporting/Document Verification in SET office	14.07.2025 and 15.07.2025 for round I to III and 24.07.2025 for candidates admitted in special round
Start of Classes/Orientation Programme	16.07.2025

Integrated B.Sc.-M.Sc. (JEE/PUCET(UG)/CUCET(UG)/NEET/SET-II

Online Registration	31.01.2025 to 15.04.2025
Online Admit Card Allotment	30.04.2025
Examination Date	**03.05.2025 [Saturday) and Timings: 14:30-16:00 hrs.**
Result Declaration	**14.05.2025**
Choice Filling	15.05.2025 to 20.05.2025
Uploading Marks of PUCET (UG)/CUET (UG) SCORE CARD (for other than SET-II qualified candidates)	01.08.2025
Round I	
Seat Allotment	02.08.2025
Fee payment (online only)	02.08.2025 to 05.08.2025
Spot Round in Physical Mode for Vacant seats (if any):	
Seat Allotment, document verification and online fee payment	13.08.2025
Start of Classes	18.08.2025

M.B.A. PROGRAMMES

Online Registration	31.01.2025 to 15.04.2025
Online Admit Card Allotment	30.04.2025
Examination Date	**03.05.2025 [Saturday) and Timings: 14:30-16:00 hrs.**
Result Declaration	**14.05.2025**
Group Discussion and Interview	Dates will be notified separately

M.Sc/ M.Tech (JAM,PUCET,CUCET,SET-VI/ GATE, SET-VII 2025)
(These admissions are subject to the availability of seats after admission of CCMN/CCMT 2025-26)

Online Registration	31.01.2025 to 15.04.2025
Online Admit Card Allotment	30.04.2025
Examination Date	**03.05.2025 [Saturday) and Timings: 14:30-16:00 hrs.**
Result Declaration	**14.05.2025**
Round I	
Seat Allotment	07.08.2025
Fee payment (online only)	07.08.2025 to 11.08.2025
Spot Round in Physical Mode for vacant seats (if any):	
Seat Allotment, Document verification and fee payment	13.08.2025
Start of Classes	18.08.2025

Ph.D. (SET-V)

Schedule	Date	Time
Registration	31.01.2025 to 05.08.2025	
Examination Date	**07.08.2025 [Thursday]**	**11:00-13:00 hrs At SLIET Longowal Only (Pen and Paper mode)**
Entrance Exam Result	**07.08.2025**	
Date of Interview/Counselling	08.08.2025	10:00 A.M. onwards for NET/GATE qualified, SET qualified candidates in the office of Dean R & C. Detail will be notified on the institute website

***This is a tentative schedule.**
****The candidate has to pay a token amount worth Rs.5000/- as seat acceptance fee which is adjustable towards Institute fee. This fee will be forfeited in case the seat is allotted but not accepted by the candidate. The amount will be reimbursed otherwise if seat is not allotted**.

- **The candidates who have been allotted seats for admission should pay the requisite fee within stipulated period of time as specified in the schedule, otherwise seats allotted to them shall stand cancelled.**
- **The confirmation of the online payment shall be reflected in the login account of the candidate. The institute shall not be responsible, in any way, for the failed or unsuccessful transactions.**
- **It is mandatory to fill the choices of branches for qualified candidates (ICD & B.E. (Lateral Entry Group A & C).**

NOTES-

1. **FOR UPDATES, VISIT INSTITUTE WEBSITE (**www.sliet.ac.in**) FROM TIME TO TIME**

2. **Candidate must provide the correct information to avoid disqualification for admission. The correspondence address, Landline/Mobile Phone Numbers and Email ID should be checked thoroughly as any of these mode(s) will be used for contacting the candidate and in case of wrong information in this regard, the responsibility lies with the candidate ONLY. The candidate will be solely responsible for failure, if any, in receiving the correspondence due to the fault of the third party.**

DECLARATION OF RESULT		
SET-I, SET-II, SET-III, SET-IV, SET-VI, SET-VII	**:**	**May 14, 2025 (Wednesday)**
SET V	**:**	**Aug 07, 2025 (Thursday)**

CHAPTER - I

THE INSTITUTE

1.1 INTRODUCTION

Sant Longowal Institute of Engineering & Technology (SLIET), Longowal- **a Centrally Funded Technical Institute (CFTI)**, established by the Government of India, imparts quality technical education in emerging areas of Engineering & Technology. It caters to the growing need and emerging requirement of technical manpower at various levels by adopting the concept of modular system in imparting technical education with emphasis on practical training in industry. The institute was set up in 1989 under Rajiv Gandhi-Longowal accord with the sole aim at realizing the cherished dreams of Late Sant Harchand Singh Longowal. It has carved for itself a niche amongst the professional institutes and universities of the country and is fully funded by Ministry of Education, Government of India. The educational programmes of this institute are non-conventional, innovative, practical oriented and contain all aspects of National Education Policy-2020, Govt. of India. The Institute offers programmes at Certificate, Diploma, Degree, Post-graduate (M. Tech. and M. Sc.) and Ph. D. levels in Engineering and Technology, Science and Humanities.

Sprawling over more than four hundred acres of land, the institute is wonderfully blessed with natural beauty, greenery, serene landscape and pollution free environment, which is conducive to working environment and displays softening touch to the surroundings. The Campus has water bodies and is a paradise for bird watchers. The Institute plays a host to several numbers of migratory birds giving the glimpse of some of the rarest species in the world. The splendor and beauty of nature offers a serene setting for better learning in natural environment. It provides an atmosphere wherein a person becomes free from worries, converges his/her desires and start thinking and analyzing for making him/her physically fit, mentally awake, ethically strong and academically sturdy.

Enough avenues for channelizing youth energy in extracurricular activities such as NSS, NCC, Industrial visits, educational tours, departmental societies, SPICMACAY chapter, technical & cultural festivals, night playing facilities, eating points and reading rooms during the extra hours are available. The Institute has acquired the status of **DEEMED- TO- BE -UNIVERSITY** in the year **2007** (Notification No.F.9-42/2001-U.3). In the pursuit of marching towards academic excellence the institute offers NBA accredited courses bearing **NAAC assessed grading 'A'** and secured **NIRF ranking 76 in 2024**. In its Silver Jubilee year, the Institute displayed a giant leap by introducing a new academic structure from the session 2014-15. The details of the academic structure are given in the next section.

The candidates may visit Institute website **www.sliet.ac.in** for complete details about the Institute.

1.2 NEW ACADEMIC STRUCTURE

SALIENT FEATURES:

- Admission to ICD (Integrated Certificate-Diploma) programme is through All India SLIET Entrance Test (SET-I) for students **compulsorily Pass in English, Mathematics and Science in Class 10th**.
- Provision of voluntarily exit after successfully completing 2 years (with requisite number of credits) for certificate of ICD Programme.
- Provision of entry in 2nd year of ICD after ITI/Certificate with two years industrial experience and All India SLIET Entrance Test (SET-IA).
- Diploma will be awarded to students who complete 3 years of ICD with the prescribed credits as per teaching scheme successfully. Based on All India SLIET Entrance Test (SET)-conducted by SLIET, Longowal, 50% of the SLIET Diploma holders fulfilling the requisite criteria will be promoted to 2nd year of Bachelor of Engineering course.

- **1.3 OBJECTIVES**

The objectives of the Institute are:

(a) Education and Training:

(i) To offer flexible, modular, layered, multipoint entry/exit programmes in Engineering & Technology.

(ii) To promote "Self-employment" in all programmes by introducing a component of entrepreneurship & providing guidance and counselling services to help students for self-employment venturing.

(iii) To offer non-formal programmes in different areas of technology.

(iv) To provide Technical Education facilities for women, through specially designed courses.

(v) To offer continuing education programmes for working personnel from industries at different levels.

(vi) To meet the requirements of small, medium and large-scale industries.

(vii) To offer higher level programmes after acquiring necessary competence requisite level programmes of the Institute.

(viii) To provide non-formal education and training to the persons from unorganized sectors and school drop-out children through its extension services, to enable them to acquire basic technical skills, so that they are successfully employed.

(b) Extension Services:

To offer services to:

(i) Industries in the neighborhood and in the region
(ii) Working personnel
(iii) Passed out students
(iv) I.T.I.s and Polytechnics
(v) Research and other institutes of higher learning

(c) Research & Development:

(i) To conduct exploratory research for assessing manpower requirement and leading to integrated educational planning, curriculum development & instructional material development in the identified areas of Science & Technology.

(ii) To conduct research in the inter-disciplinary areas aimed at solving the problems of industry and community. The concept of practice school introduced in the Institute enables students to aspire for and acquire knowledge of modern technology practices in the industries within a reasonable time frame.

(d) Collaborations:

Number of M.O.U.s with reputed industries and institutes of higher learning have been signed and some more are in pipeline, for the purpose of drawing the expertise available with them, for the overall development of the Institute.

1.4 STATUS

The Institute is an autonomous body having the status of Deemed-to-be-University and fully funded by the Government of India. It is controlled by SLIET Society, registered under Societies Registration Act, 1860. The Institute awards its own Certificates, Diplomas and Degrees including M.Tech., M.Sc. and Ph.D. Further, it is clarified that:

(a) The courses run by SLIET are duly approved by AICTE / UGC.

(b) Certificates awarded by SLIET are recognized by All India Council for Technical Education (AICTE), New Delhi (Letter No.F-765-65-031(E)/ET/97 dated July 4, 1997 and Letter No.F-765-65/ ET/97 dated April 15, 1997). Panjab University, Chandigarh vide its letter No.ST/8374 dated 21.9.1999 has recognized the Certificate courses of SLIET for the purpose of admission to B.A./B.Sc./B.C.A. courses (1st year). Department of Technical Education & Industrial Training, Govt. of Punjab, Chandigarh vide its Memo

No.13/23/05-1 T.S.2/32 dated 4.1.2006 has recognized Certificate Course of SLIET equivalent to 10+2. According to the notification, SLIET students are eligible for the admission to B.E./B.Tech. Programmes of Punjab Technical University, Jalandhar (state-wise). Vide Notification 42 No. F 18-8/93 T.D.V./T.S. IV dated March 8, 1995 (Ministry of Education, Department of Higher Education, Govt of India) the certificate courses are declared as equivalent to 10+2 for job purpose.

(c) 3 year Integrated Certificate Diploma (ICD) courses.
(d) B.E. (4 Years) Courses through JEE Main.
(e) Integrated M.Tech.Programme through JEE (Main)
(f) Integrated B.Sc.-M.Sc. programmes
(g) Master of Business Administration (MBA)
(h) M. Tech. Courses are recognized by AICTE, New Delhi.
(i) M.Sc. (Physics, Chemistry & Mathematics) is approved by the UGC, New Delhi vide letter no. F 6.66/2004 (CPP-I) dated 04 March, 2011.

Note: All the Engineering courses are approved by AICTE vide F.No. North-West/1-43663809310/2024/EOA Dated 21 May, 2024. Admission in the new courses are subject to approval from AICTE.

1.5 LOCATION

The Institute is situated at Longowal (about 8 km from Badbar on Chandigarh-Bathinda Highway) in the District of Sangrur, Punjab. It is well connected by road with Sangrur (18 km), Ludhiana (100 km), Chandigarh (150 km) and Delhi (360 km). The nearest railway stations are Sangrur (18 km), Dhuri (30 km) & Sunam (16 km) on the Northern Railway. The nearest airports are at Chandigarh, Ludhiana and Bathinda.

1.6 FACILITIES

Institute provides an ambient atmosphere which means oneself away from the worries, by converging desires and promoting the values of thinking and analysis. While a cool shade never fails oneself, a nice and comfortable well-equipped guest house adds to the charm of staying at the Institute. Dotted with green parks, strolling areas, gymnasium, swimming pool, herbal nursery, a lake with a created home for doves, the Institute is a mini paradise extending a warm welcome and symbolizes the 'Modern Gurukul' of 21st Century. All modern facilities are available to the residents in the campus.

(a) Hostels: SLIET is a residential campus with ten hostels for boys and four for girls, accommodating about 3400 students which include about 1000 girl students. The hostels have been designed with proper kitchens, comfortable dining halls and indoor games facilities, Wi-Fi Internet connectivity, Newspapers/Magazines and Cable T.V. facilities. Hostel facility, in general is provided to all willing students except a very few due to non-availability. Girl students (including Ph.D. Scholars) will be considered for accommodation only in Girls Hostels. All the hostellers will have to maintain discipline and abide by the rules framed by the office of Dean (SW) from time to time.

(b) Teaching Departments & Workshop:

The Institute has well-established departments enlisted below:

(i)	**Computer Science & Engineering**	**(vii)**	**Electronics & Communication Engineering**
(ii)	**Electrical & Instrumentation Engineering**	**(viii)**	**Mechanical Engineering**
(iii)	**Civil Engineering**	**(ix)**	**Chemical Engineering**
(iv)	**Food Engineering &Technology**	**(x)**	**Physics**
(v)	**Chemistry**	**(xi)**	**Mathematics**
(vi)	**Management and Humanities**	**(xii)**	**Disability Studies**

All the departments have well qualified faculty members and supporting staff and therein lie laboratories equipped with the modern equipments. Exhaustive practical training is imparted to the students to develop their working skills in well-equipped workshops.

(c) Central Library: The Central Library under CCTV surveillance is housed in a modern building having all kinds of facilities for its best utilization by students and members of faculty and staff. It has a rich collection of books on technical sciences, literature, general awareness, management, social sciences and humanities. This has also subscription of 15 daily newspapers, numerous national and international magazines & periodicals. Students and members of faculty and staff have easy access to full text of journals from Science Direct, ASTM standards & Digital Library. The Central Library is INDEST Consortium member and through INDEST, students and members of faculty and staff have online access to the journals from IEEE, Springer, ASME, ASCE, ACM and Nature etc.
The availability of NPTEL lectures is an added advantage for students for viewing online within the campus. The library has a book bank and books are issued to the students throughout the academic session subject to availability.

(d) Computing Facilities: The Institute is equipped with the latest hardware & software tools for computing. The computer laboratories provide computing environment (Linux and Windows Platforms) to students and members of faculty in the pursuit of academic excellence. The various software tools such as Oracle 10g, MATLAB, Visual Studio Power Builder, Developer 2000, Net, Qualnet etc. cater to the need of students. Hardwares such as IBM Blade Server, Video conferencing server, IBM xSeries Server, Acer G510 series Server, workstations and PCs are also available for digital process and net-working. The computer laboratories are equipped with high-end printers, plotters and scanners. All servers, PCs and peripherals are connected to the campus-networking for sharing the resources. Academic Blocks, Administrative Block, other Institute buildings and all hostels are connected through optical fiber to share the resources and exchange the data. Wi-Fi facility is available in all hostels and departments.

(e) Health Centre: The Institute has a Health Centre to provide necessary medical aid as and when required to the students and the residents in the campus. Apart from the Medical Officers, specialists are also approved for providing medical consultation to the residents. Ambulance facilities are available round the clock for shifting serious patients to nearby hospitals.

(f) Bank, Telephone Exchange and Shopping Centre: A fully computerized branch of Central Bank of India with ATM facility is functional in the campus to cater the needs of students and members of faculty and staff. An 800 line EPABX internal telephone facility is available in the institute. Each hostel has been provided with a telephone facility. A moderate Shopping Centre caters the needs of the residents. All major players of mobile companies have established their network around the campus.

(g) Sports: Adequate provisions for extracurricular activities are available in the Institute. At present, facilities are available for Table Tennis, Badminton, Swimming, Volleyball, Football, Hockey, Cricket, Basketball, Lawn Tennis and other indoor games. A 400-meter Athletic Track is also available. The playground is equipped with floodlights.

(h) Students Activity Centre: A modern Students Activity Centre (SAC) is enriched with 02 Squash courts, Gymnasium equipped with the latest Physical Fitness Machines, indoor games such as Table Tennis, Chess & Carom, Yoga Hall etc. and is fully functional.

(i) Extra-Curricular Activities: Students are encouraged to participate in extra-curricular activities. Music and hobby clubs are functioning very effectively. Literary society organizes various literary activities from time to time. Almost all the departments have their own technical societies which organize technical seminars, quizzes and other competitions in the respective departments to give a thrust to harness the academic potential of students. NSS & NCC units render valuable services by inculcating the habits of social responsibility & national duty amongst the students. The NSS unit also organizes blood donation camps at SLIET Health Centre. ISTE-SLIET Students Chapter organizes various events on different aspects of personality and skill development and other areas of students' interest.

(j) Equal Opportunities Cell: The equal opportunities cell has been established in the Institute to oversee the effective implementation of policies and programmes for deprived groups [SCs, STs, OBCs (non-creamy layer), minorities] as per Government of India guidelines in order to enhance their employability.

(k) Internet: At present, the Institute has offered 01 Gbps internet connectivity under NKN project, along with an additional 500 Mbps lease line for the benefit of students and faculty. Internet facility has been extended to all Academic Blocks, Administrative Block, Hostels and other Institute buildings through campus wide networking.

(l) Training and Placement Cell: A centralized department of Training & Placement is established in the Institute to meet the need of placement of students and industrial training requirements. The department is keeping strong liaison with reputed industries to provide placement opportunities and impart industrial training to students at the Institute. The department also facilitates soft skills, personality development, leadership, motivation and communication skills etc. to students for meeting expectations of the industry. A good number of industries conduct campus placements at the institute. The department has state-of-the-art infrastructure viz. a group discussion room, interview room and a seminar hall. TCS, iGate-Patni, M&M, L&T InfoTech, Birla soft, Infosys, Trident India, ISGEC Yamuna Nagar, Punj Lloyd, Honda Siel Cars India Ltd., ESSAR, CIMCOO, J.P. Group of Industries, Nestle, Hindustan Unilever, SANMAR Group of Industries, L&T, Godrej and Boycee Mfg. Co., Sona Koya, i-Tech Vardhman etc. are some of the industries which recruit SLIET students through Campus Placement.

Abbreviations Used:

SLIET	: Sant Longowal Institute of Engineering & Technology	JEE(Main)	: Joint Entrance Examination (Main)
SET	: All India SLIET Entrance Test	CSAB	: Central Seat Allocation Board
ICD	: Integrated Certificate-Diploma	JAM	: Joint Admission Test
CCMT	: Centralized Counseling for M.Tech./M.Arch./M.Plan	GATE	: Graduate Aptitude Test in Engineering
CCMN	: Common Counseling for M.Sc. programmes	DASA	: Direct Admission of Students Abroad
CBT	: Computer Based Test	JoSAA	: Joint Seat Allocation Authority

1.7 THE FACULTY AND ADMINISTRATION

The Faculty of the institute is the core of the academic programme and guardian to maintain the high academic standards. Several academic distinction honors and awards, fellowships of professional societies, books/monographs and patents have been bestowed on our faculty in recognition of their academic achievements.

DIRECTOR

Mani Kant Paswan, Ph.D.

DEANS

A.S.Shahi, Ph.D., Dean (Academics)
Kamlesh Kumari, Ph.D., Dean (P&D)
Kamlesh Prasad, Ph.D., Dean (FSW)
M.M.Sinha, Ph.D., Dean (SW)
R.K.Mishra, Ph.D., Dean (Alumni & IR)
Surinder Singh, Ph.D., Dean (R&C)

DEPARTMENT OF CHEMICAL ENGINEERING

Professor:

Avinash Thakur, Ph.D.
H.R. Ghatak, Ph.D.(H.O.D.)
Kamlesh Kumari,Ph.D.
Pushpa Jha, Ph.D.
Sandeep Mohan Ahuja, Ph.D.

Associate Professor:

A.S.K.Sinha,Ph.D.
Gulshan Kumar Jawa, Ph.D.
Nikhil Prakash.,Ph.D

Assistant Professor:

Amit Rai, Ph.D.
Subita Bhagat,Ph.D.
Vinod Kumar Meena, Ph.D.

DEPARTMENT OF CHEMISTRY

Professor:

Dhiraj Sud,Ph.D.
Harish Kumar Chopra,Ph.D. (H.O.D.)
Ram Pal Chaudhary, Ph.D.

Assistant Professor:

Hemant Kumar,Ph.D.
Himanshu Rani, Ph.D.
Payal Malik, Ph.D.

DEPARTMENT OF COMPUTER SCIENCE & ENGG.

Professors:

Birmohan Singh,Ph.D. (H.O.D)
Damanpreet Singh,Ph.D.
Major Singh Goraya, Ph.D.
Manoj Kumar Sachan, Ph.D.

Associate Professor:

Gurjinder Kaur Cheema, Ph.D.

Assistant Professor:

Amar Nath, Ph.D.
Jagdeep Singh, Ph.D.
Jaspal Singh, M.Tech.
Manminder Singh, Ph.D.
Preetpal Kaur Buttar, Ph.D.
Rahul Gautam, M.Tech.
Tajinder Singh, Ph.D.
Utkarsh, Ph.D.
Vinod Kumar Verma, Ph.D.

DEPARTMENT OF ELECTRICAL AND INSTRU. ENGG.

Professor :

Ajat Shatru Arora,Ph.D.
Ashwani Kumar, Ph.D.
Jaspreet Singh Dhillon, Ph.D.
Manmohan Singh, Ph.D.
Manpreet Kaur, Ph.D. (H.O.D.)
Raj Kumar, Ph.D.
Sanjay Marwaha, Ph.D.
Surita Maini, Ph.D.

Associate Professor:

Anshuka Bansal, M.Tech.
Asim Ali Khan, Ph.D.
Charanjiv Gupta, Ph.D.
Diljinder Singh, Ph.D.
Gurmeet Singh, Ph.D.
Manpreet Singh Manna, Ph.D. (on E.O.L)
Pratibha Tyagi, Ph.D.
Rajinder Kaur, M.Tech.

Assistant Professor:

Barasha Mali, Ph.D.
Jaspreet Singh, Ph.D.
Rishabh Verma, Ph.D.
Sunil Kumar Bansal, M.Tech.

DEPARTMENT OF ELECTRONICS AND COMM. ENGG.

