रा.इ.सू.प्रौ.सं NIELIT

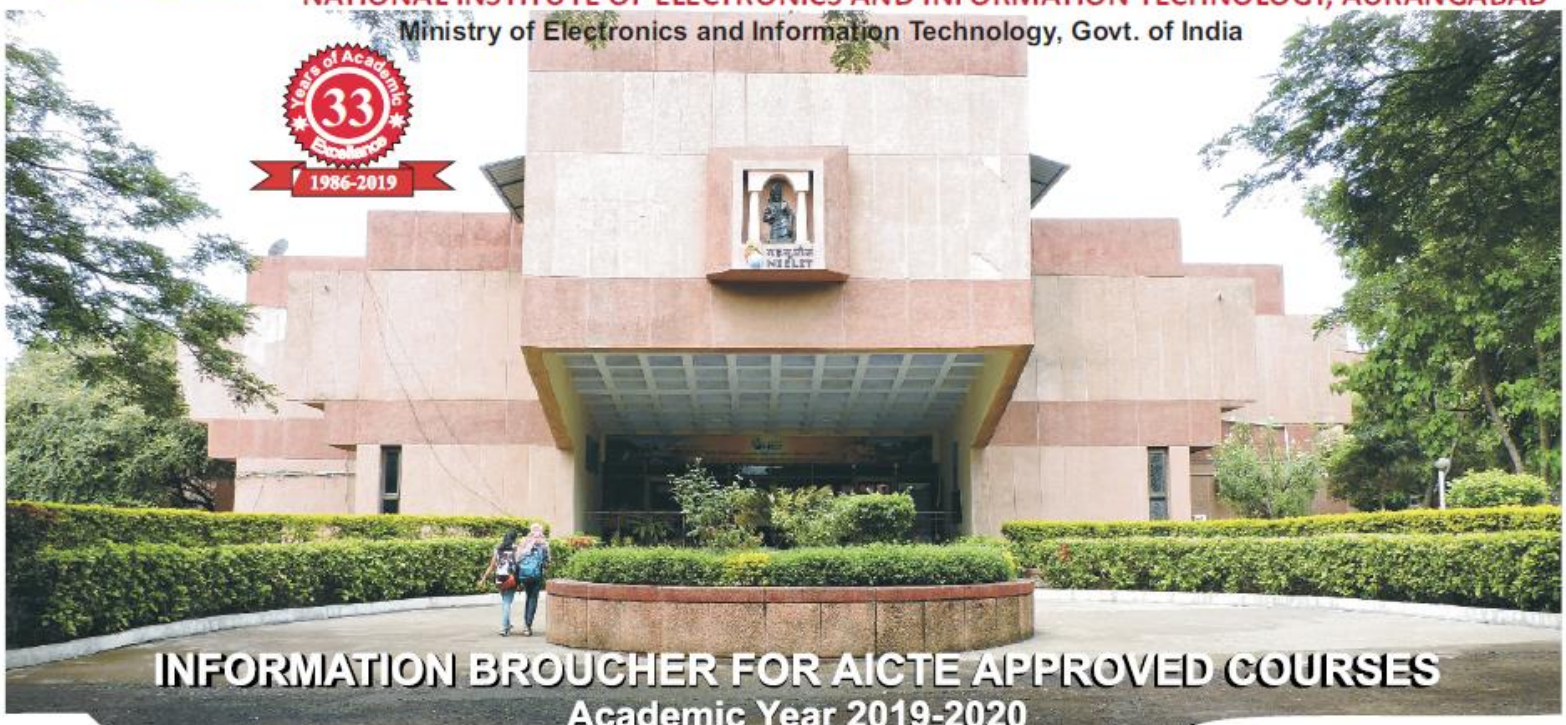
राष्ट्रीय इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी संस्थान, औरंगाबाद (महाराष्ट्र)

इलेक्ट्रॉनिकी सूचना और प्रौद्योगिकी मंत्रालय,
Government of India

NATIONAL INSTITUTE OF ELECTRONICS AND INFORMATION TECHNOLOGY, AURANGABAD

Ministry of Electronics and Information Technology, Govt. of India

33 Years of Academic Excellence
1986-2019



INFORMATION BROUCHER FOR AICTE APPROVED COURSES

Academic Year 2019-2020

High Level of Excellence

Well Equipped Library & Labs

Industrial R&D Infrastructure

Students Project

Website: www.nielit.gov.in/aurangabad, Phone 0240 2982021,2982022

Message from Hon'ble Minister Electronics & IT, Law & Justice

Technology has made giant strides and today India is sitting on the cusp of digital revolution, which is going to reshape the social, economical, political and the cultural landscape of the country. Indian IT and IT enabled companies have done remarkably well, all over the world, in terms of services and innovations.

The Government has embarked upon the ambitious 'Digital India' program, which is based on three fundamental pillars – to create digital architecture as a utility for citizens of India; to ensure digital delivery of services; and to digitally empower the citizens of India.