Professor:

Ajay Pal Singh Chauhan, Ph.D. (H.O.D.)
Amar Partap Singh Pharwaha, Ph.D.
Anupma Marwaha, Ph.D.
Dilip Kumar, Ph.D
Jagpal Singh Ubhi, Ph.D.
Surinder Singh, Ph.D.

Assistant Professors:

Alka Singla, Ph.D.
Kuldip Singh, M.Tech.
Kundan Kumar, Ph.D.-on lien
Pankaj Kumar Das, Ph.D.
Sarbjeet Singh, Ph.D.
Vipul Singhal, M.Tech.
Vivek Harshey, M.Tech.

DEPARTMENT OF FOOD ENGG. AND TECH.

Professor:

C.S. Riar,Ph.D
Charanjeev Singh Saini, Ph.D.
D.C. Saxena, Ph.D.
H.K. Sharma, Ph.D.
Kamlesh Prasad, Ph.D.
Navdeep Jindal, Ph.D.
P. S. Panesar, Ph.D.
Pradyuman Kumar, Ph.D.
Sukhcharn Singh, Ph.D.
Vikas Nanda, Ph.D. (H.O.D.)

Assistant Professor:
Ashwani Kumar, M.Tech.

DEPARTMENT OF MANAGEMENT & HUMANITIES

Professor:
Jappreet Kaur Bhangu, Ph.D. (H.O.D)
Mahesh Kumar Arora, Ph.D.
Pardeep Kumar Jain, Ph.D.
Parveen Kaur Khanna, Ph.D.
Pawan Kumar Dhiman, Ph.D.
Sanjeev Bansal, Ph.D
Sanjeev Kumar Garg, Ph.D.
Associate Professor:
Mandeep Ghai,Ph.D.

DEPARTMENT OF MATHEMATICS

Professor:
Janak Raj Sharma,Ph.D. (H.O.D.)
Mandeep Singh, Ph.D.
R.K. Guha,Ph.D.
Ravi Kant Mishra, Ph.D.
S.S. Dhaliwal, Ph.D.
Sushma Gupta, Ph.D.
Vinod Mishra, Ph.D.
V.K. Kukreja, Ph.D.
Assistant Professor:
Sudhir Kumar, Ph.D.
Yogesh Kapil, Ph..D.

DEPARTMENT OF MECHANICAL ENGINEERING

Professor:
Amandeep Singh Shahi, Ph.D.
Amrik Singh, Ph.D.
Indraj Singh, Ph.D.
Jagtar Singh, Ph.D.
Kulwant Singh, Ph.D.
Pardeep Gupta, Ph.D.
Rajesh Kumar, Ph.D.
Raj Kumar Yadav, Ph.D.
Ravindra Kumar Saxena, Ph.D.
Shankar Singh, Ph.D.(H.O.D.)
Associate Professor:
Anil Kumar Singla, Ph.D.
Harish Kumar Arya, Ph.D.
Jaspal Singh Gill, Ph.D.
M.A. Akhtar, M.Tech.
Manoj Kumar Goyal, Ph.D.
Mohd. Majid, Ph.D.
Rakesh Kumar, Ph.D.
Sunil Kumar, Ph.D.
Suresh Chandra Verma, M.E.
Vivek Kumar, Ph.D.
Assistant Professor:
Ankita Omer, M.Tech.
Anuj Bansal, Ph.D.
Divesh Bharti, M.Tech.
Jonny Singla, M.Tech.
Lalit Ahuja, M.Tech.
Surinder Kumar, Ph.D.
Sumit Kumar, Ph.D.
Yogesh Verma, Ph.D.

DEPARTMENT OF PHYSICS

Professor:
A.S. Dhaliwal, Ph.D.(H.O.D.)
Kiranjit Singh Kahlon, Ph.D.
M.M. Sinha, Ph.D.
S.S. Verma, Ph.D.
Associate Professor :
S.S. Ghumman, Ph.D.
Assistant Professor:
Kanika Aggrawal, M.Sc. M.Tech.
Prabhdeep Kaur, Ph.D.

DEPARTMENT OF CIVIL ENGINEERING

Shankar Singh, Ph.D. (H.O.D.)

DEPARTMENT OF DISABILITIES STUDIES

Manoj Kumar Goyal, Ph.D. (H.O.D.)

TRAINING & PLACEMENT CELL

Major Singh Goraya, Ph.D. (Head)

WORKSHOP

Raj Kumar Yadav, Ph.D. (H.O.D.)

CENTRAL LIBRARY Librarian:

Prithvi Singh Bamnia, Ph.D.
Sanjay Gupta, Ph.D (Admn. Incharge)

SPORTS DEPARTMENT

S.S.Punia,S.P.I., Ph.D.

REGISTRAR

Hari Mohan Arora, M.A. (Public Admn.) MIRPM

Deputy Registrar (Administration):

Mohanakrishnan C.,MBA, CAIIB

Deputy Registrar (A & A) (Officiating):

Jawala Singh, M.Com., MBA

Assistant Registrar (Academics)

Pankaj, M.Tech.

Assistant Registrar (Store & Purchase):

Surjit Lal, B.A.

Medical Officer:

Rupesh Singh, MBBS
Devinder Sharma, MBBS (visiting consultant)

In-charge Estate:

Charanjiv Gupta, Ph.D.

Estate Officer:

Prabhdeep Singh, B.E. (Civil)

CHAPTER - II

IMPORTANT INFORMATION

The Institute offers modular pattern of education in emerging areas of Engineering, Technology and Sciences, Humanities and Management. The following Programmes are offered by the institute:

(a) Integrated Certificate-Diploma (ICD) (b) Bachelor of Engineering (B.E.) (c) Integrated B.Sc.-M.Sc. Programmes
(d) Integrated M.Tech. (e) Master of Business Administration (MBA) (f) Master of Technology (M. Tech)
(g) Master of Science (M.Sc.) (h) Doctor of Philosophy (Ph.D.)

2.1 Mode of Admission 2025

Entrance Test conducted for admission to various programmes is termed as **SLIET ENTRANCE TEST (SET)** and the details are given in **Table 2.1**.

Table 2.1

Name of Programme	Entrance Test	Date	Time
ICD Programme	SET-I	May 03, 2025	11.00-13.00 Hours
Integrated B.Sc.-M.Sc.	SET-II	May 03, 2025	14:30 to 16:00 Hours
B.E.(Lateral Entry)	SET III	May 03, 2025	14:30-16:30 Hours
M.Sc. Programme	CCMN/Valid JAM 2025/SET VI	May 03, 2025	14:30 to 16:00 Hours
MBA programmes	SET-IV	May 03, 2025	14:30 to 16:00 Hours
M. Tech. Programme	CCMT/Valid GATE Score/SET VII	May 03, 2025	14:30 to 16:00 Hours
Ph.D. (Full/Part Time)	SET V	Aug 07, 2025	11:00-13:00 Hours

2.2 Pattern of Examination

For SET-I & SET III, there will be one paper of two hours duration and of 100 marks. For SET II/IV/VI/VII, the paper shall be of One and half hour duration and of 60 marks. The syllabi and distribution of marks for SET I, SET II,SET III, SET-IV, SET VI, SET VII and SET V are given in the respective chapters.

Note : There will be objective type questions with four options having a single correct answer. ***For each incorrect response, one fourth (1/4th) of the total marks allotted to the question would be deducted for SET-I/II/III/IV/VI/VII. There shall be NO NEGATIVE marking for SET-V (Ph.D. Programmes)***. No deduction of marks will be made, in case no response is indicated for a question. For queries related to PhD admissions, the applicants should send request at phdadmissions@sliet.ac.in

2.3. Application Fee

The process of registration shall be **ONLINE** only.

Online Application Fee

Categories	B.E. Lateral Entry/ Integrated B.Sc.-.Sc./MBA/M.Sc./ M.Tech./ Ph.D	ICD
General and Other Categories (Boys)	Rs.1750/-*	Rs.1000/-*
General and Other Categories (Girls)	Rs.1250/-*	Rs.750/-*
SC/ST Categories (Boys and Girls)	Rs.1000/-*	Rs. 750/-*
Mode of Payment: Net-banking/Debit Card/Credit Card/UPI		***18% GST & Bank charges extra**

2.4 Examination Centres of SET-2025*: (Numbers before the name of the city in following table indicate centre code)

CODE	NAME	CODE	NAME	CODE	NAME	CODE	NAME
01	Bathinda	05	Jalandhar	09	Muzaffarpur	13	Pune
02	Chandigarh	06	Jaipur	10	New Delhi	14	Shimla
03	Dehradun	07	Kolkata	11	Patiala	15	Longowal
04	Hamirpur	08	Lucknow	12	Patna	16	Ranchi
17	Dhanbad	18	Braeilly	19	Siliguri	20	Kota

* for Ph.D. Entrance Test the examination Centre will be at SLIET, Longowal only.

Note: *Director, SLIET / Chairman, SET reserves the right to scrap any Centre and allot any other Centre to the candidates without assigning any reason.*

2.5. Admit Cards

Admit Card can be downloaded from admission portal **www.slietexam.co.in**. All the candidates are required to take a printout of their Admit Cards through the respective login ID *after* ***30.04.2025*** for ***SET I/II/III/IV/VI/VII.*** In case of any difficulty in printing /downloading the Admit Card, the candidate should contact / inform the issuing authority immediately but not later *than* ***03.05.2025*** for ***SET I/II/III/IV/VI/VII*** respectively to chairmanset2025@gmail.com The form number is the basic means for locating the application and it should always be quoted in all correspondences and enquiries. No candidate will be permitted to enter the examination hall without a valid admit card.

2.6. Merit List

- All admissions will be based on merit. In case of tie among two or more candidates, the candidate, elder in age as per the relevant entry in the matriculation certificate, shall be placed higher in merit. Again, if there is tie in age (date of birth), candidate having higher marks in qualifying examination shall be placed higher in merit. Wrong filling of Date of Birth in Application Form will lead to disqualification of candidature.

- A candidate must obtain cutoffmarks in SLIETEntrance Test forinclusion in the merit list. **Cut off marks will be decided by the Core Committee of SET-2025 and with due approval of the Competent Authority.** Candidates who fail to appear in Entrance test SET-2025 will not be included in the merit list.

- **For admission in ICD programme,** Based on SET I a common merit list will be prepared and candidate will be allotted/branch/specialization as per his/her merit and choice and above all, the availability of seats.

- **For admission to B.E. Programme**

- **B.E. Programme (4 Year):** Admission to B.E. will be based on JEE (Main)-2025 and counseling through JoSAA/ CSAB 2025 and the corresponding schedule available at **www.josaa.nic.in** and **www.csab.nic.in** will be followed.

- **B.E. (Lateral Entry):** Based on SET III, merit list will be prepared in three broad categories separately i.e. **Group A –** Electronics / Computer/Instrumentation **Group B –** Mechanical, **Group C** – Chemical & Food **and Group D-** Civil Engineering as mentioned in **Table 4.2**. The Candidate who qualifies in SLIET Entrance Test (SET III) will be admitted in the same Group in which he/she has appeared and qualified. If a candidate crosses his/her branch within the group, he/she will be considered in open merit.

- **Integrated M.Tech. (5 Year):** Admission to Integrated M.Tech.. will be based on JEE (Main)-2025 and counseling through JoSAA/ CSAB 2025 and the corresponding schedule available at **www.josaa.nic.in** and **www.csab.nic.in** will be followed.

- **For admission to Integrated B.Sc.-M.Sc. programmes**: Admission to integrated B.Sc.-M.Sc. will be through Centralized Counseling based on JEE (Main)-2025 and counseling through JoSAA/ CSAB 2025 and the corresponding schedule available at **www.josaa.nic.in** and **www.csab.nic.in** will be followed. For seats to be filled at Institute level a National level Entrance Test (SET-II) will be conducted by SLIET Longowal. The candidates, who wish to seek admission based on SET-II, are required to register on www.slietexam.co.in and appear in the Entrance Test on scheduled date.

- **For admission to M.Sc. programmes**: Admission to M.Sc. will be through Centralized Counseling for M.Sc. (CCMN-2025) in NITs and CFTIs for the session 2025-26 and the corresponding schedule available at **www.ccmn.admissions.nic.in** as well as through National Level Entrance Test (SET-VI) conducted by SLIET Longowal. The candidates, who wish to seek admission based on SET-VI, are required to register on www.slietexam.co.in and appear at the Entrance Test on scheduled date.

- **For admission in MBA programme:** Based on SET IV result/score will be notified and candidates will be selected on the basis of final combined merit of Group Discussion, Interview and Entrance Test. Details will be intimated to the candidates by the department.

- **For admission to M.Tech. programme**: Admission in M.Tech programmes will be through Centralized Counseling for M. Tech. / M. Plan (CCMT-2025) in NITs and CFTIs for the session 2025-26 and the corresponding schedule available at **www.ccmt.nic.in** will be followed. However, the institute conducts SET VII for seats, if any, lying vacant. For any query, please refer to the Institute website **www.sliet.ac.in** .

- **For admission to Ph.D. programmes:**

Admission to Ph.D. programmes will be based on **TWO STAGE PROCESS** through an **ENTRANCE TEST (SET-V)** followed by an interview as per UGC guidelines. For more details refer to Ph.D. Information Brochure available on website. For queries related to PhD admission, the applicants should send request at phdadmissions@sliet.ac.in

2.7. Counselling and Document Verification

There will be **ONLINE COUNSELLING** for all the programmes (except for Ph.D.). The exact schedule of ONLINE COUNSELLING, document verification and depositing admission fee will be displayed on the Institute website **www.sliet.ac.in** at admission portal**.** The provisional seat allotment is liable to be cancelled if the candidate fails to produce the requisite documents and submit fee within the prescribed period. **No separate Call Letters will be sent to the candidates for Counseling/Document Verification/Deposit of Admission Fee.** However, if a candidate fails to participate in the due round of counselling for any reason, he/she can participate in the special round only. Such candidates will have to keep track of the special round of counselling, which will be displayed on Institute website and participate therein without waiting for any intimation in this regard. The candidate will be considered in accordance with his/her merit/choice and availability of seats in a particular trade/ branch/specialization. Final Seat Allotment Card will be issued to the candidate after document verification and fee deposit. **The steps to be followed for ONLINE COUNSELLING for participation in each round of Counseling will be made available before the start of ONLINE COUNSELLING at www.sliet.ac.in.**

For Ph. D. program, offline counseling will take place on 08/08/2025 in the Dean (R& C) office and the qualified candidates have to appear in person with original documents mandatory for admission.

2.8. Medium of Examination:

The medium of entrance examination for SET-I will be English, Hindi, and Punjabi and that for SET-II, SET-III, SET-IV, SET-V, SET-VI and SET-VII will be English.

2.9 RULES OF RESERVATION APPLICABLE TO ALL ADMISSIONS

2.9.1 Reservation of Seats:

i) The distribution of seats and admission procedure is given in Chapter III & IV for the 3-year ICD Programme & for B.E. Programme (Direct Entry and Vertical Entry) seats respectively.

Note: The procedure for vertical promotion shall be as per policy framed by Institute from time to time

ii) Seats to which reservation apply: The reservation policy shall be applicable only for direct entry seats meant for admission to ICD/B.E./Post-graduate/Ph.D. programmes. There will be no reservation for vertical promotions from ICD course to B.E. (Lateral Entry) course. The vertical promotion from ICD course to B.E. (Lateral Entry) course is applicable to the students of ICD 2022 batch of SLIET only.

iii) Extent of Reservation: The extent of reservation will be as under:-

a)	Scheduled Caste (SC)	**15%**	b)	Scheduled Tribes (ST)	**7.5%**
c)	GEN-EWS	**10%**	**d**)	Other Backward Classes (OBC-NCL)	**27%**

[OBC reservation will be available to non-creamy layer only. The details of non-creamy layer will be as per the stipulations set out hereunder at 2.9.3(v)]

f) For Physically Handicapped (PH) **5%** (within respective category including General Category)

g) Few seats are available to NRI/Foreign Nationals in UG/PG programmes under DASA scheme. UG/PG//Ph.D. programs under DASA/Study in India portal also available for international students. No vertical promotion system is available to the students admitted under NRI Category.

h) Students admitted in 2nd year of ICD Lateral entry programme shall not be considered for promotion to the higher module under the vertical promotion scheme of the institute.

Reservation will be as per latest guidelines issued by the Government of India from time to time.

2.9.2. Territorial Quota

Seats meant for 3 Year ICD courses are bifurcated for the candidates of the State of Punjab and for the candidates belonging to other States, respectively in the following proportion:

3-Year ICD (Integrated Certificate Diploma) Programme	
Quota for Punjab State (excluding Chandigarh)	75%
Quota for Other States and U.T. (including Chandigarh)	25%

NOTE: THERE SHALL BE NO TERRITORIAL RESERVATION FOR ADMISSION TO ICD Lateral Entry, B.E., INEGRATED B.Sc.-M.Sc., POST-GRADUATION (M. Tech, M.Sc., M.B.A.) AND Ph.D. PROGRAMMES. ALSO, THERE SHALL BE NO TERRITORIAL RESERVATION FOR VERTICAL ENTRY SEATS.

2.9.3. Procedure for reservation

i) Candidate, who have passed qualifying examination from the Schools/Institutes falling in Punjab (excluding Chandigarh) will be eligible for reservation under Punjab State and all others will be eligible to claim reservation for Other States (including Chandigarh), for admission to 3 year ICD Programmes. Candidates, who have passed qualifying examination from National Open School or as private candidate will be eligible to claim territorial quota under Punjab State on submission of domicile of Punjab.

ii) Seats remaining unfilled in OBC-NCL category will be offered to general category, as per instructions of Govt. of India.

iii) The vacant seats in ICD programme under territorial quota of Punjab will be transferred to other state quota and vice versa to the respective category.

iv) Eligibility for SC/ST Reservation: For applying to avail reservation under SC/ST category, the candidates will be required to submit adequate proof / certificate, issued by the competent authority as may be prescribed from time to time in evidence of his/her belonging to respective category.

v) Eligibility for OBC (Non Creamy Layer) Reservation: For applying to avail reservation under OBC-NCL category, the candidates will be required to submit adequate proof /certificate, issued by the competent authority as may be prescribed from time to time in evidence of his/her not belonging to creamy layer. The criteria of creamy layer will be applied as may be prescribed by the Govt. of India from time to time. At present, notification issued by the Ministry of Human Resource Development, New Delhi, prescribes that the candidates whose family income does not exceed Rs 8 lacs per annum as per OM No. 36033/1/2013-Estt.(Res) dated 13 September, 2017 (the amount will be governed by latest guidelines of Govt. of India) and do not fall within the category of creamy layer. **The above proof/certificate should pertain to the financial year 2024-25 and certificate issued on or after 01.04.2025 in the given format (Appendix-I) will be considered.**

vi) For claiming seats reserved for Physically Handicapped candidates, the minimum Degree of disability should be 40%. Seats for Physically Handicapped candidates in various branches are interchangeable depending upon the availability/suitability of candidates. However, in any branch the total seats meant for physically handicapped candidates cannot exceed the prescribed quota of 5% of the seats available for direct entry. To claim reservation under Physically Handicapped category, the candidate is required to submit a certificate from the Chief Medical Officer of the district concerned and the extent/degree of disability clearly mentioned therein. The admission to this category will be governed by the rules of Govt. of India, applicable from time to time. The decision of admission committee, regarding suitability of a candidate for a particular branch for claiming reservation under this category, shall be final and binding on the candidates.

vii) Eligibility for EWS Reservation: EWS certificate in the prescribed format (Annexure-II).The certificate must be issued on or after 01.04.2025.

viii) The seats remaining vacant in any branch due to non-availability/suitability of eligible candidates belonging to physically

handicapped category will be shifted to the respective main category in that branch.

ix) A candidate seeking admission against any reserved seat/ territorial quota if fails to get admission against the said reserved seat/quota for any reason, may immediately apply to the Chairman SET for consideration of his claim for admission in non-reserved category/quota. For considering the said claim, however, no separate call letter shall be issued to such candidates and he/she will have to appear in the counseling for filling up the seats other than reserved seats/quota at his/her own responsibility. The claim of such candidate shall be considered in order of his/her merit and choice of trade/branch/specialization as well as availability of seats in the said trade/branch/specialization in the unreserved category/quota aforesaid.

x) Director, SLIET reserves the right to transfer the non-filled seats of one quota/category to another quota/category as per existing rules/norms.

Note: Being Centrally Funded Technical Institute, candidates would be considered for reservation and other benefits under SC/ST/OBC–NCL/PWD quota as per the guidelines issued/list published by Government of India for the purpose. In qualifying examinations, wherever applicable, 5% relaxation in percentage will be given to SC/ST/OBC-NCL/PWD candidates

2.10 THE FOLLOWING CONDITIONS SHALL APPLY FOR ADMISSION TO THE PROGRAMME CONCERNED:

(a) During counseling, the candidates shall be admitted **PROVISIONALLY** in all the programmes subject to verification of result and eligibility on the last day of submission of documents i.e. **30.09.2025**. Candidates must ensure their eligibility for the programme in which they are getting admission. The admission shall be liable to be cancelled due to non-fulfillment of requisite qualification at any stage.

(b) Semester system will be followed for all the Programmes.

(c) The medium of instructions is English for all the Programmes.

(d) It is expected that the applicants will have good general physique with normal vision and hearing. In case of defective vision, it must be corrected to 6/9 in both eyes or 6/6 in the better eye. Defective hearing should also be corrected. There should not be any abnormality in heart and lungs and history of mental disease /chronic disease and epileptic fits. The candidate must submit a medical certificate (Appendix-III) of fitness from a Govt. Doctor not below the rank of A.M.O.

(e) Scholarships are provided to the meritorious candidates as per norms of Government of India notified from time to time.

(f) Tuition Fee Waiver (TFW) Scheme of AICTE, New Delhi shall be applicable in all Diploma (3 Year) & B.E. Courses only to the meritorious candidates as per norms of the scheme notified from time to time. Candidates must produce income certificate as applicable to the scheme and issued on or after 01.04.2025.

(g) There shall be a minimum number of students to run the course.

(h) Request for re-evaluation of the answer sheets will not be entertained.

(i) There will be a cutoff mark for all types of tests conducted by SLIET through SET.

(j) Post-matric scholarship

The students belonging to Schedule Caste Category (other than Punjab) and Scheduled Tribes/Other Backward Class category belonging to other states eligible under Post Matric Scholarship scheme will be charged normal fee at the time of admission. Reimbursement of fee of eligible students will be as per existing practice being followed by the institute.

No tuition fee and other non-refundable charges will be charged from the eligible candidates belonging to Schedule Caste category of Punjab domicile under the Post Matric Scholarship Scheme at the time of admission. Candidates must produce an income certificate as applicable to the scheme and issued on or after 01.04.2025.

All the students belonging to SC category of Punjab Domicile eligible under Post-Matric Scholarship Scheme are required to submit the following documents at the time of admission/Counseling.

(i) Caste Certificate

(ii) Domicile Certificate of Punjab State

(iii) Income Certificate issued by competent authority.

(iv) UID/Aadhaar Card

(v) Free ship card

(vi) Bank Account in the name of student.

(vii) It will be the responsibility of the candidate to apply online and submit the documents to avail the respective scheme

2.11 FEE STRUCTURE FOR ACADEMIC YEAR 2025-26

INSTITUTE FEES		ICD	B.E./Integrated M.Tech.	Integrated B.Sc.-M.Sc	PG (M. Tech./ MBA)	PG (M.Sc.)
A. REFUNDABLE CAUTION MONEY: (WITHOUT ANY INTEREST)	Caution Money Institute	5000	5000	5000	5000	5000
	Total (A)	**5000**	**5000**	**5000**	**5000**	**5000**
B. NON-REFUNDABLE FEES (To be paid at the time of admission)	Admission Related Fee	1200	2300	1200	2300	2300
	Students Activity Related Fee	4100	10400	4100	7400	7400
	Library Related Fee	700	2300	700	2300	2300
	Alumni Fee	-	2000	2000	2000	2000
	Total (B)	**6000**	**17000**	**8000**	**14000**	**14000**
C. OTHER FEE PER SEMESTER (Non-Refundable)	Development Fee	1600	3300	1600	3300	3300
	Tuition Fee	6400	26200	8000	15500	11500
	Other Charges	1500	3500	1500	3200	4200
	Total (C)	**9500**	**33000**	**11100**	**22000**	**19000**
Grand Total (A+B+C) (in ₹) (i)		**20500**	**55000**	**24100**	**41000**	**38000**
HOSTEL FEES *		**ICD**	**B.E./Integrated M.Tech.**	**Integrated B.Sc.-M.Sc**	**PG (M. Tech./ MBA)**	**PG (M.Sc.)**
D. REFUNDABLE CAUTION MONEY: (WITHOUT ANY INTEREST) To be paid at the time of admission		10000	10000	10000	10000	10000
Hostel Fee Per Semester (Non Refundable)	Single Occupancy** (E)	N.A.	5500***	N.A.	5500	5500
	Multiple Occupancy(F)	3000***	4500***	3000***	4500	4500
(ii) Total (D+E)	**Single Occupancy**	**N.A.**	**15500**	**N.A.**	**15500**	**15500**
(iii) Total (D+F)	**Multiple Occupancy**	**13000**	**14500**	**13000**	**14500**	**14500**
(i+ii) Grand Total	**Single Occupancy**	**N.A.**	**70500**	**N.A.**	**56500**	**53500**
(i+iii) Grand	**Multiple Occupancy**	**33500**	**69500**	**37100**	**55500**	**52500**

Note: Fee for Integrated B.Sc.-M.Sc.programmes will be as above for first 3 years, After 3 years the fee applicable for M.Sc. programmes will be applicable to the Integrated M.Sc.

* Applicable to those students only who opt to reside in hostels.

**Only for Pre-Final year or Final year students subject to availability of rooms in the hostel.

*****There will be 50% concession in Hostel Fee to Girl students of ICD and B.E.programmes.**

Note: The single occupancy is not available in girls hostels

In addition to above fee, counseling fee of Rs. 1500/- will be charged from each candidate.

FEE STRUCTURE FOR Ph.D. PROGRAMME FOR ACADEMIC YEAR 2025-26:

INSTITUTE FEES		Full Time	Part Time
A. REFUNDABLE CAUTION MONEY: (WITHOUT ANY INTEREST) To be paid at the time of admission	Caution Money Institute	5000	5000
	Total (A)	**5000**	**5000**
B. NON-REFUNDABLE FEES (To be paid at the time of admission)	Admission Related Fee, Students Activity Related Fee & Library Related Fee	7700	5200
	Alumni Fee	2000	2000
	Total (B)	**9700**	**7200**
C. OTHER FEE PER SEMESTER (Non-Refundable)	Development Fee	1100	600
	Tuition Fee	6600	6600
	Other Charges	1100	600
	Total (C)	**8800**	**7800**
	(i) Grand Total (A+B+C) (in ₹)	**23500**	**20000**

HOSTEL FEES*		Full Time	Part Time
D. REFUNDABLE CAUTION MONEY: (WITHOUT ANY INTEREST) To be paid at the time of admission		10000	10000
Hostel Fee Per Semester (Non-Refundable)	Single Occupancy (E)	5500	5500
	Multiple Occupancy(F)	4500	4500
(ii) Total (D+E)	**Single Occupancy**	**15500**	**15500**
(iii) Total (D+F)	**Multiple Occupancy**	**14500**	**14500**
(i+ii) Grand Total (in ₹)	**Single Occupancy**	**39000**	**35500**
(i+iii) Grand Total (in ₹)	**Multiple Occupancy**	**38000**	**34500**

* Applicable to those students only, who opt to reside in hostels.

- The fee structure may be revised from time to time with the approval of competent authority.
- The amount of Group insurance scheme (GIS) is to be paid annually by each student as decided by the institute applicable on the date of admission.
- **Admission and semester fee for Institute Employee will be applicable as per SLIET/Dean(A)/2021/2233 dated 13/10/2021**.

Note: Any exemption, in any type of fee shall be as per SLIET Rules & Regulations for award of Ph.D. degree.

The fee for SC category candidates of Punjab State shall be charged as applicable under Dr. Ambedkar Scholarship scheme (PMS) of Punjab Government (or any other latest guidelines from Govt. of Punjab) subject to submission of relevant documents.

For NRI candidates the fee shall be charged as follows:

Name of Program	Tuition fee	Other charges
ICD	US$ 1750 per annum (US$ 900 per annum for SAARC countries)	US$ 550 per annum
B.E./M.Tech.	US$ 7700 per annum(US$ 4000 per annum for SAARC countries) or as applicable for candidates admitted under DASA	US$ 1100 per annum

The fee structure may be revised from time to time with the approval of competent authority.

Note: Amount for Group Insurance Scheme (GIS) is to be paid annually by each student as decided by the Institute at the time of admission.

2.12 WITHDRAWAL FROM ADMISSION and REFUND OF FEE

Withdrawal: The candidate has to make a written request to the **Chairman, SET-2025** in the prescribed performa available in SET office for the withdrawal of his/her admission and get the same approved.

Refund of Fee: After approval of withdrawal of admission from **Chairman, SET-2025**, the candidate is required to complete No Dues through ERP module from all the Departments/Sections concerned of the Institute. **Fee will be refunded as per AICTE Academic Calendar (for ICD, B.E., Integrated M.Tech., MBA and M.Tech. programmes) and as per UGC calendar for Integrated B.Sc.-M.Sc. and M.Sc. programmes of respective session. No refund will be initiated in case of incomplete "No Dues Certificate". The refund will be made as per norms.**

Note: ***In case, the admission is withdrawn before the start of academic session/classes, then there is no need to submit "No Dues Certificate" for refund of fee.***

2.13 LEGAL JURISDICTION

All disputes pertaining to the counseling and admission for all ICD/B.E./Integrated B.Sc.-M.Sc./Integrated M.Tech./MBA/Post-Graduate (M.Tech/M.Sc.) and Ph.D. Programmes of SLIET, Longowal shall fall within the jurisdiction of Sangrur (Punjab) only.

2.14 WOMEN SAFETY

UGC notification dated 02nd May, 2016 (Prevention, Prohibition and redressal of sexual harassment of women employees and students in higher educational institutions) Regulation 2015 is applicable in the institute.

2.15 ANTI RAGGING

AICTE notification dated 01st July, 2009 (Prevention and prohibition of Ragging in technical Institutions, Universities including Deemed-to-be-Universities imparting technical education.) & amendments is applicable in the institute.

2.16 DISCLAIMER

The statement made in the information brochure and all other information contained herein is believed to be correct at the time of publication. However, the Institute reserves the right to make changes at any time without notice, in addition to the regulations, conditions governing the admission, requirements, seats, fees and any other information or statements contained in this information brochure. No responsibility will be borne by the Institute for hardship faced or expenses encountered by candidates / any other person for such changes, additions, omissions or errors, no matter how those are caused.

CHAPTER - III

Three Year ICD (INTEGRATED CERTIFICATE DIPLOMA) PROGRAMME

The objective of the ICD Programme is to produce technically skilled manpower in appropriate areas.

(a) Eligibility:

(I) For admission to 3-Year ICD Programme, the candidates should have passed their 10th class (Pass in English, Mathematics and Science is compulsory) from a State Education Board/CBSE/ICSE/ National Open School or an equivalent examination recognized/approved Board by **Ministry of Education, Government of India**. Those who are appearing in matriculation examinations may also apply subject to producing the result by the prescribed time.

(II) For admission to Lateral Entry **ICD (2nd year)** in addition to 10th passed as above, must have passed full time 2 years ITI course/Certificate/10+2 (vocational) in relevant trade with 50% marks (45% SC/ST/OBC(NCL)/PWD) from Govt./Semi Govt Institute along with 2 years industrial experience from Govt./Semi Govt. and Private Industry of repute.

(b) Duration: The duration of ICD programme is 3 years. However, in case a student is willing to exit after successfully completing 2 years in the prescribed course of study with required credits (earning 96 credits), he/she will be awarded Certificate in the respective course of ICD programme. He/ She will be allowed to exit only after completing all the formalities as per the norms of institute. Further, on completion of the required credits (142 credits) diploma will be awarded after three years.

(c) Disciplines & Seats: Admission is available in the following disciplines of ICD Programmes. ***General principles relating to reservations are given in Section 2.9.***

Table 3.1: Seat Matrix for 3-year ICD for the Session 2025-26

Sr. No.	Department	Name of Diploma Programme	Intake *	Name of Certificate Programme	Total Seats*
1.	Chemical Engineering	Chemical Technology (DCT)	38	Paper Technology (CPT)	38
2.	Food Engineering and Technology	Food Technology (DFT)	37	Food Processing and Preservation (CFP)	37
3.	Computer Science and Engineering	Computer Science and Engineering (DCS)	135	Data Entry and Word Processing (CDE)	135
4.	Electronics and Communication Engineering	Electronics and Communication Engineering (DEC)	37	Telecommunication Technician (CTC)	18
				Servicing and Maintenance of Electronic Equipments (CSME)	19
5.	Electrical and Instrumentation Engineering	Instrumentation and Control Engineering (DIN)	38	Instrument Mechanic (CIM)	38
		Electrical Engineering (DEE)	37	Electrical Engineering (CEN)	37
6.	Mechanical Engineering	Mechanical Engineering (DME)	150	Welding (CWG)	30
				Foundry and Forging (CFF)	30
				Tool and Die Technology (CTD)	30
				Auto and Farm Equipment Mechanic (CAF)	30
				Air Conditioning Mechanic (CAC)	30
7.	Civil Engineering	Civil Engineering(DCE)	38	Building Maintenance (CBM)	38
	Total		**510**	**Total**	**510**

Considering different supernumerary schemes of scholarship as per Govt. norms, the number of seats may increase.

Fifty percent (50%) students, in order of merit, of the sanctioned strength in 3-Year ICD programme in the respective batch fulfilling the institute Academic norms/criteria shall be promoted to higher module in the respective year. Students admitted under NRI category/PWD scheme shall not be considered under 50% quota of promotion.

(d) Territorial Quota:

Seats meant for 3 Year ICD courses are bifurcated for the candidates of the State of Punjab and for the candidates belonging to other States, respectively in the following proportion:

Quota for Punjab State (excluding Chandigarh)	75%
Quota for Other States and U.T. (including Chandigarh)	25%

The detailed conditions to avail territorial quota are given in section 2.9.3. However, admission under ICD Lateral entry will be solely based on open merit.

(e) Admission Procedure:

1. Admission to all ICD courses shall be made on the basis of All India SLIET Entrance Test (SET-I).
2. Admission to (ICD 2nd year Lateral Entry) shall be through SET-IA test. Candidate shall register himself/herself online.

(f) Entrance Test Schedule:

Test	Date	Time
SET I (ICD)	03rd May, 2025	11:00-13:00 Hours
SET IA (ICD) Lateral Entry	03rd May, 2025	11:00-13:00 Hours

(g) Fee Structure for 3 Year ICD Programme : Detailed fee structure is given in ***Section 2.11***.

Note: The fee structure may be revised from time to time with the approval of competent authority.

Based on SET-1A candidates qualify for entry into 2nd year of the ICD course in session 2025-26 and such admission is dependent on the Seats lying vacant in the respective trade/class of ICD course admitted in session 2024-25.

SYLLABUS OF SLIET ENTRANCE TEST SET I & SET IA
FOR ADMISSION TO 3-Year ICD PROGRAMME, 2025

PATTERN OF SET I & SET IA

SLIET Entrance Test SET I & SET IA for admission to ICD Programme will consist of one paper of two hours duration. This paper will contain 100 objective type questions of 100 marks. The paper will consist of Mathematics (25 Questions), Physics (25 Questions), Chemistry (25 Questions) and rest 25 Questions from English, General Knowledge and Mental Aptitude.

Note: The Examination will be conducted in CBT mode only. There will be 25% negative marking for wrong answers.

SYLLABUS AND MODEL QUESTIONS

Marks : 100 **Time : 2 Hours**

ENGLISH, GENERAL KNOWLEDGE, MENTAL APTITUDE

Marks: 25 (25 Questions)

Syllabus: Usage of Tenses; Fill in the Blanks with Prepositions; Active Passive Voice; General Knowledge / Awareness; Aptitude Test

MATHEMATICS

Marks: 25 (25 Questions)

ALGEBRA : Polynomials, GCD and LCM of Polynomials by factorization method. Linear equations in one variable; solution of simultaneous equations. Quadratic equations and their solutions. Law of indices .Arithmetic progression;

TRIGONOMETRY: Trigonometric ratios-sin x, cos x, tan x, cot x, cosec x and sec x for 0^o, 30^o, 45^o, 60^o and 90^o. Trigonometric Identities. Use of Trigonometric tables. Simple problems on heights and distances;

MENSURATION : Perimeter and area of a triangle, square, rectangle, rhombus, trapezium, quadrilateral and circle.
Volume and surface area of cube, right prism, cylinder, cone and sphere.

GEOMETRY : Point, line, collinear points, intersecting and non-intersecting lines in a plane. Family of lines, concurrent lines, distance between two parallel lines. Angle-acute, obtuse and right angles. Triangle, its sides and angles. Similarity of triangles. Congruence of triangles. Pythagoras theorem and its converse. Circle. Diameter and circumference of a circle. Arc and sector of a circle. Chord and segment of a circle. Tangent to a circle. Family of concentric circles. Direct and transverse common tangents. Centroid, and orthocenter.

STATISTICS : Collection and tabulation of statistical data. Graphical representation of statistical data, bar diagram, histograms, pie-charts. Measures of central tendency (mean, median, mode).simple problems on probability.

PHYSICS

Marks: 25 (25 Questions)

- **Motion**: Distance and displacement, velocity; uniform and non-uniform motion along a straight line; acceleration, distance-time and velocity-time graphs for uniform motion and uniformly accelerated motion, elementary idea of uniform circular motion.
- **Force and Newton's laws**: Force and Motion, Newton's Laws of Motion, Action and Reaction forces, Inertia of a body, Inertia and mass, Momentum, Force and Acceleration.
- **Gravitation**: Gravitation; Universal Law of Gravitation, Force of Gravitation of the earth (gravity), Acceleration due to Gravity; Mass and Weight; Free fall.
- **Work, Energy and Power**: Work done by a Force, Energy, power; Kinetic and Potential energy; Law of conservation of energy.
- **Light**: Reflection of light by curved surfaces; Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula, magnification. Refraction; Laws of refraction, refractive index; Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula, Magnification. Power of a lens; Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses; Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life.
- **Effects of Current**: Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R.
- **Magnetic effects of current**: Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left-Hand Rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.

Reference Books:

- Science: for Class-IX and X, Published by NCERT.
- Science for Tenth Class (Part 1 & 2)" by Lakhmir Singh & Manjit Kaur.
- NCERT Exemplar Problems: Solutions Physics Class 10" by Arihant Experts

CHEMISTRY

Marks : 25 (25 Questions)

Matter-Nature and Behavior

Definition of matter; solid, liquid and gas; characteristics - shape, volume, density; change of state, melting (absorption of heat), freezing, evaporation (cooling by evaporation), condensation, sublimation.

Nature of matter: Elements, compounds and mixtures. Heterogeneous and homogeneous mixtures, colloids and suspensions. Physical and chemical changes (excluding separating the components of a mixture).

Particle nature and their basic units: Atoms and molecules, Law of Chemical Combination, Chemical formula of common compounds, Atomic and molecular masses.

Structure of atoms: Electrons, protons and neutrons, Valency, Atomic Number and Mass Number, Isotopes and Isobars.

Chemical Substances - Nature and Behavior

Chemical reactions: Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of **chemical reactions:** combination, decomposition, displacement, double displacement, precipitation, endothermic exothermic reactions, oxidation and reduction.

Acids, bases and salts: Their definitions in terms of furnishing of H^+ and OH^- ions, General properties, examples and uses, neutralization, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.

Metals and nonmetals: Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention.

Carbon compounds: Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series. Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydrocarbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion, oxidation, addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps and detergents.

Reference Book : Science-A Text Book for Class IX & X, Published by NCERT.

Sample Objective Type Questions:

Select the correct answer on computer screen.

Q.1 The name of the city which is known as a pink city.
(a) Chandigarh (b) Mumbai (c) Jaipur (d) Delhi

Q.2 In a right angled triangle the sides perpendicular to each other are 15 cm and 8 cm. Its perimeter is :
(a) 46 cm (b) 60 cm (c) 120 cm (d) 40 cm

Q.3 The least distance of distinct vision of normal eye is
(a) 30 cm (b) 25 cm (c) 15 cm (d) 20 cm

Q.4 To remove hypermetropia, lens used is
(a) concave (b) convex (c) cylindrical (d) plano-concave

Q.5 Isotopes of an atom have
(a) same mass number (b) different atomic number (c) same atomic number (d) none of the above

Q.6 Chemical name of baking soda is
(a) sodium chloride (b) sodium carbonate (c) sodium bicarbonate (d) none of the above

CHAPTER - IV

4.1 B.E. (4 Year)# (ADMISSION THROUGH JEE (Main)/JoSAA/CSAB

Institute runs B.E. (4 Year) programme in various disciplines of Engineering and Technology.

(a) Eligibility: Candidates are advised to refer to JEE (Main)-2025 website. The eligibility conditions of JEE (Main) -2025 will be applicable.

(b) Duration: The duration of B.E. Programme is 4 years.

(c) Disciplines & Seats: Available disciplines of study and information regarding distribution of seats are given in **Table 4.1.**
Reservation of seats will be as per Govt. of India norms (Refer section 2.9)

Table 4.1: Seat Matrix for BE (4-Year) for Session 2025-26

Sr.No	Branch	TOTAL SEATS**
1.	Artificial intelligence and Data Science*	36
2.	Chemical Engineering	45
3.	Civil Engineering	36
4.	Computer Science and Engineering	90
5.	Electronics and Communication Engineering	45
6.	Electrical Engineering	45
7.	Instrumentation and Control Engineering	45
8.	Food Technology	45
9.	Mechanical Engineering	94
	Total	**481**

**Subject to approval from AICTE*

#Minor degree and Honors degree shall be offered as per AICTE rules.
***Considering different supernumerary schemes of scholarship as per Govt. norms, the number of seats may increase.*

(d) Admission Procedure: Admission will be done through JEE (Main) – 2025. All candidates are advised to refer to website of JEE (Main)–2025 **(jeemain.nta.nic.in)** and **JoSAA -2025/CSAB-2025** website for counseling schedule for further details.

(e) Fee Structure for B.E. (4 Year.): Detailed fee structure is given in **Section 2.11**.

4.2 B.E. (Lateral Entry)# (ADMISSION THROUGH SET III)

Bachelor of Engineering is a continuation of technical expertise acquired in corresponding Diploma programmes and offers an opportunity to Diploma holders to obtain Bachelor Degree in Engineering.

(a) Eligibility: All candidates who have passed Diploma courses in any discipline from SLIET or from any other polytechnic affiliated with any State Board of Technical Education and approved by All India Council for Technical Education (AICTE) and secured **55% marks or CGPA 5.5 on 10-point scale or equivalent (50% or CGPA 5.0 on a 10-point scale or equivalent** in case of candidates belonging to **reserved category, SC/ST/OBC (NCL)/PWD)** are eligible to compete for admission to the appropriate B.E. programmes as given in **Table 4.2**. Those who are appearing in final examination may also apply.

(b) Duration: The candidates who get admission to B.E. through lateral entry will have to spend 3 Years to complete their course.

(c) Disciplines & Seats: Available disciplines of study and information regarding distribution of seats are given in **Table 4.3. General principles relating to reservations are given in Section 2.9.**

(d) Admission Procedure: There are two categories of seats in this programme as given in **Table 4.3.**

(i) Vertical Entry Seats (ii) Direct Entry Seats

The admission to both the categories will be based on All India SLIET Entrance Test (SET-III). There will be cutoff marks for admission. The admission procedure to these two categories is as under: -

(i) ***Vertical Entry Seats (Only for SLIET students admitted in ICD-2022):*** There shall be vertical mobility of 50% of the sanctioned strength in each ICD programme of SLIET to B.E. programme. The linkage between Diploma and B.E. modules is illustrated in **Table 4.4.** For vertical promotion from ICD to B.E. against these reserved seats, the ICD students shall apply for Entrance Test (SET-III). The students are required to apply through online mode. However, the students admitted under Persons with Disabilities (PWD) and Non-Resident Indians (NRI) category will not be eligible for Vertical Entry Seats. A SLIET student will be eligible for admission under this category only when he/she got admission to ICD course in session 2022-23 and completed the ICD course in the prescribed period of normal study, i.e. three years and by availing only prescribed number of chances to clear a subject. The admission to these seats will be based on merit of All India SLIET Entrance Test (SET-III) and linkage as shown in **Table 4.4.** In case any Vertical entry seat remains vacant, it shall be filled in from Direct entry category.

(ii) ***Direct Entry Seats (For outside candidates and SLIET students):*** All candidates possessing entry qualification (Diploma) prescribed as per **Table 4.2** are eligible to compete for direct entry seats for various B.E. programme as per **Table 4.3**. The admission to these seats is based on merit assessed through the All-India SLIET Entrance Test (SET-III) conducted by the institute.

(e) Principles of Vertical Admission (from Diploma to B.E. Programme)

The number of seats for admission under vertical entry in B.E. programme shall be 50% of the sanctioned strength of the students in a particular ICD course in session 2022-23 and not earlier. If a student from promoted candidates does not claim admission in a trade or a seat falls vacant afterwards in a trade, that seat will be offered to the next eligible candidate in order of merit in that trade.

(f) Entrance Test Schedule:

Test	Date	Time
SET-III (B.E. (Lateral Entry))	May 03, 2025	14:30 – 16:00 Hours

(g) Fee Structure for B.E. Programme: Detailed fee structure is given in **Section 2.11**

Table 4.2

Engineering Group	Diploma Stream
GROUP-A : Electrical, Electronics & Computer Group For Group-A, admission will be in following courses : 1. Computer Science & Engineering (GCS) 2. Electronics & Communication Engg. (GEC) 3. Instrumentation & Control Engineering (GIN) 4. Electrical Engineering (GEE)	Information Technology, Computer Science & Technology, Computer Engineering, Hardware Engineering / Technology, Software Engineering /Technology, Bio-Computer Engineering, Instrumentation & Measurement, Instrumentation Biomedical Engineering, Applied Electronics & Instrumentation, Telecommunication Engineering, Microwave Technology, Power Engineering, Electrical & Electronics Engineering, Instrumentation & Control Engineering, Electrical Engineering, Electronics & Communication Engineering, Computer Science & Applications, Instrumentation & Process Control OR Equivalent*
GROUP-B : Mechanical Group For Group-B, admission will be in the following courses : Mechanical Engineering (GME)	Material Science & Technology, Metallurgical Engineering, Metallurgy & Materials, Ceramic Engineering & Technology, Industrial Engineering, Automation and Robotics Engineering, Industrial Engineering & Management, Automobile Engineering, Energy Management Technology, Non-conventional Engineering Technology, Manufacturing Engineering, Mechanical Engineering, Foundry Technology, Industrial & Production Engineering, Maintenance & Plant Engineering, Welding Technology OR Equivalent*.

GROUP-C : Chemical & Food Group For Group-C, admission will be on the following courses: 1. Chemical Engineering (GCT) 2. Food Technology (GFT)	Petroleum, Petrochemical, Biotechnology, Food Technology, Biochemical Engineering, Pulp and Paper Technology, Sugar Technology, Leather Technology, Plastics & Rubber Technology, Polymer Engineering, Polymer-science & Rubber Technology, Oil Technology, Paint Technology, Food Engineering, Agricultural Engineering, Agricultural & Food Engineering, Food Processing, Chemical Engineering & Technology OR Equivalent*.
GROUP-D : Civil Engineering For Group-D, admission will be in the following courses: Civil Engineering (GCE)	Civil Engineering, Architectural Engineering, Environment and Pollution Control, Civil & Environment Engineering, Construction & Building Maintenance, Architectural Assistantship. OR Equivalent*

The decision of Admission Committee regarding equivalency shall be final and binding upon the candidate.

Table 4.3: Seat Matrix for B.E. Lateral Entry for the Session 2025-26

Sr. No.	Discipline	Seats Available	Seats for Vertical Entry* ICD-2022	Seats for Direct Entry*
1.	Chemical Engineering **(GCT)**	57	19	38
2.	Civil Engineering **(GCE)**	25	19	06
3.	Computer Science and Engineering **(GCS)**	61	38	23
4.	Electronics and Communication Engineering **(GEC)**	40	19	21
5.	Electrical Engineering **(GEE)**	40	19	21
6.	Instrumentation and Control Engineering **(GIN)**	53	19	34
7.	Food Technology **(GFT)**	71	19	52
8	Mechanical Engineering **(GME)**	131	75	56
	TOTAL	**478**	**227**	**251**

Considering different supernumerary schemes of scholarship as per Govt. norms, the number of seats may increase.

Note: The seats lying vacant under admission through JEE main-2024 have also been included in the above table.

TABLE 4.4: Linkage between various Diploma and B.E. Programmes for Academic Session 2025-26 (Vertical Entry)

Group	ICD PROGRAMME	Quantum	B.E. PROGRAMME
GROUP A	Computer Science & Engineering	50%	Computer Science & Engineering
	Electronics and Communication Engineering	50%	Electronics and Communication Engineering
	Instrumentation and Process Control	50%	Instrumentation and Control Engineering
	Electrical Engineering	50%	Electrical Engineering
GROUP B	Mechanical Engineering	50%	Mechanical Engineering
GROUP C	Chemical Engineering	50%	Chemical Engineering
	Food Technology	50%	Food Technology
GROUP D	Civil Engineering	50%	Civil Engineering

SYLLABUS OF SLIET ENTRANCE TEST (SET III)
FOR ADMISSION TO B.E. (Lateral Entry), 2025

PATTERN OF SET III

SLIET Entrance Test (SET-III) for admission to B.E. (Lateral Entry) will consist of one paper of two hours duration. This paper will have 100 objective type questions of 100 marks from English, General Knowledge, Mental Aptitude, Mathematics, Physics, Chemistry and Basics of Engineering (**appropriate group**).

Note: The Examination will be conducted in CBT mode only. There will be 25% negative marking for wrong answers.

SYLLABUS AND MODEL QUESTIONS

Marks: 100 **Time:2 Hours**

GENERAL KNOWLEDGE, MENTAL APTITUDE & ENGLISH

Marks: 10 (10 Questions)

The paper will include questions covering the following topics:-

1. General Science
2. Current events of National and International importance
3. History of India
4. Indian Politics and Economy
5. Indian National Movement
6. General Mental ability
7. Idioms/Phrases
8. Usage of Tenses
9. Change the form of Narration
10. Fill in the blanks with suitable words.

MATHEMATICS

Marks: 10 (10 Questions)

Algebra: Solution of quadratic equations, relationship between their roots and coefficients. Equations reducible to quadratic equation. Symmetric Functions of roots. Formation of a quadratic equation with given roots. Arithmetic progression, Geometric progression and Arithmetico-Geometric series. Series of natural numbers ($\sum n, \sum n^2, \sum n^3$). Mathematical induction. Permutations and Combinations. Binomial theorem for any index.

Trigonometry: Trigonometric Identities. Addition and Subtraction formulae. Transformation of product into sum or difference and vice-versa. T-ratios of multiple and sub-multiple angles. Heights and distances. Solution of Trigonometric Equations. Inverse trigonometric functions and their properties.

Coordinate Geometry: Rectangular Cartesian coordinates. Distance between two points. Section formulae. Locus of a point. Equation of a straight line in various forms. Angle between two given lines. Condition for two lines to be parallel or perpendicular. Distance of a point from a line. Line through point of inter section of two given lines. Concurrency of lines. Equation of a circle in various forms. Intersection of a circle with a straight-line. Equations of parabola, ellipse and hyper bola in the standard forms.

Three dimensional Geometry: Cartesian co-ordinate system, Distance formula, Section formula, Direction ratios and direction cosines, Equation of a plane, Equations of a Straight line.

Calculus: Function, its domain and range. Limit, continuity and differentiability of a function. Derivative of sum, difference, product and quotient of two functions. Derivative of algebraic, trigonometric, exponential, logarithmic, hyperbolic and Inverse trigonometric functions. Chain rule. Derivative of functions expressed in implicit and parametric forms. Maxima & Minima. Equation of tangent and normal. Integration as the inverse process of differentiation. Integration by parts, by substitution and by partial fractions. Integration of rational and irrational functions. Definite integral and its application for the determination of area (simple cases).

Differential Equations: Order and degree of an ordinary differential equation, Ordinary differential equations of first order and first

degree. Solution- variable-separable method, homogeneous differential equations and linear equations (Leibnitz's).

Matrices and Determinants: Types of matrices, operations of matrices, elementary operations on matrices, determinants and their properties, Inverse of a matrix, solution of linear equations up to three variables by Cramer's rule and by Matrix method.

Statistics: Arithmetic Mean, Median, Mode, Range, S.d. and Coefficient of variation.

CHEMISTRY

Marks: 10(10 Questions)

Atoms, Molecules and Chemical Arithmetic: Symbols, formulae, oxidation, reduction, oxidation number, balancing of simple chemical equations, mole concept, empirical formulae and molecular formulae.

Chemical families – Periodic Properties: Mendeleev's and Modern periodic tables, classification of elements into s,p,d and f blocks, periodic properties (ionization potential, electron affinity, atomic and ionic radii, oxidation states).

Atomic Structure, Bonding and Molecular Structure: Bohr's theory, brief description of hydrogen spectrum, the wave nature of matter, de-Broglie's theory, Uncertainty principle, Quantum numbers, Pauli's exclusion principle, Hund's rule of maximum multiplicity, shapes of orbitals, electronic configuration of atoms up to atomic no.30.Types of bonding (ionic, covalent and co-ordinate), Lewis structure, VSEPR theory, hybridization, Molecular orbital theory and molecular shapes, hybridization (sp3d, sp3d2 and sp^3) and molecular structure, hydrogen bond, metallic bond, Vander Waals forces.

PHYSICS

Marks: 10 (10 Questions)

Motion: Introduction to Motion, Types of Motion (Translational, Rotational, Oscillatory), Scalars and Vectors, Graphical Analysis of Motion, Projectile, Circular Motion, Newton's Laws of Motion, Forces and Free Body Diagrams, Frictional Forces, Tension and Normal Forces, Energy and Power, Potential Energy and Conservation of Mechanical Energy, Momentum and Collisions, Angular Displacement, Moment of Inertia, Torque and Rotational Dynamics.

Oscillation and Wave: Definition of Oscillation, Types of Oscillatory Motion (Simple Harmonic Motion, Damped Oscillations, Forced Oscillations), Period, Frequency, Amplitude and Phase, Simple Harmonic Motion (SHM), Equations of Motion for SHM, Energy in SHM (Kinetic and Potential), Damped and Forced Oscillations, Critical Damping, Underdamping, and Overdamping, Resonance, Applications of Forced Oscillations

Waves: Basics and Properties of Waves, Types of Waves (Mechanical, Electromagnetic), Characteristics of Waves (Amplitude, Wavelength, Frequency), Wave Equation, Transverse and Longitudinal Waves, Wave Speed and Phase Velocity, Superposition Principle, Interference and Beats.

Properties of Matter: Mechanical Properties of Solids: Stress and Strain, Elasticity and Plasticity, Hooke's Law, Young's Modulus and Shear Modulus; Fluid Mechanics: Properties of Fluids (Density, Pressure), Pascal's Law, Archimedes' Principle, Bernoulli's Principle; Thermal Properties of Matter: Temperature and Heat, Specific Heat and Heat Capacity, Thermal Expansion, Heat Transfer Mechanisms (Conduction, Convection, Radiation)

Semiconductor Physics: Introduction to Semiconductor Physics, Intrinsic and Extrinsic Semiconductors, Energy Bands in Solids, Silicon and Germanium as Semiconductor Materials, Doping and Impurities, p-n Junction Formation, Diode Characteristics and Working, Biasing of Diodes (Forward and Reverse Bias), Diode Applications: Rectification, Zener Diodes.

Modern Physics: Introduction to Modern Physics, Quantum Mechanics: Wave-Particle Duality, Photoelectric Effect, de Broglie Wavelength, Davisson-Germer Experiment, Heisenberg's Uncertainty Principle, Development of Schrödinger Equation and its Solutions, Quantum States and Wave functions, Probability Interpretation, Quantum Numbers (Principal, Angular Momentum, Magnetic), Quantum Tunneling; Nuclear Physics: Structure of the Nucleus, Radioactivity and Decay, Nuclear Fission and Fusion.

Reference Books:

- "Physics" by Resnick, Halliday, and Krane, "Fundamentals of Physics" by David Halliday, Robert Resnick, and Jearl Walker, "University Physics with Modern Physics" by Hugh D. Young and Roger A. Freedman, "Waves and Oscillations: A Prelude to Quantum Mechanics" by Walter Fox Smith, "Mechanics of Materials" by Russell C. Hibbeler
- "Fluid Mechanics" by Frank M. White
- "Thermal Physics" by Charles Kittel and Herbert Kroemer
- "Solid State Electronic Devices" by Ben G. Streetman and Sanjay Banerjee
- "Semiconductor Physics and Devices" by Donald A. Neamen
- "Physics of Semiconductor Devices" by Simon M. Sze and Kwok K. Ng
- "Modern Physics" by Kenneth S. Krane
- "Introduction to Nuclear and Particle Physics" by A Das and T Ferbel

BASICS OF ENGINEERING

GROUP –A (Electrical, Electronics and Computer Group)

Marks: 60 (60 Questions)

Operating System: Introduction to various operating systems, single user, multiuser, batch processing, time sharing, real time, multiprogramming and multiprocessing systems, distributed computing, resources management, memory management.

System Software: Introduction, system software, application software, compilers, assemblers, loaders, linkers.

Application Development: Algorithms and flowcharts, program writing, debugging and execution, compilation, interpretation, programming using C language, Object Oriented Programming concepts.

Information Technology (IT): Internet and its applications, web browser, e-mail, e-marketing & e-payment.

Data management and organization: Introduction to databases, architecture and structure of DBMS, data models.

Introduction to data structure: arrays, linked list, stacks and queues.

Computer Networks: Applications, introduction to OSI and TCP/IP, networking topologies/technologies.

Latest Technologies: Latest processor and memory configurations and related technologies.

Software Engineering: Software development life cycle, software metrics, coding and testing.

Computer System Architecture: Number system, boolean algebra, K-map, instruction formats, addressing modes, I/O interfacing, control unit organization, pipelining, cache and main memory, modes of data transfer.

Cloud Computing: Introduction to cloud computing, edge computing, fog computing and IOT.

Electronic Devices: Conductors, semiconductors, insulators, extrinsic & intrinsic semiconductors. PN junction diode- its V-I characteristics, rectifiers, filters. BJT-various transistor configurations, their input/output characteristics, FET, MOSFET their construction & characteristics.

Communication: Need & types of modulation (AM, FM, PM), radio receivers-TRF & super-heterodyne, pulse modulation PAM, PCM, PWM, PPM.

Logic gates: Definition, symbols & truth table of NOR, OR, AND, NAND, EX-OR gates, various flip flops (SR, JK, T, D), registers & counters.

Operational Amplifier: Introduction, IC 741 pin configuration, inverting & non inverting amplifiers, op amp as an inverter, scale changer, adder, sub-tractor, differentiator, integrator.

Electric Circuits: Voltage, current, resistance, power and energy, ohm law, series and parallel circuits, network theorems (thevenins, superposition, norton, maximum power transfer theorem, reciprocity and tellegen's theorems), alternating current and voltage, RL, RC and RLC circuits, RLC resonant circuits, power factor and power measurement.

Electromagnetic & Magnetic circuits: Overview of electrical and magnetic circuit, analogy between electrical and magnetic circuits, principle of operation and working of AC &DC machines and transformers.

Measurement and Instrumentation: Errors in measurement system, galvanometer, PMMC and moving iron instruments, DC potentiometers, Multimeter, LED/LCD/Segment Displays, CRO, Wheatstone bridge, Maxwell's Bridge, De-Sauty's Bridge, Owen's Bridge, Kelvin's Double Bridge, Hay's Bridge.

Sensors and Signal Conditioning: Basic components of instrumentation system, sensors and transducers, resistive, capacitive and inductive and piezoelectric transducers, A/D and D/A converters, filtering and impedance matching, telemetry.

Control Engineering: Basic elements of feedback control system, time domain response of first and second order system, time and frequency domain specifications, concept of stability.

GROUP – B (Mechanical Group)

Marks: 60 (60 Questions)

Thermal Engineering: Basic concepts, thermodynamic properties: intrinsic and extrinsic, open, closed and isolated systems, heat and work, specific heat, thermal and thermodynamic equilibrium, Zeroth law and first law of thermodynamics, internal energy, entropy, enthalpy. Clausius and Kelvin-Plank statement of second law, different thermodynamic processes like isobaric, isochoric, isothermal, and reversible adiabatic, C.I. engine, S.I. engine, Otto Cycle, Diesel Cycle, Carnot Cycle, Steam Formation: Dry, Wet Steam, Dryness Fraction

Applied Mechanics, Strength of Material and Machine Design: Concept of mechanics and applied mechanics, laws of forces,

moments, friction and laws of motion. Stress & strain, concept of load, tensile, compressive, shear stress, torsion, Bending Moments and strains. Columns, Springs, Beams, stress concentration, types of loading, theories of failure, factor of safety, endurance limit, efficiency of riveted and welded joints, keys and its types, stress in shafts, design of shafts (solid and hollow).

Fluid Mechanics: Concept of fluid, fluid mechanics and hydraulics, properties of fluid (viscosity, specific weight, specific volume, specific gravity) with their units. Pascal's law, concept of atmospheric pressure, gauge pressure, absolute pressure, vacuum and differential pressure, Buoyancy, Centre of Buoyancy, Metacentre, Metacentric Height and its Application.

Manufacturing Engineering & Management: Introduction and classification of engineering materials, thermal, chemical, electrical and mechanical properties of commonly used engineering materials. Purpose of heat treatment, various heat treatment processes like cyaniding, nitriding, hardening, case hardening, annealing, normalizing, tempering, and their applications. Arc and gas welding processes, pattern materials and pattern allowances used in pattern making, cores, basic foundry processes and powder metallurgy. Different machining operations, principles of operations, cutting tools and machine tools used to carryout turning, milling, drilling, shaping & planning operations. Quality control, control charts, acceptance sampling, TQM. Plant location, layout and line balancing. Types of plant layouts. Inventory control, Inventory classification, and EOQ and ABC analysis.

GROUP – C (Chemical and Food Group)

Marks: 60 (60 Questions)

Chemical Engineering Thermodynamics: Laws of Thermodynamics, Thermodynamic properties, General Thermodynamic relationship, Application for open/closed systems and reversible/irreversible processes, Raoult's Law, Chemical Reaction Equilibria.

Chemical Reaction Engineering: Molecularity and order of reaction, reaction Kinetics, different type of ideal reactors and their performance equations,

Heat and mass Transfer: Different modes of heat transfer with governing relationships, Fourier's law, Steady state heat transfer through plain and composite slab, cylindrical and spherical surfaces, Natural and forced convection, Radiation heat transfer, Heat transfer equipment's and their industrial applications, Fick's law of diffusion, Mass transfer operations and their applications, Critical moisture content, absorption, equipment for separation and industrial application.

Unit Operations: Calculation of energy required in grinding by Ritinger's law and bond's law, Bernoulli's theorem and different regimes, elementary knowledge of pumps and fluid behavior, Mixing index, Rate of mixing, agitation, constant rate filtration, consent pressure filtration, filter cake compressibility, Centrifuge equipment like cream separator and clarifiers used in dairy industry, Crystallization.

Process Instrumentation: Instruments for temperature, pressure, liquid level, flow and pH measurement.

Environmental Studies: Human population growth and environmental challenge, deforestation, desertification, global warming and climate change, role of individual in environmental conservation, Equitable use of resources, overutilization and wasteful utilization of natural resources, conservation of wildlife and biodiversity, Vehicular pollution, industrial pollution, municipal wastes, noise pollution, introductory ideas of water and air pollution control, Nuclear hazards, water act, air act, forest conservation act.

Food Chemistry and Microbiology: Classification, Physical and chemical properties of carbohydrates, proteins, lipids, type of pigments, vitamins and minerals, morphology, methods of reproduction and type of bacteria and fungi, microbiology of various food products.

Food Process Technology: Milling of cereals and pulses, oil extraction methods, standardization, homogenization and pasteurization of liquid milk, meat and poultry processing, production of alcoholic and non-alcoholic beverages, technology of manufacturing of fruits and vegetables product, different preservation techniques in food.

Food Analysis and Quality Control: Quality attributes, food adulteration and its detection, physico -chemical and mechanical properties of food, sensory evaluation, HACCP, food safety and standards Act.

Group D (Civil Engineering)

Marks 60 (60 Questions)

Structural Engineering: Simple stresses and strains, Elasticity, Hooke's Law, Modulus of Elasticity and Rigidity. Stresses and strains of homogeneous materials and composite sections. Types of beams and supports and loads, concept of bending moment and shear force. Bending moment and shear force diagrams for simple cases. Deflection in beams. Moment area theorem, Bending and shear stresses in circular, rectangular, T and L sections. Design of singly and doubly Reinforced beams, Design of columns-Types of Columns. Short and long column, load carrying capacity, effective length of column, lateral and helical ties. I.S. Specifications for reinforcement detailing. Design of slabs types of slabs, one-way slab and two way slab. Design of foundation - isolated footing rectangular footing, square footings, circular footings. Design of tension members in structural steel, gross area, net area. Design of compression members, column splice, load carrying capacitates. Design of beams in structural steel.

Surveying: Linear measurements with tape, corrections, chain surveying, offsets, perpendicular offset, oblique offset, measurement of offsets, limiting length of offset, Field book, Instructions for booking field notes, Instruments for setting out right angles, Compass surveying , Prismatic compass. Surveyor's compass, comparison between prismatic and surveyor's compass, meridians & bearings, calculation of included angles from bearings, calculation of bearing from including angles, local attraction, magnetic declination. Leveling, types of levels. Principles of leveling, Classification of leveling. Rise & Fall method, Height of Instrument method, various corrections in leveling. Theodolite surveying, measurement of angle by theodolite.

Transportation Engineering: Introduction of Transportation Engineering, Traffic Engineering, Road materials, Geometric design, Design of flexible and rigid pavements, Road maintenance, Railway Engineering. Rails, Sleepers, ballast, points and crossing, Track laying and track maintenance, typical sections of tunnel, method of construction of tunnels in soft rock.

Soil and Construction Engineering: Foundations-types, construction details, walls, load bearing and non-load bearing walls, brick masonry, bonds in masonry, stone masonry, type of a stone masonry, partition walls, doors. Floors-types of floors, construction procedure, maintenance of buildings, properties of bricks and stones, cement, aggregates, workability of concrete, Batching, mixing, compaction, placing, curing of concrete .Properties of hardened concrete. Introduction to soil mechanics, Soil classification. Index properties of soil, Shear strength concept.

Fluid Mechanics, Irrigation and Water Supply Engineering: Specific weight, density, specific gravity, viscosity, vapor pressure, cohesion, adhesion, surface tension, capillarity and compressibility. Pressure, intensity of pressure, pressure head, Pascal's Law and its applications. Total pressure, resultant pressure and centre of pressure on rectangular, triangular, trapezoidal, circular and curved surfaces. Atmospheric, gauge and absolute pressure, simple differential manometers. Steady and unsteady flow, laminar and turbulent flow, uniform and non-uniform flow. Discharge and continuity equation, Bernoulli's theorem, statement and description, Venturi meter, Orifices, Mouthpiece, Pitot tube. Laminar and turbulent flow explained through Reynolds experiments. Reynolds number and critical velocity and velocity distribution, losses in pipes, hydraulic gradient line, and total energy line flow from one reservoir to another through a long pipe of uniform and composite section. Water hammer. Discharge through channels using chezy's formula and Manning's formula. Most economical sections, rectangular, trapezoidal and circular. Measurement of discharge by notches and weirs. Introduction to irrigation Engineering, Flow irrigation, head works and river training works, water logging, water supply, sources of water, Water treatment. Types of pipes, laying of pipes. Quality of sewage, laying of sewers, Building drainage and rural sanitation.

Objective Type Questions

Select the correct answer on computer screen.

Q1. What determines the nature of the path followed by the particle?

(a) speed (b) velocity (c) acceleration (d) none of these

CHAPTER - V

5.1 INTEGRATED M. TECH. PROGRAMME (ADMISSION THROUGH JEE (Main)/JoSAA/CSAB

The Institute runs Integrated M.Tech. programme in various disciplines of Engineering and Technology.

(a) Eligibility: Candidates are advised to refer to JEE (Main)-2025 website. The eligibility conditions of JEE (Main) -2025 will be applicable.

(b) Duration: The duration of Integrated M.Tech. Programme is 5 years.

(c) Disciplines & Seats: Available disciplines of study and information regarding distribution of seats are given in **Table 5.1.** ***Reservation of seats will be as per Govt. of India norms (Refer section 2.9)***

Table 5.1 : Seat Matrix for Integrated M.Tech.(5-Year) for Session 2025-26

Sr.No	Branch	TOTAL SEATS**
1.	Computer Science and Engineering (IMCS)	30*
2.	Electrical Engineering (IMEE)	30*
3.	Mechanical Engineering (IMME)	30*
	Total	**90**

*Subject to approval from AICTE

Considering different supernumerary schemes of scholarship if any, as per Govt. norms, the number of seats may increase.

(d) Admission Procedure: Admission will be done through JEE (Main) – 2025. All candidates are advised to refer to website of JEE (Main)–2025 **(jeemain.nta.nic.in)** and **JoSAA -2025/CSAB-2025** website for counseling schedule and for further details.

(e) Fee Structure for Integrated M.Tech. (5 Year.): Detailed fee structure is given in **Section 2.11**.

CHAPTER - VI

6.1 Five year Integrated B.Sc.-M.Sc. Programmes

The focus of various Five year B.Sc.-M.Sc. Integrated Programmes offered by Science Departments would be to generate post-graduates who are confident of applying their knowledge to practical problems of industry including R&D organizations. The curriculum maintains a balance between basic and applied aspects of the subject concerned to develop analytical skills of the students and broaden in their career option in academic, research & teaching.

(a) Eligibility:

The eligibility for admission to Integrated B.Sc.-M.Sc. Programmes will be **60% marks in aggregate (55% in case of candidates belonging to reserved categories, SC/ST/OBC (NCL)/PWD)** in 10+2 Non-Medical/Medical. The candidates with 10+2 (Biology) shall be considered for admission to B.Sc.-M.Sc. Integrated programme in Chemistry only. The no. of seats in Chemistry shall be 20 only including candidates with non-medical and Biology.

Note: Eligibility conditions laid down in CSAB/JoSAA-2025 for admission in SLIET shall also be applicable.

(b) Duration: The duration of the B.Sc- M.Sc. Integrated Programmes is **Five** years with multipoint exit

Table 6.1: Seat Matrix for Five years B.Sc.-M.Sc. Integrated Programmes for 2025-2026

Sr.No.	Disciplines B.Sc.-M.Sc.Integrated	Through JoSAA/CSAB	Through JEE(Main)/ CUET/PUCET(UG)/ NEET/SET-II	Total Seats
1.	Physics	10	10	20
2.	Chemistry	10	10	20
3.	Mathematics	10	10	20
Total		30	30	60

(c) Admission Procedure:

i) *30 seats (50%) shall be offered through JoSAA/CSAB-2025.*

ii) *30 seats (50%) shall be offered to the candidates who have qualified JEE(Main)/CUET/PUCET(UG)/NEET/Any other National level exam for admission to UG/SET-II-2025 and on merit basis (of the marks of the qualifying examination (10+2)). They shall be separately required to register on the admission portal of the Institute.*

a) The preference shall be given to the candidates who have qualified JEE(Main)/CUET/PUCET(UG)/NEET/Any other National level exam for admission to UG/SET-II-2025.

b) The vacant seats (if any) shall be offered to the candidates, based upon the marks of the qualifying examination for admission to Integrated B.Sc.-M.Sc. programme.

iii) In case the seats still remain vacant as above(i & ii), these seats shall be offered to the candidates through spot round of admission.

- Reservation of seats will be as per Govt. of India rules. (Refer section 2.9)
- **Fee Structure for Integrated Integrated B.Sc.-M.Sc prgoramme (5 Year.):** Detailed fee structure is given in **Section 2.11**.

SYLLABUS OF SLIET ENTRANCE TEST (SET II)

FOR ADMISSION TO Integrated B.Sc.-M.Sc. Programmes, 2025

PATTERN OF SET II

SLIET Entrance Test (SET-II) for admission to Integrated B.Sc.-M.Sc. programmes will consist of one paper of One and Half hour'duration. This paper will have 60 objective type questions of 60 marks from English, General Knowledge, Mental Aptitude, Mathematics, Physics, Chemistry and Biology. (The candidate can opt only one subject from Mathematics and Biology, but other subjects shall be same for all the candidates) ***There will be 25% negative marking for wrong answers.***

SYLLABUS AND MODEL QUESTIONS

Marks: 60 **Time: One & Half Hours**

GENERAL KNOWLEDGE, MENTAL APTITUDE & ENGLISH

Marks: 15 (15 Questions)

The paper will include questions covering the following topics:-

1. General Science
2. Current events of National and International importance
3. History of India
4. Indian Politics and Economy
5. Indian National Movement
6. General Mental ability
7. Idioms/Phrases
8. Usage of Tenses
9. Change the form of Narration
10. Fill in the blanks with suitable words.

Physics

Marks: 15 (15 Questions)

Electrostatics: Electric charges and their conservation. Coulomb's law – force between two-point charges, forces between multiple charges; superposition principle, and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines; electric dipole, electric field due to a dipole; torque on a dipole in a uniform electric field.

Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet, and uniformly charged thin spherical shell (field inside and outside). Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, the electrical potential energy of a system of two-point charges, and electric dipoles in an electrostatic field**.**

Conductors and insulators, free charges, and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, the combination of capacitors in series and in parallel, the capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor.

Current Electricity: Electric current, the flow of electric charges in a metallic conductor, drift velocity and mobility, and their relationship with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity. Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance. The internal resistance of a cell, potential difference, and EMF of a cell, combination of cells in series and in parallel. Kirchhoff 's laws and simple applications. Wheatstone bridge, Metre Bridge. Potentiometer – principle, and applications to measure potential difference, and for comparing EMF of two cells; measurement of internal resistance of a cell.

Magnetic Effects of Current and Magnetism: Concept of the magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids. Force on a moving charge in uniform magnetic and electric fields. Force on a current-carrying conductor in a uniform magnetic field. The force between two parallel current-carrying conductors – definition of ampere. Torque experienced by a current loop in a magnetic field; moving coil galvanometer – its current sensitivity and conversion to ammeter and voltmeter. Current loop as a magnetic dipole and its magnetic dipole moment. The magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements. Para-, dia- and ferromagnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanent magnets.

Optics: Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection, and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula. Magnification, power of a lens, combination of thin lenses in contact combination of a lens and a mirror. Refraction and dispersion of light through a prism. Wave optics: Wave front and Huygens' Principle, reflection, and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygens' Principle. Interference, Young's double hole experiment and expression for fringe width, coherent sources, and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving the power of microscopes and astronomical telescopes. Polarization, plane polarized light.
Electronic Devices :Energy bands in solids (qualitative ideas only), conductors, insulators, and semiconductors; semiconductor diode – I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR).

Mathematics

Marks: 15 (15 Questions)
Algebra: Sets, types of sets and operations on sets; Arithmetic and Geometric Progression; Mathematical Induction- simple problems; Permutations with distinct and non-distinct objects, Combinations, simple problems; Binomial theorem for positive integral index, general and particular terms; Complex Numbers, algebra of complex numbers, modulus and argument of a complex number.
Trigonometry: Introduction to trigonometric formulae, Trigonometric ratios of multiple and sub-multiple angles (2A, 3A, A/2), Product formulae, conversion from sum or difference to product and vice-versa.
Calculus: Relations; Functions, types of functions, domain and range, Concept of limit, Standard limits; Continuity of a function at a point and in an interval; Differentiability and derivatives, first principle, differentiation of sum, difference, product and quotient of functions, differentiation of function of a function (Chain rule), Logarithmic and parametric differentiation. Integration as anti-derivative, fundamental integrals involving algebraic, trigonometric, exponential and logarithmic functions, Integration by substitution and by parts; Definite integral, evaluation of definite integral by substitution, Properties of definite integral and simple problems.
Geometry: Distance and section formulae, Equation of straight line in various standard forms, intersection of two straight lines, angle between two lines; General equation of a circle, diameter form, centre and radius of a circle, Parabola, ellipse and hyperbola (standard equations only) and their properties.
Statistics and Probability: Measures of dispersion- Range, Mean deviation, Variance and standard deviation; Introduction to probability, Random experiment, Event, Conditional probability and independent events.

Chemistry

Marks: 15 (15 Questions)
Chemical bonding: Types of chemical bond (ionic, covalent, coordinate), valence bond theory, VSEPR theory, hybridization, molecular orbital theory of homonuclear diatomic molecules, Van der Waals forces, hydrogen and metallic bonds.
Chemical and ionic equilibrium: Law of mass action, Le Chatelier's principle, equilibrium constant, ionic equilibrium–ionization of acids and bases, strong and weak electrolytes, Degree of ionization, concept of pH, common Ion effect and solubility product, concept of acids and bases, Buffer solutions.
Chemical kinetics: Rate and order of reaction, Factors affecting rates of reaction, molecularity of a reaction, rate law and specific rate constant, integrated rate equations, and half-life (zero and first-order reactions) concept of collision theory, activation energy, Arrhenius equation.
s and p-block elements: General introduction, electronic configuration, anomalous properties of the first element of each groups, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), oxidation states, trends in chemical reactivity.
Transition metals and coordination chemistry: General introduction, occurrence and characteristics of transition metals, electronic configuration, general trends in properties of the first row transition metals. Coordination compounds ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds.
Organic chemistry: IUPAC nomenclature of organic compounds, General introduction to hydrocarbons: Alkane, alkene, alkyne, and aromatic compounds Nomenclature, methods of preparation physical, chemical properties, aldehydes, ketones, carboxylic acids and amines: Nomenclature, physical, chemical properties and uses.

Biology

Marks:15 (15 Questions)
Diversity in Living World, What is living? Biodiversity; Need for classification; Taxonomy & Systematics; Concept of species and taxonomical hierarchy; Binomial nomenclature; Five kingdom classification; salient features and classification of Fungi Viruses and Salient features and classification of plants into major groups-Algae, Bryophytes, Pteridophytes, Gymnosperms (three to

five salient and distinguishing features and at least two examples of each category), Structural Organisation in Animals and Plants

Morphology and modifications; Tissues; Anatomy and functions of different parts of flowering plants: Root, stem, leaf, inflorescence- cymose and recemose, flower, fruit and seed (To be dealt along with the relevant practical of the Practical Syllabus) Family (Cruciferae, leguminoceae).

Animal tissues; Morphology, anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of an insect (Frog). (Brief account only)

Cell Structure and Function : Cell theory and cell as the basic unit of life; Structure of prokaryotic and eukaryotic cell; Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles structure and function; Endomembrane system-endoplasmic reticulum, Golgi bodies, lysosomes, vacuoles; mitochondria, ribosomes, plastids, cilia, flagella, centrioles (ultra structure and function); Chemical constituents of living cells: Biomolecules-structure and function of proteins, carbodydrates, lipids, nucleic acids; Enzymes-types, properties, enzyme action, classification and nomenclature of an ezymes Cell division: Cell cycle, mitosis, meiosis and their significance.

Plant Physiology: Photosynthesis: photosynthesis take place; pigments involved in Photosynthesis (Elementary idea); Photochemical and biosynthetic phases of photosynthesis; Cyclic and non cyclic and photophosphorylation; Chemiosmotic hypothesis; Photorespiration C3 and C4 pathways; Factors affecting photosynthesis.

Respiration: Exchange gases; Cellular respiration-glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); Energy relations- Number of ATP molecules generated; Amphibolic pathways; Respiratory quotient.

Plant growth and development: Seed germination; Phases of Plant growth and plant growth rate; Conditions of growth; Differentiation, dedifferentiation and redifferentiation; Sequence of developmental process in a plant cell; Growth regulators auxin, gibberellin, cytokinin, ethylene, ABA;

Reproduction: Sexual reproduction in flowering plants: Flower structure; Development of male and female gametophytes; Pollination-types, agencies and examples; Outbreeding devices; Pollen-Pistil interaction; Double fertilization; Post fertilization events- Development of endosperm and embryo, Development of seed and formation of fruit; Special modes apomixis, parthenocarpy, polyembryony; Significance of seed and fruit formation.

Genetics and Evolution

Heredity and variation: Mendelian Inheritance; Deviations from Mendelism Incomplete dominance, Co-dominance, Multiple alleles and Inheritance of blood groups, Pleiotropy; Elementary idea of polygenic inheritance; Chromosome theory of inheritance; Chromosomes and genes; Sex determination-In humans, Sex linked inheritance-Haemophilia, Colour blindness; Mendelian disorders in humans-Thalassemia; Chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Molecular basis of Inheritance: Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central dogma; Transcription, genetic code, translation; Gene expression and regulation- Lac Operon; Genome and human genome project; DNA finger printing, protein biosynthesis.

CHAPTER - VII

7.1 Master of Business Administration (M.B.A.)

The objective of M.B.A. programme is to inculcate ethical professional and managerial skills for effectively managing the various functions of business in the era of globalization and privatization.

(a) Eligibility:

A Bachelor's Degree, B.Tech., B.E., B.Sc., B.Com, B.B.A. or Graduation with Economics and Mathematics from any recognized university with 55% or more marks(50% for candidates belonging to SC/ST/OBC(NCL)/PWD).

OR

A Master's degree in any discipline of any recognized university with 55% or more marks(50% for candidates belonging to SC/ST/OBC(NCL)/PWD).

Preference will be given to B.E./B.Tech. qualified candidates

(b) Duration: The duration of the M.B.A. programme is 2 years.

(c) Number of Seats: The total number of seats is 60*.

*** Subject to approval from AICTE**

(d) Admission Procedure:

i) The candidates will have to appear in the Entrance Test (SET-IV) conducted by SLIET. The candidates having valid score/percentile of CAT/CMAT/GATE will also be considered and such candidates need not appear in SET. However these candidates have to appear in Group Discussion and interview.

Note: Admission to MBA programme on the basis of GATE or CAT or CMAT or SET-IV does not make a candidate eligible for Scholarship.

(e) Merit List :

- Merit list will be prepared on the basis of marks obtained in GATE/ CAT / CMAT/SET-IV, group discussion and interview.
- For preparing the merit list, the marks obtained in GATE/ CAT / CMAT/SET-IV shall be converted out of 100. Marks for GD and interview will be awarded out of 25 each.
- Final merit list will be made on basis of marks scored in all three components out of 150.
- Institute shall decide the minimum cut off marks for CAT/CMAT separately.

Group Discussion (GD) [25 Marks]:

The Group Discussion is primarily aimed at assessing the oral communication skills, convincing power and other managerial capability of candidate. The GD will fetch 25 marks and time allowed for one GD will be 30 minutes. A group of 10 candidates on random basis would be selected to participate in each GD out of the candidates. The topics given for the GD would be from current affairs, economics and management.

Interview [25 Marks]

The final stage of the selection process will be an Interview for the candidates undergone earlier stages. The interview will be conducted by a panel of experts consisting of eminent faculty members of Institute/Other Institutes/Universities/persons from industry.

Note: *Result for admission to M.B.A. Programme will be prepared on the basis of marks obtained in all the above three components i.e. GATE/ CAT of the corresponding year / CMAT/SET-IV, group discussion and interview*

(f) Fee Structure for Integrated M.Tech. (5 Year.): Detailed fee structure is given in **Section 2.11**.

SYLLABUS OF SLIET ENTRANCE TEST (SET-IV)
For admission to MBA Programme-2025
Pattern of SET-IV

SLIET Entrance Test (SET-IV) for admission to MBA. Programme will consist of one paper of One and Half hour duration. This paper will have 60 objective type questions of 60 marks.

Note : Select the correct answer on Computer screen. <u>There will be 25% negative marking for wrong answers</u>.

Marks: 60 (60 Questions) **Time : One and Half Hour**

(i) QUANTITATIVE ABILITY Arithmetic: Time, Speed & Distance, Time & Work, Pipes & cisterns, Simple Interest & Compound Interest, Ratios Proportions & Variations, Percentages, Profit & Loss, Discount, Averages, Mixtures & Algebra: Inequalities & Modules, functions & Graphs, Linnear & Quadratic Equations, Polynomials-Logarithms, Algebraic Identities, Maxima Minima Number Systems, LCM and HCF, Divisibility Rules, Base Change, Finding Unit's Place & Ten's Place of a number, Cyclicity, Number of trailing zeroes, Remainders, Prime Factorisation, Factorials, Indices & Surds, Geometry & Mensuration: Circles-Triangles, Polygons, Co-ordinate Geometry: Lines and Angles, Trigonometry, Modern Mathematics: Permutations & Combinations, Probability, Set Theory (Including Venn Diagrams) Binomial Theorem, Arithmetic, geometric and Harmonic Progressions (Sequence & Series)

(ii) DATA INTERPRETATION & LOGICAL REASONING Data Interpretation: Tables, Pie Charts, Bar Graphs; Logical Reasoning: Number, Symbol, Letter Series, Coding & Decoding Blood Relations & Family Tree, Directions-Binary Logic,Games & Tournaments, Linear & Circular Arrangements, Team Formations-Order & Ranking

(iii) VERBAL ABILITY AND READING COMPREHENSION Verbal ability: Para jumbles, Para Completion, Statements & Assumptions, Fill in the Blanks, Sentence Completion, Parts of Speech, Grammar & Phrases, Modifiers, Reading Comprehension: Tone of Writing Passages, Logical Inferences Tree.

CHAPTER - VIII

8.1 M.Sc. Programmes

The focus of various M.Sc. Programmes offered by Science Departments would be to generate post-graduates who are confident of applying their knowledge to practical problems of industry including R&D organizations. The curriculum maintains a balance between basic & applied aspects of the subject concerned to develop analytical skills of the students and to broaden their career option in academic, research & teaching.

(a) Eligibility:

The eligibility for admission to Master of Science (M.Sc.) Programmes will be **55% marks in aggregate (50% in case of candidates belonging to reserved categories, SC/ST/OBC (NCL)/PWD)** in B.Sc. as follows:

(i) **M.Sc. (Physics):** B.Sc. with **Physics** as one of the subject.

(ii) **M.Sc. (Chemistry):** B.Sc. with **Chemistry** as one of the subject.

(iii) **M.Sc. (Mathematics):** B.Sc. with **Mathematics** as one of the subject.

Note: Eligibility conditions laid down in CCMN-2025 for admission in SLIET shall also be applicable.

(b) Duration: The duration of the M.Sc. Programmes is **two** years

Table 8.1: Seat Matrix for M.Sc. Programmes for 2025-2026

Sr. No.	Disciplines	Seats to be filled through CCMN	Seats to be filled on the basis of Merit of JAM/PUCET/CUET(PG)/SET EXAM	Total
1.	M.Sc. in Physics **(PG-PHY)**	15	10	25
2.	M.Sc. in Chemistry **(PG-CHY)**	15	10	25
3.	M.Sc. in Mathematics **(PG-MATH)**	15	10	25
Total		45	30	75

(c) Admission Procedure:

i) *15 seats in each discipline (Physics, Chemistry, Maths) shall be offered through CCMN-2025.*

ii) *10 seats, in each discipline (Physics, Chemistry, Maths) shall be offered to the candidates who have qualified JAM/PUCET/CUET(PG)/SET-VI and on basis (of the marks of the qualifying examination). They shall be separately required to register on the admission portal of the Institute.*

c) The preference shall be given to the candidates who have qualified JAM/PUCET/CUET(PG)/SET-II-2025.

d) The vacant seats (if any) shall be offered to the candidates, based upon the marks of the qualifying examination for admission to M.Sc. programmes.

iii) In case the seats still remain vacant as above(i & ii), these seats shall be offered to the candidates through spot round of admission.

- Reservation of seats will be as per Govt. of India rules. Refer to section 2.9

(d) Fee Structure for M.Sc. Programmes : The detailed fee structure is given in **Section 2.11**.

SYLLABUS OF SLIET ENTRANCE TEST (SET-VI)

For admission to M.Sc.Programme-2025

Pattern of SET-VI

SLIET Entrance Test (SET-VI) for admission to M.Sc. programme will consist of one paper of One and Half hour duration. This paper will have 60 objective type questions of 60 marks.

Note-: The examination will be conducted in CBT mode. <u>There will be 25% negative marking for wrong answers</u>.

Syllabus for M.Sc.

Marks: 60 (60 Questions) **Time: One & Half Hour**

<u>Common for all M.Sc</u>

Marks: 10 (10 Questions around 05 from each topic)

a) Arithmetic and Quantitative Skills

b) Critical Reasoning & General Awareness

M.Sc. (Physics)

Marks: 50 (50 Questions)

- **Basic Concepts of Classical Mechanics**: Mechanics of a particle, Mechanics of a system of particles, constraints, Holonomic and non-holonomic constraints, virtual work, D' Alembert's principle, Lagrange's equations, simple applications of the Lagrangian formulation.
- **De Broglie waves and uncertainty principle**: De Broglie Waves, De Broglie wave velocity, wave and group velocities, Heisenberg's uncertainty principle and its applications.
- **Schrodinger equation**: The wave function, Schrodinger equation – time dependent form Expectation values, operators, Schrödinger equation–steady state form, Eigen values and Eigen functions.
- **Nuclear Physics**: Nuclear models and accelerators – Introduction to nuclear forces, Nuclear binding energy, shell model and liquid drop model, Nuclear reactions, Fission and Fusion, Particle accelerators – linear accelerator and cyclotron.
- **Crystal Structure**: Crystal lattice and translation vectors, unit cell, Basis, symmetry operations, Point groups and space groups, Types of lattices (Plane lattice and space lattice with bcc and fcc) Lattice directions and planes, Interplanar spacing Miller indices, simple crystal structures, close packed structures, Hexagonal close packed structures.
- **Bonding in Solids**: Introduction, concept of inter-atomic forces, cohesive energy and types of bonding, primary bonds (ionic bonds, covalent bond and metallic bonds), Secondary bonds (Vander wall's bonds and hydrogen bonds).
- **Electrical properties of metals**: Classical free electron theory of metals, Drawbacks of classical theory, Quantum theory of free electron, Somerfield's model for free electron (one-dimensional solid, generalization for three-dimensional solid) Fermi-Dirac statistics and electron distribution in solids, Density of energy states and Fermi energy f(E) at E=EF, E<EF and E>EF, Mean energy of electron gas at absolute zero.
- **Band Theory of Solids**: The Bloch theorem (only statement and properties), The kronig –Penny model, Energy versus wave-vector relationship – different representations (Brillouin Zones), Distinction between metals, insulators and semiconductors.
- **Magnetic Properties of Solids**: Concept of Magnetic permeability, magnetization, susceptibility, Electric current in atoms, Bohr Magnetron, Electron Spin and Magnetic Moment, Magnetic moment due to nuclear spin, classical theory of diamagnetism and paramagnetism.
- **Electronics**: BJT (Revision), Load line, Transistor biasing, voltage divider bias, Hybrid parameters (or h parameters) Determination of h-parameters. Basic logic gates (NOT, OR, AND using electrical switch circuit only), Derived logic gates (NAND, NOR, EXOR using electrical switch circuit only) De Morgan's theorem, NAND gate as a universal building block.
- **Second law of Thermodynamics**: Conversion of work in to heat and vice versa, Kelvin-Planck and Clausius statements of Second law of Thermodynamics and their equivalence, Carnot's cycle, Carnot's theorem and corollary, thermodynamic scale of temperature, absolute zero and efficiency, gasoline engine (Otto), Diesel engine, reversibility and irreversibility, condition for reversibility.
- **Fraunhoffer and Fresnel Diffraction**: Single slit, double slit, N slit diffraction patterns. Positions of maxima and minima. width of the principal maxima. the diffraction grating. Resolving power of grating. Resolving power of a prism, Fresnel half period zones. zone plate. diffraction at a straight edge. Fresnel diffraction by a circular aperture.

- Polarization and double refraction: Introduction-production of polarized light, polarization by reflection, polarization by double refraction, polarization by scattering, Malus law, Superposition of two disturbances, Mathematical analysis, Double refraction.

M.Sc. (Chemistry)

Marks: 50 (50 Questions)

Inorganic Chemistry

Atomic Structure and Chemical bonding: Schrodinger wave equation; H atom; Radial and angular wave functions: quantum numbers and concept of orbitals; Slater orbitals; Periodic trends and properties: Size, Ionization Energy, Electron Affinity, Electronegativity, Lattice and Hydration Energies; Chemical Bonding: VB and MO approach of H_2 molecule; MO treatment of homonuclear and heteronuclear (CO & NO) diatomic molecules; VSEPR theory; Structure of simple molecules and ions of main group elements; theories of bonding in metals; Free electron, VB and Band theories; Hydrogen bonding and Vander Waal's interactions.

*Chemistry of element*s: *s* and *p*-block: Alkali and alkynes earth metals, Hydrides and Complexation tendencies, Structural features of hydrides, halides, oxides and oxyacids;

d-block: Salient features, characteristic properties of 3*d*-elements and general comparative treatment of 4d and 5d elements with reference to oxidation states, colour, magnetic behaviour, and complex formation tendency, methods of determining magnetic susceptibility, Correlation of magnetic moment data and stereochemistry of Co(II) and Ni(II) complexes.*f-block*: Comparative study of lanthanides and actinide elements with respect to electronic configuration, atomic and ionic radii, oxidation states and complex formation, occurrence and principles of separation.

Coordination chemistry: Nomenclature, Werner's theory, Iso*merism*. Sidgwick's EAN concept and Valence Bond Theory, Limitations of valence bond theory; Crystal-field theory and crystal-field splitting in octahedral, tetrahedral and square planar complexes, Jahn-Teller distortion, Factors affecting the crystal-field splitting; Stereochemistry of coordination compounds with coordination no. 4, 5 and 6;

Thermodynamic and kinetic stabilities of metal complexes and factors affecting the stability; Types of electronic transitions, selection rule for d-d transitions, spectroscopic ground states.

Organometallic Chemistry: Definition, nomenclature and classification of organometallic Compounds; Preparation, properties, bonding and applications

Bioinorganic Chemistry: Essential and trace element in biological process, oxygen transport with reference to haemoglobin; synthetic models of O_2 carriers, Biological role of alkali metals ions; Vitamin B-12

Organic Chemistry

Concepts: Atomic orbitals, hybridization, Polarity of bonds: Inductive, resonance and steric effects, hyperconjugation, and their influence on acidity and basicity of organic compounds; Fischer, Saw-horse and Newman projection formulae, Chirality-optical activity, enantiomersim and diasteroisomerism involving one and two chiral centres; Configuration; D/L, erythrose, threose and R/S nomenclatures; Geometrical isomerism and E/Z nomenclatures; Conformations of n-butane;

Aromaticity and Huckel rule - A general concept; Molecular orbital picture of benzene, Nomenclature of organic compounds

Chemistry of organic compounds- Hydrocarbons: Alkanes, Alkenes, alkynes and benzene: Preparation and properties; Alkyl Halides: Nucleophilic substitution: SN1, SN2 mechanisms; Eliminations reactions: E1 and E2 mechanisms, Elimination versus substitution reactions; energy profile diagrams-transition states (general considerations). Grignard reagents:

Preparation and synthetic applications; Chlorobenzene, electrophilic and nucleophilic aromatic substitutions; side chain chlorination of toluene, DDT and BHC; Alcohols: Comparative study of substitution, dehydration, oxidation, and esterification of primary, secondary and tertiary alcohols; Phenols: General methods of preparation and reactions; Reimer-Tiemann and Kolbe reactions; Relative acidity of phenol, alcohol and carboxylic acid; Carbonyl compounds: Preparations and reactions: addition and condensation reactions; Cannizzaro, Perkin, aldol, benzoin, haloform, oxidation and reduction reactions; Important reactions of acids, HVZ reaction, Relative reactivity of acid chlorides, acid anhydrides, amides and esters; Comparative acidity of carboxylic and sulphonic acids; Nitrogen containing compounds: Nitrobenzene and reduction products; Comparative basicity of aliphatic and aromatic amines; Diazonium Salts: Preparation and synthetic applications.

Reactive intermediates and related Rearrangement reactions: Generation, stability and reactivity of Free radicals(Anti Markovnikov's, Birch Reduction, Bouveault-Blanc reduction, oxidation of phenol by metal ions); *Carbocations* (Pinacol-Pinacolone, Wagner-Meerwein Rearrangement, Baeyer-Villiger oxidation, Hydroperoxide reaction and Beckmann.) and *Carbanions (*Robinson Anuulation and Michael Addition); *Carbenes* and *Nitrenes* (Hofmann, Curtius reactions); Ylides: Sulphur ylides, phosphorous ylides, Michaelis-Arbuzov phosphonate synthesis, Witting reactions, Mitsunobu reaction.

Chemistry of Bio-molecules: Amino acids-preparative methods, physical properties, dipolar nature, chemical reactions and configuration; peptide linkage, peptide synthesis and structure of poly peptides, General characteristics and secondary structure; Carbohydrates -Characteristic reactions of aldoses and ketoses; Glucose- structure (Open and Cyclic), Fructose (only reactions), Mutarotations, Sucrose, starch and cellulose (Structural aspects only).

Application of Spectroscopic Techniques: Infrared Spectroscopy: Working and experimental considerations in spectral recording; Characteristic group frequencies; carbonyl frequencies; effect of structure: aldehydes, ketones; esters, amides, acid anhydrides, carboxylics acids, acid chlorides; effect of conjugation; cyclization; ambi-dentate ligands and metal carbonyls.

Ultraviolet and Visible Spectroscopy: Basic working principle and measurement technique; σ-σ*, π-π*, n-σ* and n-π* transitions, dienes and conjugated poly-enes; Woodward-Fieser rules; spectra of transition metal complexes (*d-d* transitions).

NMR Spectroscopy: Working principle and method of measurement; factors influencing chemical shift, spin-spin splitting; applications.

Physical Chemistry

States of Matter: Gaseous state: Kinetic theory of gases, ideal gas laws based on kinetic theory, mean free path, collision diameter, collision number; van der Waal's equation and critical state,

Liquid State: Surface tension of liquids - capillary action, temperature effect on surface tension; Viscosity of liquids, experimental determination of viscosity coefficient, variation with temperature.

Solid State: Crystal lattices, space lattice, unit cell, crystal systems, law of rational indices, Miller indices, crystals and x-rays (the Braggs equation); Crystal structure of NaCl, graphite, and diamond; Types of crystal (molecular, covalent, metallic, ionic); Imperfection in crystals: point defect-Schottky and Frenkel defects.

Thermodynamics: First Law of thermodynamics and internal energy, heat and work, Enthalpy, heat changes at constant volume and constant pressure, heat capacities (Cp and Cv). Thermodynamic quantities (w, q, ΔU, ΔH) for isothermal and adiabatic reversible expansion of ideal gases,

Relation between ΔU and ΔH, variation of heat of reaction with temperature (Kirchhoff's equation); Second Law of Thermodynamics, Carnot cycle, entropy, entropy changes in reversible and irreversible processes and of universe and changes of an ideal gas in different processes; Free energy and its concept, Gibbs and Helmholtz free energies and their relationship, variation of free energy with temperature and pressure; Free energy and equilibrium constant, Maxwell's relations, Gibbs-Helmholtz equations, Chemical potential, Fugacity and activity.

Thermodynamics of colligative properties: Ideal solutions and their characteristic properties, Duhem-Margules equation and its application, Henry and Raoult's laws, Freezing point depression, elevation of boiling point, osmotic pressure, van't Hoff equation, Measurement of osmotic pressure and determination of molecular weight of macromolecules.

Electrochemistry**:** Arrhenius theory of electrolytic dissociation, Hydrolysis of salts, hydrolysis constant, Bronsted-Lowry and Lewis concepts of acids and bases, HSAB theory and applications buffer solutions, indicators and theory of acid-base indicators, degree of dissociation and dissociation constant of weak electrolytes/acids, solubility of sparingly soluble salts; Migration of ions: transference number and its determination by Hittorf methods; Conductance of electrolyte solutions, Kohlrausch law of independent migration of ions, ionic mobility; Single electrode potential (Nernst equation), Emf of reversible cell from electrode potentials and its applications; Types of reversible electrodes, reference electrodes; Concentration cells with and without transference; Liquid junction potential and its elimination, Qualitative idea of Debye-Huckel theory of ion-ion interactions.

Phase Equilibria**:** Thermodynamics of phase transition-Clapeyron-Clausius equation and its applications, Phase rule, phase, component, degree of freedom, thermodynamic derivation of phase rule, phase diagrams of one-component system (water),co2, Sulphur two component systems (phenol water, lead-silver). The distribution law, solvent extraction, equilibrium constant from distribution coefficient ($KI + I_2 = KI_3$).

Chemical Kinetics: Order and molecularity of chemical reactions, pseudo order, Kinetic law for first and second order reactions, determination of the rate constant and order of reaction from kinetic data, Effect of temperature on rate of reaction: collision theory of rates of bimolecular reactions and its comparison with Arrheninus equation.

Photochemistry: Law of photochemical equivalence, quantum efficiency, reasons for low and high quantum efficiency; Kinetics of photochemical reaction (H_2+Br_2=HBr), photostationary state, Chemical actinometers (uranyl oxalate).

Quantum Chemistry: Postulates of quantum mechanics, Schrödinger's wave equation, Eigen functions and Eigen values, Orthogonality of wave functions, Particle in a one dimensional box problem.

Molecular Spectroscopy: Region of electromagnetic spectrum, Emission and absorption spectra,Transition probabilities and selection rules; Width and intensity of spectral transitions Pure rotational spectra, Diatomic molecules-Rigid rotor & non-rigid rotors. Vibrational- rotational spectra of diatomic molecules, Harmonic oscillator-rigid rotor approximation, Anharmonicity, Normal modes of vibration, Infrared spectra of linear and bent AB2 molecules; Electronic spectra of diatomic molecules, Franck-Condon principle; Nuclear Magnetic Resonance Spectroscopy: Principle, Chemical shifts, Spin-spin splitting, Relaxation times.

M.Sc. (Mathematics)

Marks: 50 (50 Questions)

Sequences and Series: Sequences of real numbers. Cauchy's criteria for convergence. Convergent sequences.
Series. Tests for convergence. Absolute and conditional convergence. Uniform convergence.

Differential Calculus: Limit. Continuity. Differentiability. Successive differentiation. Asymptotes. Curvature. Envelopes and evolutes. Mean value theorem. Taylor's theorem. Maxima and minima of functions of a single variable. Functions of two and three variables. Partial derivatives, maxima and minima. Tangent plane and normal to a surface. Errors and Approximations.

Integral Calculus: Integration. Reduction formulae. Quadrature and rectification. Double and triple integrals, Surface areas and volumes. Centre of gravity. Moment of inertia. Root mean square value. Beta, Gamma and error functions.

Vector Calculus: Scalar and vector triple products. Vector differentiation and integration. Gradient, divergence and curl. Green's, Stokes and Gauss theorems.

Three dimensional Geometry: Cartesian co-ordinate system, Distance formula, section formula, Direction ratios and direction cosines, Equation of a plane, Equations of straight line, Equations of Sphere. Cone. Cylinder. Conicoid. Tangent plane and normal. Reduction of second degree equations to standard form.

Differential Equations: Ordinary differential equations of the first order. Linear differential equations of higher order with constant coefficients. Methods of variation of parameters and undetermined coefficients. Series solution of differential equations. Bessel's and Legendre's equations. Orthogonality and recurrence relations of Bessel's functions and Legendre polynomials.
Partial differential equations. Lagrange's linear PDE. Non-linear PDE of first order. Charpit's method. Homogenous linear and non-linear PDEs. Application of ODE and PDE.

Algebra: Groups, subgroups and normal subgroups, Lagrange's Theorem for finite groups, group homomorphisms and basic concepts of quotient groups, rings, ideals, quotient rings and fields.

Linear Algebra: Systems of linear equations. Matrices, rank, determinant, inverse. Eigenvalues and eigenvectors. Cayley Hamilton theorem. Finite dimensional vector spaces over real and complex numbers. Basis. Dimension. Linear transformations.

Analysis: Riemann integral. Fundamental and mean value theorems of integral calculus. Improper integrals. Open and closed sets, limit points, completeness of R. Limit of a complex function. Differentiation. Analyticity. Cauchy-Riemann equations. Harmonic functions. Conformal mapping. Some special transformations - translation, inversion and rotation. Bilinear transformation.

Laplace Transform and Fourier series: Laplace transforms and its properties. Inverse Laplace transforms. Convolution theorem. Unit step function and unit impulse function. Applications to differential equations.
Fourier series. Change of interval. Even and odd functions. Half-range series. Applications to standard waveforms.

Mechanics: Coplaner forces. Virtual work. Catenary. Equilibrium. Wrenches. Simple harmonic motion. Elastic strings. Central orbits. Kepler's law of motion.

Statistics: Measures of central tendency and dispersion. Skewness and kurtosis. Correlation and regression. Probability theory.
Baye's theorem. Binomial, Poisson and Normal distributions.

CHAPTER -IX

9.1 M.TECH. PROGRAMME

The objective of M. Tech. programme is continuation of technical expertise acquired in qualifying Degree Programmes. This will offer an opportunity to the candidate to acquire skill to work on R&D and Industry projects.

a) Eligibility:

1) B.Tech. /B.E./B.Sc. (Engg.) Degree from recognized University/Institute in the appropriate branch.

OR

Cleared Section 'B' of the Institution of Engineers (India) in appropriate branch or Grade IETE and has three years of professional experience in reputed organization.

The candidates must have secured at least 60% marks (55% in case of candidates belonging to reserved categories, SC/ST/OBC (NCL)/PWD) in aggregate in qualifying degree.

2) Valid GATE score.
3) For appropriate branches at graduate level eligible for admission in various M.Tech. courses, candidates are advised to refer to website of CCMT – 2025.
4) Appropriate branches for admission in various M.Tech. courses are as under :
   i) M. Tech. (Manufacturing Systems Engineering): Candidate should have B.E./B.Tech./B.Sc.(Engg.) Degree in Mechanical Engineering/ Manufacturing Engineering/Production Engineering/Industrial Engineering or equivalent*
   ii) M. Tech. (Welding and Fabrication): Candidate should have B.E./B.Tech./ B.Sc.(Engg.) Degree in Mechanical Engineering/ Manufacturing Engineering /Welding Technology/Production Engineering/Industrial Engineering or equivalent*
   iii) M. Tech. (Food Engineering & Technology): Candidate should have B.E./B.Tech./ B.Sc.(Engg.) or equivalent in Food Technology /Food Engineering/Agricultural & Food Engineering/Food Processing & Preservation/Food Processing Engineering/Food Processing Technology or equivalent*.
   iv) M. Tech. (Instrumentation & Control Engineering): Candidate should have B.E./B.Tech./ B.Sc.(Engg.) Degree in Electrical Engineering/Instrumentation & Control/Electrical and Electronics Engineering/Instrumentation Engineering/ Electronics Engineering/Computer Engineering/Electronics & Instrumentation Engineering/Electronics & Communication Engineering or equivalent*
   v) M. Tech. (Chemical Engineering): Candidate should have B.E./B.Tech./ B.Sc.(Engg.) or equivalent in Chemical Engineering/ Chemical Technology/Chemical Engineering (Plastic and Polymer)/Chemical and Polymer Engineering/ Chemical & Alcohol Technology/ Chemical and Bio-Engineering or equivalent*
   vi) M. Tech. (Electronics & Communication Engineering/VLSI-Design): Candidate should have B.E./B.Tech./ B.Sc.(Engg.) Degree in Electronics & Communication Engineering/Electrical and Electronics Engineering/Electronics & Instrumentation Engineering/ Computer Engineering or equivalent*
   vii) M. Tech. (Computer Science & Engineering): Candidate should have B.E./B.Tech./ B.Sc.(Engg.) or equivalent Degree in Computer Engineering/Computer Science & Engineering/ Computer Technology/Computer Science/Information Technology/Computer Science and Information Technology/Computer Science and System Engineering/ Computer Engineering & Applications/ Electronics and Communication Engineering/ Electrical and Electronics Engineering/ Electronics and Instrumentation Engineering or equivalent.

NOTE: In addition to the above appropriate branches for courses at SLIET, Longowal as mentioned at the CCMT-2025 website are also valid. Eligibility conditions laid down in CCMT-2025 shall also be applicable.

***The decision of Admission Committee regarding equivalency shall be final and binding upon the candidate.**

b) Duration: The duration of M.Tech. programme is two years.

c) Disciplines & Seats: Available discipline of study and information regarding the distribution of seats are as given **Table 6.1**. Reservation of seats will be as per Govt. of India rules Refer to section 2.9

Table 9.1: Seat Matrix for M.Tech. Programmes for session 2025-2026

Sr. No.	Name of the Department	Name of M.Tech. Programme	Total Seats
1.	Chemical Engineering	M.Tech. in Chemical Engineering **(PG-CE)**	15
2.	Computer Science and Engineering	M.Tech. in Computer Science and Engineering **(PG-CSE)**	23
3.	Electronics & Comm. Engg.	M.Tech. in Electronics and Communication Engineering **(PG-ECE)**	22
4.	Electronics & Comm. Engg.	M.Tech. in VLSI Design **(PG-VLSI)**	12
5.	Electrical & Instrumentation Engineering	M.Tech. in Instrumentation and Control Engineering **(PG-ICE)**	15
6.	Food Engineering & Technology	M.Tech. in Food Engineering and Technology **(PG-FET)**	23
7.	Mechanical Engineering	M.Tech. in Manufacturing Systems Engineering **(PG-MSE)**	25
8.	Mechanical Engineering	M.Tech. in Welding and Fabrication **(PG-WLF)***	15
*Nomenclature subject to approval of the Statutory body		TOTAL	150

d) Admission Procedure:

Admission to M.Tech. will be through Centralized Counseling for M. Tech. (CCMT-2025). Candidates interested in M.Tech. admission at SLIET should visit CCMT-2025 website.

- ***In case, the seats remain vacant, the candidates who have qualified valid GATE/SET VII-2025 and registered on our admission portal with registration fee paid on or before 15.04.2025 will be considered for admission.***
- ***Preference will be given to the candidates having valid GATE score.***

(e) Fee Structure for M.Tech. Programmes: Detailed fee structure is given in **Section 2.11:**

- Note 1: Admission on the basis of GATE does not guarantee the GATE Scholarship. However, scholarship shall be offered as sanctioned by AICTE, New Delhi.

- Note 2 : The scholarship to the admitted students (with GATE) shall be disbursed by AICTE, New Delhi through DBT scheme as per policy of Govt. of India.

- Reservation of seats will be as per Govt. of India rules. (Refer to section 2.9)

SYLLABUS OF SLIET ENTRANCE TEST (SET-VII) (Vacant Seats)

For admission to M. Tech. Programme-2025

Pattern of SET-VII

SLIET Entrance Test (SET-VII) for admission to M. Tech. Programme will consist of one paper of One and Half hours duration. This paper will have 60 objective type questions of 60 marks.

Note: The Examination will be conducted through CBT mode. <u>There will be 25% negative marking for wrong answers</u>.

Marks: 60 (60 Questions) **Time: One & Half Hours**

<u>Common for all M.Tech. Programmes</u>

<u>ENGINEERING MATHEMATICS</u>

Marks: 05 (05 Questions)

Linear Algebra: Matrix Algebra, Systems of linear equations, Eigen values and eigen vectors.

Calculus: Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivatives, Maxima and minima, Multiple integrals, Fourier series. Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations: First order equation (linear only), Higher order linear differential equations with constant coefficients, Method of variation of parameters, Cauchy's and Legendre's equations, Initial and boundary value problems, Partial Differential Equations, linear and non-linear equations of first order only.

Complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent' series, Residue theorem, evaluation of real integrals.

Probability and Statistics: Mean, median, mode and standard deviation, Probability(simple problems) Random variables, Discrete and continuous distributions, Poisson, Normal and Binomial distribution, Correlation and regression analysis.

Numerical Methods: Solutions of non-linear algebraic equations, single and multi-step methods for differential equations.

Transform Theory: Fourier transform, Laplace transform, Z-transform.

<u>COMMUNICATION SKILL/MENTAL APTITUDE</u>

Marks: 05 (05 Questions)

a) Language and Communication Skills

b) Arithmetic and Quantitative Skills

c) Critical Reasoning & General Intelligence

d) General Awareness

<u>MANUFACTURING SYSTEMS ENGINEERING/ MECHANICAL ENGINEERING (WELDING AND FABRICATION)</u>

Marks: 50 (50 Questions)

Engineering Mathematics: Laplace transformation & Fourier series, partial differential equations, vector calculus, curve fitting, regression analysis & linear correlation.

Engineering Mechanics: Statics Laws of equilibrium, centroids & centre of gravity, friction, moment of inertia, virtual work. Dynamics**:** Kinematics of particle, Newton's second Law of motion, work & energy, impulse & momentum, force & acceleration.

TOM & SOM: Simple mechanisms, velocity & acceleration in mechanisms, cams, balancing & vibrations, stress and strains, Mohr's circle, complex stresses, bending & deflection of beams, curved beams, shear centre, unsymmetrical bending, Castigliano's Theorem, pressures vessel, rotating rings.

Fluid Mechanics & Machines: Introduction, static pressure, gauges, flow of liquids through orifices & pipes, working principles of hydraulic machines & pumps.

Material Science: Bonding in solids & crystals, structure of material, imperfection in solids, heat treatment, magnetic materials, dielectric and other materials.

Thermal Science: Basics I.C. Engines, steam nozzles, steam turbines, compressors & gas turbines, different modes of heat transfer.

Operation Research:- Linear programming, network models, queuing theory, PERT,CPM

Metal Cutting & Forming: Tool nomenclature, orthogonal & oblique cutting, chip formation and types of chips, force system in turning, milling, tool wear, tool life and machinability. Fundamentals of dynamometry, temperature measurement in machining, types & application of different cutting fluids, plasticity, theories of failure, rolling, forging, extrusion and drawing processes.

Measurement & Quality Control: Standards of measurements, measurement of displacement, speed, stress strain, force, torque, spur gears etc., introduction of quality control, control charts, OC curve, acceptance sampling, TQM, reliability.

Work Study & Ergonomic: Productivity, methods study, time study, work sampling, ergonomics.

Manufacturing Processes: Metal casting & fabrication; types of molding sand, solidification of metals, design of Risers, various molding & casting processes. Arc welding process, TIG,MIG,CO_2,Plasma, resistance welding, welding defects, powder metallurgy.

Non-Conventional Machining Processes: EDM, ECM, CHM, USM, AJM, WJM, EBM, IBM, LBM and PAM.

Industrial Automation: Introduction, pneumatics, pneumatic actuators & valves, basic pneumatic circuits, fluidics & fluid logic, pneumatic sensors, programmable logic controllers, encoders.

CAD/CAM: Fundamentals of CAD,NC Machine tools, group technology, components of CIM, computer aided part programming, adaptive control system.

FOOD ENGINEERING AND TECHNOLOGY

Marks: 50 (50 Questions)

Technology of Fruit and Vegetable Processing: Extraction and preservation of fruit juices, jam, jelly and marmalades, Intermediate moisture products, Canning of fruits and vegetables, Drying and Dehydration of fruits & vegetables, Freezing, Chutney , Pickles and tomato products, Utilization of byproducts.

Dairy Engineering: Cleaning and sanitation in dairy industries, Homogenization, Pasteurization, Sterilization, Evaporation and Drying of milk, Utilization of byproducts.

Food Chemistry: Physico-chemical characteristics of food constituents, Changes in food constituents during processing and their determination methods, Enzymes and their applications in food processing.

Heat and Mass Transfer in Food Processing: Modes of heat transfer-Principles and practices in food engineering, Heat exchangers and their application in food processing, Mass transfer-Fick's law of diffusion of mass transfer, natural and forced convective mass transfer.

Food Packaging and Storage Engineering: Properties of packaging materials, Packaging equipment and machinery, Food packaging systems, Packaging standards and Role of packing in environmental pollution, Storage requirements and structures, Handling equipments, Management Practices.

Biotechnology: Principles of biochemistry, Microbial products, Techniques of genetic engineering, Enzyme technology, Tissue culture technology, Environmental biotechnology.

Animal Products Technology: Meat processing and preservation, Sausage, Meat Plant sanitation and safety, Fish processing and preservation, Fish products, Utilization of by-products.

Food Biochemistry: Cell biochemistry, Metabolism of carbohydrates, lipids and proteins.

Food Analysis and Quality Control: Quality attributes and measurements, Consistency and viscosity, Modern techniques of food analysis, Measurements of various properties, sensory quality and analysis, Food laws and regulations.

Technology of Cereals and Pulses: Structure and composition, Wheat milling technology, Rice Milling, Milling of pulses, Cereal based extruded products, Utilization of by-products.

Industrial Microbiology: Techniques of strain development, Microbial growth, Food spoilage, Microbial products.

Biochemical Engineering: Media sterilization, Air Sterilization, Enzyme Kinetics, Bioreactor fermenter, Aeration and Agitation.

Food Processing Plant Layout and Design: Network analysis of processes, Evaluation of layouts, Plant Buildings, Cost analysis, Plant layout of different industries.

Beverage Technology: Non-alcoholic beverages, Alcoholic beverages, Instrumentation and process control in beverage industry.

Food Engineering: Material and energy balance, Flow of fluids, Thermal processing, Freezing, Fluidization, Refrigeration and air conditioning, Leaching & Extraction.

INSTRUMENTATION AND CONTROL ENGINEERING

Marks: 50 (50 Questions)

Electricity and Magnetism: Coulomb's Law, Electric Field Intensity, Electric Flux Density, Gauss's Law, Divergence, Electric field and potential due to point, line, plane and spherical charge distributions, Effect of dielectric medium, Capacitance of simple configurations, Biot-Savart's law, Ampere's law, Curl, Faraday's law, Lorentz force, Inductance, Magnetomotive force, Reluctance, Magnetic circuits, Self and Mutual inductance of simple configurations.

Electrical Circuits & Machines: Voltage and current sources: independent, dependent, ideal, and practical; VI relationship of resistor, inductor, mutual inductor, and capacitor; transient analysis of RLC circuits with dc excitation. Kirchoff's laws, mesh and nodal analysis, superposition, Thevenin, Norton, maximum power transfer and reciprocity theorems. Tellegen's Theorem, star delta transformation.

Peak, average and rms values of AC quantities; apparent, active and reactive powers, phasor analysis, time domain and frequency domain analysis, impedance, and admittance, series and parallel resonance, locus diagrams, realization of basis filters with R, L and C elements. One-port and two-port networks, driving point impedance with admittance, open, and short circuit parameters.

Single phase transformer: equivalent circuit, phasor diagram, open circuit and short circuit tests, regulation and efficiency; Three phase induction motors: principle of operation, types, performance, torque-speed characteristics, no-load and blocked rotor tests, equivalent circuit, starting and speed control; Types of losses and efficiency calculations of electric machines.

Analog and Digital Electronics: Characteristics and applications of diode, Zener diode, BJT, JFET, UJT, MOSFT; Rectifiers small signal analysis of transistor circuits, feedback amplifiers. Characteristics of operational amplifiers; applications of op-amps; difference amplifier, adder, subtractor, integrator, differentiator, instrumentation amplifier, precision rectifier, active filters, and other circuits, Oscillators, signal generators, voltage-controlled oscillators, and phase locked loop. Combinational logic circuits minimization of Boolean functions. IC families: TTL and CMOS. Arithmetic circuits, comparators, Schmitt trigger, multi-vibrators, sequential circuits, flip flops, shift registers, timers and counters, sample-and-hold circuit, multiplexer, analog to digital and digital to analog converters, characteristics of ADC and DAC, basics of number systems, Embedded Systems: Microprocessor and microcontroller applications, memory and input-output interfacing; basics of data acquisition systems, basics of distributed control systems (DCS) and programmable logic controllers (PLC).

Electrical and Electronic Measurements: SI units, systematic and random errors in measurement, expression of uncertainty – accuracy and precision index, propagation of errors. PMMC, MI and dynamometer type instruments; dc potentiometer; DC & AC bridges, Q-meter. Measurement of voltage, current and power in single and three phase circuits; ac and dc current probes; true rms meters, voltage and current scaling, instrument transformers, timer/counter, time phase, and frequency measurements, digital multimeter, oscilloscope, shielding and grounding.

Power Electronics: Characteristics of semiconductor power devices: Diode, Thyristor, Traic, GTO, MOSFET, IGBT, DC to DC conversion, Buck Boost and Buck-Boost converters, Single and three phase configuration of uncontrolled rectifiers, Line commutated thyristor-based converters, Bidirectional ac to dc voltage source converters, Issues of line current harmonics, Power factor, Distortion factor of ac to dc converters, Single phase and three phase inverters, Sinusoidal pulse width modulation.

Signals and Systems: Representation of continuous and discrete-time signals, Laplace, Fourier, and z-transforms, transfer function, frequency response of first and second order linear time invariant systems, impulse response of systems; convolution, correlation. Discrete time system: impulse response, frequency response, pulse transfer function, DFT and FET, basics of IIR and FIR filters.

Control Systems: Feedback principles, signal flow graphs, transient response, steady-state-errors, Bode plot, phase and gain margins, Routh and Nyquist criteria, root loci, design of lead, lag and lead-lag compensators, state-space representation of systems; time-delay systems; mechanical, hydraulic and pneumatic system components, synchro pair, servo and stepper motors, servo valves; on-off, P, PI, PID, cascade, feed forward, and ratio controllers, tuning of PID controllers and sizing of control valves.

Sensors and Industrial Instrumentation: Resistive, capacitive, inductive, piezoelectric-,Hall effect sensors and associated signal conditioning circuits; transducers for industrial instrumentation; displacement (linear and angular), velocity, acceleration, force, torque, vibration, shock, pressure (including low pressure), flow (differential pressure, variable area, electromagnetic, ultrasonic, turbine and open channel flow meters) temperature (thermocouple, bolometer, RTD and its types, thermistor, pyrometer and semiconductor), liquid level, pH, conductivity and viscosity measurement.

Communication and Optical Instrumentation: Amplitude and frequency modulation and demodulation; Shannon's sampling theorem, pulse code modulation; frequency and time division multiplexing, amplitude, phase, frequency, pulse shift keying for digital modulation; optical sources and detectors: LED, laser photodiode, light dependent resistor, and their characteristics; interferometer: applications in metrology; basics of fiber-optic sensing.

CHEMICAL ENGINEERING

Marks: 50 (50 Questions)

Process Calculations and Thermodynamics: Steady and unsteady state mass and energy balances including multiphase, multi-component, reacting and non-reacting systems. Use of tie components; recycle, bypass and purge calculations; Gibb's phase rule and degree of freedom analysis. First and Second laws of thermodynamics. Applications of first law to close and open systems. Second law and Entropy. Thermodynamic properties of pure substances: Equation of State and residual properties.

Fluid Mechanics and Mechanical Operations: Fluid statics, Newtonian and non-Newtonian fluids, shell-balances including differential form of Bernoulli equation and energy balance, Macroscopic friction factors, dimensional analysis and similitude, flow through pipeline systems, flowmeters, pumps and compressors, elementary boundary layer theory, flow past immersed bodies including packed and fluidized beds. Particle size and shape, particle size distribution, size reduction and classification of solid particles; free and hindered settling; centrifuge and cyclones; thickening and classification, filtration, agitation and mixing; conveying of solids.

Heat Transfer: Steady and unsteady heat conduction, convection and radiation, thermal boundary layer and heat transfer coefficients, boiling, condensation and evaporation; types of heat exchangers and evaporators and their process calculations. Design of double pipe, shell and tube heat exchangers, and single and multiple effect evaporators.

Mass Transfer: Fick's laws, molecular diffusion in fluids, mass transfer coefficients, film, penetration and surface renewal theories; momentum, heat and mass transfer analogies; stage-wise and continuous contacting and stage efficiencies; HTU & NTU concepts; design and operation of equipment for distillation, absorption, leaching, liquid-liquid extraction, drying, humidification, dehumidification and adsorption.

Chemical Reaction Engineering: Theories of reaction rates; kinetics of homogeneous reactions, interpretation of kinetic data, single and multiple reactions in ideal reactors.

Instrumentation and Process Control: Measurement of process variables; sensors, transducers and their dynamics, process modeling and linearization, transfer functions and dynamic responses of various systems, systems with inverse response, process reaction curve, controller modes (P,PI, and PID); control valves; analysis of closed loop systems including stability, frequency response, controller tuning, cascade and feed forward control.

Plant Design and Economics: Principles of process economics and cost estimation including depreciation and total annualized cost, cost indices, rate of return, payback period, discounted cash flow, optimization in process design and sizing of chemical engineering equipments such as compressors, heat exchangers.

Chemical Technology: Inorganic chemical industries (sulfuric acid, phosphoric acid, chlor-alkali industry), fertilizers (Ammonia, Urea, SSP and TSP); natural products industries (Pulp and Paper, Sugar, Oil, and Fats); petroleum refining and petrochemicals; polymerization industries (polyethylene, polypropylene, PVC and polyester synthetic fibers).

ELECTRONICS AND COMMUNICATION ENGINEERING/ VLSI DESIGN

Marks: 50 (50 Questions)

Networks: A.C. and D.C. fundamentals, nodal and mesh analysis. Network theorems: super position, Thevenin and Norton's maximum power transfer, Wye-Delta transformation. Steady state sinusoidal analysis using phasors. Linear constant coefficient differential equations; time domain analysis of simple RLC circuits, Solution of network equations using Laplace transform: frequency domain analysis of RLC circuits. 2-port network parameters: driving point and transfer functions. State equations for networks.

Electronic Devices: Semiconductor physics, diffusion current, drift current, mobility, and resistivity. Generation and recombination of carriers. p-n junction diode, Zener diode, tunnel diode, BJT, JFET, MOS capacitor, MOSFET, LED, p-i- n and avalanche photo diode, Basics of LASERs. Device technology: integrated circuits fabrication process, oxidation, diffusion, ion implantation, photolithography.

Analog Circuits: Small Signal Equivalent circuits of diodes, BJTs, MOSFETs and analog CMOS. Simple diode circuits, clipping, clamping, rectifier. Biasing and bias stability of transistor and FET amplifiers. Amplifiers: single and multi-stage, differential and operational, feedback, and power. Frequency response of amplifiers. Simple op-amp circuits. Filters. Sinusoidal oscillators; criterion for oscillation; single-transistor and op-amp configurations. Function generators and wave-shaping circuits, 555 Timers. Power supplies.

Digital Circuits: Boolean algebra, minimization of Boolean functions; logic gates; digital IC families (DTL,TTL,ECL, MOSCMOS). Combinatorial circuits: arithmetic circuits, code converters, multiplexers, decoders, PROMs and PLAs. Sequential circuits: latches and flip-flops, counters and shift-registers. Sample and hold circuits, ADCs, DACs. Semiconductor memories. Microprocessor(8085): architecture, programming, memory and I/O interfacing.

Signals and Systems: Definitions and properties of Laplace transform, continuous-time and discrete-time Fourier series, continuous-time and discrete-time Fourier Transform, DFT and FET, z-transform. Sampling theorem. Linear Time-Invariant (LTI) Systems: definitions and properties; causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay. Signal transmission through LTI systems.

Control Systems: Basic control system components; block diagrammatic description, reduction of block diagrams. Open loop and closed loop (feedback) systems and stability analysis of these systems. Signal flow graphs and their use in determining transfer functions of systems; transient and steady state analysis of LTI control systems and frequency response. Tools and techniques for LTI control system analysis: root loci, Routh-Hurwitz criterion, Bode and Nyquist plots. Control system compensators: elements of lead and lag compensation, elements of Proportional-Integral-Derivative (PID) control. State variable representation and solution of state equation of LTI control systems.

Communications: Randomsignalsandnoise:probability,randomvariables,probabilitydensityfunction,Auto-correlation, power spectral density. Analog communication systems: amplitude and angle modulation and demodulation systems, spectral analysis of these operations, super heterodyne receivers; elements of hardware, realizations of analog communication systems; signal-to-noise ratio (SNR) calculations for amplitude modulation (AM) and frequency modulation (FM) for low noise conditions. Fundamentals of information theory and channel capacity theorem. Digital communication systems: pulse code modulation (PCM), differential pulse code modulation (DPCM), digital modulation schemes: amplitude, phase and frequency shift keying schemes (ASK, PSK, FSK), matched filter receivers, bandwidth consideration and probability of error calculations for these schemes. Basics of TDMA, FDMA and CDMA and GSM. Basic of optical fiber; total internal reflection, acceptance angle, numerical aperture, step index and graded index fiber, single mode and multi-mode fibers.

Electromagnetics: Elements of vector calculus: divergence and curl; Gauss' and Stokes' theorems, Maxwell's equations: differential and integral forms. Wave equation, Poynting vector. Plane waves: propagation through various media; reflection and refraction; phase and group velocity; skin depth. Transmission lines: characteristics impedance; impedance transformation; Smith chart; impedance matching; S parameters, pulse excitation. Waveguides: modes in rectangular waveguides; boundary conditions; cut-off frequencies; dispersion relations. Basics of Antennas: Dipole antennas; radiation pattern; antenna gain. Basics of Antennas; Dipole antennas; radiation pattern;; antenna gain. Basics of propagation in dielectric waveguide.

COMPUTER SCIENCE AND ENGINEERING

Marks: 50 (50 Questions)

Digital Logic: Boolean algebra, Combinational and sequential circuits, Minimization, Number representations and computer arithmetic (fixed and floating point).

Computer Organization and Architecture: Machine instructions and addressing modes. ALU, data-path and control unit. Instruction pipelining, Memory hierarchy: cache, main memory and secondary storage; I/O interface (interrupt and DMA Mode).

Programming and Data Structures: Programming in C/C++, Recursion, Arrays, Stacks, Queues, linked lists, trees, binary search trees, binary heaps, graphs.

Algorithms: Searching, sorting, hashing, Asymptotic worst case time and space complexity. Algorithm design techniques: greedy, dynamic programming and divide-and-conquer. Graph search, minimum spanning trees, shortest paths.

Theory of Computation: Regular expression and finite automata. Context-free grammars and push-down automata. Regular and contex-free languages, pumping lemma. Turing machines and undecidability.

Compiler Design: Lexical analysis, parsing, syntax-directed translation. Runtime environments. Intermediate code generation.

Operating System: Processes, threads, inter-process communication, concurrency and synchronization. Deadlock. CPU scheduling. Memory Management and virtual memory. File systems.

Databases: ER-model. Relational model: relational algebra, tuple calculus, SQL. Integrity constraints, normal forms. File organization, Indexing (e.g., B and B+trees). Transactions and concurrency control.

Computer Networks: Concept of layering. LAN technologies(Ethernet). Flow and error control techniques, switching, IPv4/IPv6, routers and routing algorithms (distance vector, link state). TCP/UDP and sockets, congestion control. Application layer protocols (DNS,SMTP,POP,FTP,HTTP). Basics of Wi-Fi, Network security: authentication, basics of public key and private key cryptography, digital signatures and certificates, firewalls.

Information Systems and Software Engineering: Information gathering, requirement and feasibility analysis, data flow diagram, process specifications, input/output design, process life cycle, planning and managing the project, design, coding and testing, implementation and maintenance.

Emerging Technologies: Clustering, Cloud computing, Edge computing, Fog computing, IOT, Block Chain Technology, Artificial Intelligence.

CHAPTER - X

10.1 Ph.D. PROGRAMME (SET-V)

The award of the Ph.D. Degree is in respect of high achievements, independent research, and application of scientific knowledge to the solution of scientific and technical problems. The admission to all Ph.D. programmes will be strictly as per institute rules. The admission will be done in the following disciplines:

Sr. No.	Disciplines	Code
1	Chemical Engineering	Ph.D.-CE
2	Chemistry	Ph.D.-CHY
3	Computer Science and Engineering	Ph.D.-CSE
4	Electrical and Instrumentation Engineering	Ph.D.-EIE
5	Electronics and Communication Engineering	Ph.D.-ECE
6	Humanities (English)	Ph.D.-ENG
7	Food Engineering and Technology	Ph.D.-FET
8	Management	Ph.D.-MGT.
9	Mathematics	Ph.D.-MATH
10	Mechanical Engineering	Ph.D.-MECH.
11	Physics	Ph.D.-PHY

The seat matrix (available seats in various disciplines) shall be displayed on the institute website.

10.2 ELIGIBILITY:

(I) a**) Engineering & Technology (Except Food Engineering & Technology):** B.E./B.Tech. and M.E./M.Tech. OR Integrated Master's Degree in Engineering/Technology degree in relevant branch OR equivalent degree with First Class in any one of the Degrees.

b) **Food Engineering & Technology**: Bachelor's degree in Science/Engineering/Technology and Master's Degree in Food Science/Technology OR Microbial & Food Technology, OR Biotechnology OR Integrated Master's Degree in Engineering /Technology OR equivalent degree with First Class in any one of the Degrees.

(II) Sciences: Bachelor's degree in Science/Technology and Master's Degree in Science/Technology in relevant discipline OR Integrated Master's Degree in Science/Technology OR equivalent degree with First Class in any one of the Degrees.

(III) Humanities: Bachelor's Degree and Master's Degree in Humanities in relevant discipline OR equivalent degree with First Class in any of the Degrees.

(IV) Management: Bachelor's Degree and Master's Degree in Management/Engineering in relevant discipline OR equivalent degree with First Class in any of the Degrees.

FOR MORE DETAILS REGARDING Ph.D. ADMISSION, PLEASE REFER TO INFORMATION BROCHURE SEPARATELY UPLOADED ON WEBSITE

INSTRUCTIONS FOR FILLING FORM ONLINE

i. The candidate shall log on to *www.sliet.ac.in* and click proceed for Admission and then registration.

ii. Click on to **NEW REGISTRATION** and for already registered users, enter Login & Password.

Online Registration is a 5 Step process. All Five (5) Steps of Online Registration Process should be completed before the closing date as per the entrance notification. An incomplete application form or with wrong or deliberately concealed information is liable to be rejected without any intimation.

Step 1. Registration & Personal Details
Step 2. Upload Qualification Details
Step 3. Upload Documents / Images
Step 4. Fee Payment
Step 5. Print Form.

iii. Before you proceed to register yourself, you must ensure that you have read and understood the eligibility criteria& reservation policy for the COURSE / PROGRAMME you are applying for.

iv. Candidate should fill in his / her basic details like Date of Birth (DOB), Address, State, City, Religion, Contact / Mobile Numbers and Email very carefully.

v. Please remember your password and don't share with others.

vi. Before final submission of online Application Form, read the declaration given on the website carefully and give your consent to it, failing which you will not be able to complete your registration. The candidate must check the information details carefully before final submission of Registration Form.

vii. Please note that after successfully submitting the Application Form, the candidate will get an SMS on his/her Mobile and email that will ensure his/her provisional registration successfully with a Form Number and Password. For this, the candidate should provide valid mobile number and email address.

viii. After successfully submitting Online Application Form for SET-2025, note down your Form Number for future reference. The processing of Application Form will begin only after the successful payment of Application Fee.

ix. Select mode of fee payment.

x. Once the payment is confirmed, the online Registration Page for PRINT shall be enabled to the candidate.

xi. Take the printout of Registration Page and complete it by affixing photograph, thumb impressions and signatures.

xii. Applicants are allowed to submit only one application form. Multiple applications of an applicant are liable to be rejected.

xiii. The Registration Page duly completed should be submitted at the time of physical reporting in the Institute along with other documents.

xiv. **Photograph:** Firmly affix one recent high contrast passport size colored photograph (taken in year 2025) with gum / fevicol (not to be pinned or stapled) in the space provided for it in the Registration Page. The photograph must indicate clearly the name of candidate along with the date of taking photograph. It should be without cap or goggles. Spectacles are allowed. **Polaroid photos are not acceptable.** The candidature of candidates not complying with these instructions or with unclear photograph is liable to be rejected. Candidates shall keep ready 10 identical photographs in reserve for use at the time of Entrance Examination / Counselling / Document Verification / Admission.

xv. **Application Fee for ICD, B.E. Lateral Entry, B.Sc.-M.Sc. Integrated, M.B.A., M.Sc., M.Tech, Ph.D.**

Categories	B.E. Lateral Entry, B.Sc.-M.Sc. Integrated, M.B.A., M.Sc., M.Tech, Ph.D.	ICD
General and Other Categories (Boys)	Rs.1750/-*	Rs.1000/-*
General and Other Categories (Girls)	Rs.1250/-*	Rs.750/-*
SC/ST Categories (Boys and Girls)	Rs.1000/-*	Rs.750/-*

Mode of Payment: Net Banking/Debit card/Credit card/UPI * 18% GST & Bank charges Extra

APPENDIX - I

OBC CERTIFICATE FORMAT
(ISSUED ON OR AFTER 01.04.2025)

(As per OM No. 36033/1/2013-Estt.(Res) dated 13th September,2017)

FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES APPLYING FOR ADMISSION IN THE INSTITUTES UNDER GOVERNMENT OF INDIA

This is to certify that Shri / Smt. / Kum. _____Son / Daughter of Shri / Smt. _____ of Village/Town _____ District/Division _____ in the _____ State belongs to the _____Community which is recognized as a backward class under:

(i) Resolution No. 12011/68/93-BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No. 186 dated 13/09/93.
(ii) Resolution No. 12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
(iii) Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated 25/05/95.
(iv) Resolution No. 12011/96/94-BCC dated 9/03/96.
(v) Resolution No. 12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96.
(vi) Resolution No. 12011/13/97-BCC dated 03/12/97.
(vii) Resolution No. 12011/99/94-BCC dated 11/12/97.
(viii) Resolution No. 12011/68/98-BCC dated 27/10/99.
(ix) Resolution No. 12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
(x) Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated 04/04/2000.
(xi) Resolution No. 12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 21/09/2000.
(xii) Resolution No. 12015/9/2000-BCC dated 06/09/2001.
(xiii) Resolution No. 12011/1/2001-BCC dated 19/06/2003.
(xiv) Resolution No. 12011/4/2002-BCC dated 13/01/2004.
(xv) Resolution No. 12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 16/01/2006.
(xvi) Resolution no. 12011/14/2004-BCC dated 12/03/2007 published in the Gazzette of India Extraordinay Part I Section I No.210 dated 12.03.2007.
(xvii) Resolution No. 12015/2/2007-BCC dated 18/08/2010
(xviii) Resolution No. 12015/13/2010-BCC dated 08/12/2011

Shri / Smt. / Kum. _____ and / or his family ordinarily reside(s) in the _____ District / Division of _____ State. This is also to certify that he/she does not belong to the persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 08/09/93 which is modified vide OM No. 36033/3/2004 Estt.(Res.) dated 09/03/2004.

Dated: _____

District Magistrate / Deputy Commissioner / Competent Authority
Seal

NOTE:

(a) The term 'Ordinarily' used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.
(b) The authorities competent to issue Caste Certificates are indicated below:
(i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / Ist Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of Ist Class Stipendiary Magistrate).
(ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.
(iii) Revenue Officer not below the rank of Tehsildar' and Sub-Divisional Officer of the area where the candidate and / or his family resides.

APPENDIX - II

(ISSUED ON OR AFTER 01.04.2025)

Government of _____
(Name and Address of the authority issuing the certificate)
INCOME & ASSET CERTIFICATE TO BE PRODUCED BY ECONOMICALLY WEAKER SECTIONS

Certificate No._____ Date:_____

This is to certify that Shri/Smt./Kumari_____son/daughter/wife of Sh._____ permanent resident of _____ Village/Street _____ Post office_____ District in the State/Union Territory _____PIN code_____ whose photograph is attested below belongs to Economically Weaker Sections. Since the gross annual income* of his/her family** is below Rs.8 Lakh (Rupees Eight Lakh only) for the financial year_____. His/her family does not own or possess any of the following assets***:

i. 5 acres of agricultural land and above;
ii. Residential flat of 1000 sq.ft and above;
iii. Residential plot of 100 sq.yards and above in notified municipalities;
iv. Residential plot of 200 sq.yards and above in areas other than notified municipalities.

Shri/Smt./_____ belongs to the _____caste which is not recognized as a Scheduled Caste, Scheduled Tribe and Other Backward Classes (Central List).

Recent Passport size attested photograph of the applicant

Signature with seal of office_____
Name_____
Designation_____

* Income covered all sources i.e. salary, agriculture, business, profession etc.
** The term "Family" for this purpose include the person, who seeks benefit of reservation, his/her parents and siblings below the age of 18 years and also his/her spouse and children below the age of 18 years.
*** The property held by a "Family" in different locations or different places/cities have been clubbed while applying the land or property holding test to determine EWS status.

The authorities competent to issue EWS Certificates are indicated below:

(i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / Ist Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of Ist Class Stipendiary Magistrate).
(ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.
(iii) Revenue Officer not below the rank of Tehsildar' and sub-Divisional Officer of the area where the candidate and / or his family resides.

APPENDIX - III

MEDICAL CERTIFICATE
(To be issued by a Registered Medical Practitioner)

GENERAL EXPECTATIONS

Candidates should have good general physique.

1	Name of the candidate:				
2	Identification Mark (a mole, scar or birthmark), if any				
3	Major illness/operation, if any (specify nature of illness/operation)				
4	Height in cm:	Weight in kg:		Blood Group:	
7	Hearing				
8	Vision with or without glasses:	Right Eye	Left Eye	Colour Blindness	Uniocular vision
9	Any other disease/defects:				

Certificate of Medical Fitness (Please Tick)

☐ The candidate fulfils the prescribed standards of physical fitness, medical fitness and is fit for admission to Engineering/Architecture/ Pharmaceutics/ Science Course

☐ The candidate does not fulfill the prescribed standard of physical fitness/medical fitness and is unfit/temporarily unfit for admission due to following defects:

Name of the Doctor	Signature	Registration number	Seal
_____	_____	_____	_____

APPENDIX –IV

UNDERTAKING FOR QUALIFICATION ELIGIBILITY CERTIFICATES
FORMAT FOR SELF-DECLARATION AND UNDERTAKING
IN LIEU OF QUALIFICATION ELIGIBILITY CERTIFICATES
FOR ICD/B.E. (LATERAL ENTRY-DIRECT)/Integrated B.Sc.-M.Sc/M.B.A./M.TECH./M.SC./Ph.D.

I_____ Son/Daughter of _____ bearing Regn.No./Application No. _____, declare that I will upload qualification eligibility certificates latest by 30th September, 2025.

I understand that the inability to produce the same by 30th September, 2025 will lead to cancellation of my admission.

Signature of Father/Mother	Signature of Applicant
Name:	Name:
Date:	Date:

APPENDIX - V

FORM OBC-NCL UNDERTAKING
FORMAT FOR SELF DECLARATION AND UNDERTAKING
TO BE PRODUCED BY OTHER BACKWARD CLASSES – NON CREAMY LAYERS CANDIDATES
IN LIEU OF OBC – NCL CERTIFICATE

I understand that as per the new guidelines from the Ministry of Personnel, Public Grievances and Pensions, GoI, I am required to submit OBC-NCL certificate issued on or after April 1, 2025.

I_____ Son/ Daughter of _____ belong to the _____ Caste in _____ state, which is recognized as an Other Backward Classes- Non-Creamy Layers (Central List [http://www.ncbc.nic.in]).

I hereby declare that I will upload the OBC-NCL certificate (issued on or after April 1, 2025) latest by 08 May, 2025 for ICD/BE Lateral Entry, Integrated B.Sc.-M.Sc./M.B.A./ M.Sc./ M. Tech. and 04 August, 2025 for Ph. D.

I understand that inability to produce the same by the above-mentioned date will lead to rejection of my claim for OBC-NCL benefit.

Signature of Father/Mother with date	Signature of Applicant with date
Name:	Name:

APPENDIX - VI

FORM GEN-EWS UNDERTAKING

FORMAT FOR SELF DECLARATION AND UNDERTAKING
TO BE PRODUCED BY GENERAL – ECONOMICALLY WEAKER SECTION CANDIDATES
IN LIEU OF GEN-EWS CERTIFICATE

I understand that as per the new guidelines from the Ministry of Personnel, Public Grievances and Pensions, GoI, I am required to submit GEN-EWS certificate issued on or after April 1, 2025.

I_____ Son/ Daughter of _____
belong to the _____Caste in _____ which is not recognized as a Schedule Caste, Schedule Tribe and Other Backward Classes (Central List [http://www.ncbc.nic.in]).

I hereby declare that I will upload the OBC-NCL certificate (issued on or after April 1, 2025) latest by 08 May, 2025 for ICD/BE Lateral Entry, Integrated B.Sc.-M.Sc./M.B.A./ M.Sc./ M.Tech and 20 July,2025 for Ph. D.

I understand that inability to produce the same by the above-mentioned date will lead to rejection of my claim for GEN-EWS benefit.

Signature of Father/Mother	Signature of Applicant
Name:	Name:
Date:	Date:

APPENDIX - VII

FORM INCOME CERTIFICATE UNDERTAKING

FORMAT FOR SELF DECLARATION AND UNDERTAKING TO BE PRODUCED BY SC/ST CANDIDATES IN LEIU OF AVAILING POST MATRIC SCHOLARSHIP (PMS) SCHEME

I understand that as per the new guidelines from the Govt. of Punjab (Department of Social Justice, Empowerment and Minorities), income slab of parents (Father & Mother), I am required to submit Income certificate issued on or after April 1, 2025.

I_____ Son/ Daughter of _____

belong to the _____Caste in Punjab State, which is recognized as a Schedule Caste/Tribe, declare that I will upload the Income certificate (issued on or after April 1, 2025) latest by 08 May, 2025 for ICD/BE Lateral Entry, Integrated B.Sc.-M.Sc./M.B.A./ M.Sc./ M.Tech and 04 August, 2025 for Ph. D.

I understand that inability to produce the same by the above-mentioned date will lead to cancellation of my claim for PMS Scheme benefit.

Signature of Father/Mother	Signature of Applicant
Name:	Name:
Date:	Date:

APPENDIX - VIII

FORM PUNJAB DOMICILE UNDERTAKING

**FORMAT FOR SELF-DECLARATION AND UNDERTAKING
TO BE PRODUCED BY SC/ST CANDIDATES
IN LEIU OF AVAILING POST MATRIC S SCHOLARSHIP (PMS) SCHEME**

I understand that as per the new guidelines from the Govt. of Punjab (Department of Social Justice, Empowerment and Minorities), I am required to submit Punjab Domicile certificate issued on or after April 1, 2025.

I_____ Son/ Daughter of _____
belong to the _____Caste in Punjab State which is recognized as a Schedule Caste/Tribe.

I hereby declare that I will upload the Punjab Domicile certificate (issued on or after April 1, 2025) latest by 08 May, 2025 for ICD/BE (LE)/Integrated B.Sc.-M.Sc./M.B.A./M.Sc./ M.Tech.

I understand that inability to produce the same by above mentioned date will lead to rejection of my claim for PMS scheme benefit.

Signature of Father/Mother
Name:
Date:

Signature of Applicant
Name:
Date:

APPENDIX –IX

ADMISSIONS UNDER PERSONS WITH DISABILITY (PWD) SCHEME OF MINISTRY OF EDUCATION, GOVT. OF INDIA

Under Persons with Disabilities Scheme of the Government of India 25 seats are available in 3 year Integrated Certificate Diploma (ICD) Programme for persons having more than 40% disability. Maximum number of seats in any particular branch of ICD Programme will be two. Details of branches / courses is available in this brochure. **It is to clarify that no vertical promotion system is available to students in the Persons with Disabilities Scheme.** Incentives to students under the Scheme:

1. No Tuition Fee
2. No Hostel Fee(Accommodation Charges)
3. Mess Bill Payment upto1000/-PM
4. Scholarship @250/-PM
5. Books and Uniform Allowance @3000/-per annum
6. **All benefits are subject to the availability of funds (Stationery may be admissible as decided by the institute) under the scheme from Ministry of Education, Govt. of India**

Essential qualifications:

The minimum qualification for admission to the 3 Year Integrated Certificate Diploma Programme is Matric pass (Pass in English, Mathematics and Science is compulsory) from a State Education Board / CBSE / ICSE / National Open School or an equivalent examination recognized / approved by Ministry of Education, Government of India.

Application/Admission Procedure

Step1: Interested candidates may apply ONLINE to SLIET Longowal free of cost if they satisfy the above eligibility conditions.

Step 2: Eligible candidates can download information brochure SET-2025 from www.sliet.ac.in**.** Brochure and instructions for filling ONLINE application should be studied carefully before filling the ONLINE application form. Candidates desirous of getting admission under the PWD Scheme must mark the PWD column in the ONLINE Application Form. Choice of centre for exam may also be filled carefully.

Step 3: ***No fee is to be paid for the Entrance Examination***.

Step 4: Details of SLIET Entrance Test -2025 and the prescribed syllabi are given in this brochure. The admission in Integrated Certificate Diploma programme is through All India SLIET Entrance Test (SET-I).

Step 5: Admit Card mentioning their roll number and centre will be available ONLINE.

Step 6: Result will be declared on the date mentioned in this brochure and the candidates must follow the steps for online counseling on the prescribed date and time.

Note: For more details and free application form, contact/write: Project Co-coordinator office, PWD Scheme, Mechanical Block, SLIET, Longowal-148106 (Phone: 01672-253420)

DOCUMENTS REQUIRED DURING VERIFICATION

CATEGORY	DOCUMENTS REQUIRED
GEN	➢ UID/Aadhar Card/ Voter ID ➢ 8 photographs (04 for personal file, 02 for hostel, 01 for library & 01 for Identity card) as and when candidate report physically ➢ Qualifying examination Mark Sheets ➢ Qualifying examination passing certificate ➢ Character Certificate ➢ Medical Fitness Certificate (Eye/Hearing/Blood Group as mentioned at 2.10d) ➢ Online Anti Ragging undertaking by student and parent (register online and submit Duly signed hard copy of undertaking) ➢ Migration Certificate (to be submitted before start of 1st semester examinations in Academic Section)
EWS	➢ All as required for Gen/Open Candidates ➢ EWS Certificate **(ISSUED ON OR AFTER 01.04.2025)**
OBC-NCL	➢ All as required for Gen/Open Candidates ➢ OBC-NCL **(ISSUED ON OR AFTER 01.04.2025)**
SC/ST	➢ All as required for Gen/Open Candidates ➢ SC/ST Certificate
PH	➢ All as required for the respective main category (i.e Gen/OBC-NCL/SC/ST) ➢ Physical disability (40% or more disability) certificate issued by Chief Medical Officer of the District)
POST MATRIC SCHOLARSHIP	➢ All as required for Gen/Open Candidates ➢ Freeship card is mandatory for availing PMS-SC/OBC Punjab Domicile under Dr. Ambedkar Scholarship Scheme. ➢ SC/ST Certificate ➢ Domicile Certificate ➢ Income certificate **(ISSUED ON OR AFTER 01.04.2025)** ➢ It will be responsibility of the candidate to apply online for the same. ➢ For any query for PMS contact: 01672-253422, +91-9417270370
FEE WAIVER ECONOMICALLY WEAKER SECTIONS	➢ All as required for the respective main category (i.e Gen/OBC-NCL/SC/ST) ➢ Income Certificate **(ISSUED ON OR AFTER 01.04.2025)** ➢ Candidates have to apply separately for fee waiver scheme against the notices/ circular issued for the same after the admission
ANTI RAGGING	➢ Fill in online Performa on: https://www.antiragging.in/Site/Affidavits_Registration.aspx (website), print as format information and submit to the Institute. ➢ Your Reference No._____ ➢ Your Name:_____ ➢ Your E mail ID:_____ ➢ Your Mobile No._____ After registration you will get an email from anti ragging website, forward that email to Nodal Officer, Anti ragging, SLIET, Longowal on : **pradyuman2002@hotmail.com**

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