Digital empowerment refers to digital literacy and essentially means that people, who may not be literate, are trained to handle digital devices so as to take advantage of e-Governance and digital services and make a meaningful transformation in their livelihood. In this context, the role of NIELIT assumes greater significance. With its growing network of centres, including private training partners in the PPP framework, NIELIT is suitably poised to take forward the National Digital Literacy Mission (also known as DISHA) that aims to bridge the digital divide.

With the launch of 'Make-In-India', there is a need to ensure the availability of skilled manpower in the area of Electronic System Design and Manufacturing (ESDM). In Ministry of Electronics and Information Technology (MeitY)'s Scheme for Skill Development in ESDM which envisages the skilling of more than four lakh candidates over a period of 4 years, the role rendered by NIELIT in implementing the said scheme is appreciated. I am also happy to note that NIELIT has launched digital marketing courses for small and medium sellers, such as artisans and weavers, which would enable them to widen their business prospect by learning the nuances of using e-Commerce to market and sell their products.

In addition to the training programs, both in Formal and Non Formal sectors, NIELIT has taken up sponsored projects and consultancy work on behalf of Government departments and I appreciate the efforts of NIELIT in training youth including women, especially in mofussil and remote areas.

I congratulate NIELIT for its all-round growth and I wish the organization greater success in its endeavors.

Message from Secretary Ministry of Electronics & Information Technology

The Government of India has taken a number of landmark initiatives. The 'Digital India' program is committed to take the cause of good governance forward, in both letter and spirit. Digital India is viewed as a 'game changer', from the perspective of delivery of pro-citizen good governance, with the synchronized and coordinated engagement of the entire Government.

As one of the most sustainable and dependable arm of MeitY, NIELIT has endeavored to lead by example through institutionalization of policies and best practices. It has emerged as a key player in training related services. NIELIT courses are already known throughout India for its high standards of quality and these courses are also supported by an unfaltering and holistic system of examination at the national level.

I am happy to note that through proactive use of technology, capacity building and process re-engineering initiatives, NIELIT has made efforts to leverage its capacity and create synergy in the area of training and support services. Also, in tune with the changing times, NIELIT has diversified and spread its wing by expanding its repertoire of activities. Recently, NIELIT has also taken up new capacity building initiatives in the areas of e-Governance, Digital Marketing, Cloud Computing, Big Data, IoT etc. e-Contents are being developed to usher in a new paradigm of learning.

I would also like to compliment NIELIT for its efforts to standardize its Short Term Courses across all NIELIT Centres. The Student Support Services have been also upgraded with the introduction of web based services and a Placement Portal has been institutionalized by NIELIT, which would facilitate the students to seek suitable employment. Such proactive measures are the need of the time and I am happy that NIELIT is introducing such features with the required sensitivity and vibrancy.

I congratulate NIELIT for its endeavor to spread IT literacy and education across the country. The efforts made by NIELIT in implementing various government schemes by scaling up its operations and leveraging its capacities, are praiseworthy.

The integrated NIELIT Website is a welcome step towards uniformity, dynamism and improved services for stakeholders and I wish NIELIT success in its future efforts..

Message from Director General

The National Institute of Electronics and Information Technology (NIELIT), a body under the administrative control of the Ministry of Electronics and Information Technology (MeitY), Government of India, a distinct identity and character in the panorama of Skill Development and Capacity Building in India. With presence at 42 locations across the country and a network of around 1000 Accreditation Centres, NIELIT is uniquely positioned in terms of its outreach to all corners of the country and all segments of the society.

NIELIT has made efforts to establish standards in the areas of IECT (Information, Electronics and Communication Technology) in both formal and non-formal mode of education. As the education system in this country is undergoing a paradigm shift to improve upon the employability factor, NIELIT is offering a rich repertoire of market-oriented courses in the emerging areas viz Cyber Security, IoT, ESDM, GIS, Cloud Computing, Hardware, Electronics Design Technology, VLSI Design, Embedded Systems, e-Waste, Big Data as per needs of the IT and the electronic industry.

NIELIT Aurangabad is one of the prominent centre of NIELIT, that was setup in the year 1987 in order to bring an **innovative**, **entrepreneurial spirit** and to maintain close links with Industries, R&D and Academic Institutions to promote electronics, IT and industrial design culture. Owing to its quality and solution-oriented skilling approach, the centre has produced many prominent **entrepreneurs**, **experts** and **designers.**

As per the aegis of Make-in-India, the Centre is providing Quality Technical Education though **B. Tech. (Electronics System Engineering)**, **M. Tech. (Electronics Design and Technology)** and **Diploma in Electronics Production and Maintenance** leading to Academic Excellence, Creativity and Innovation in the areas of IECT that helps to develop employable workforce and shape entrepreneurs. It is also a Research Centre of the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for conducting research leading to award of Ph.D. Degree in Engineering and Technology.

I am confident that by taking admission at Aurangabad centre of NIELIT, the students would be greatly benefitted by some of the best facilities in the country like Industrial R&D Infrastructure, state-of-the-art Labs, well equipped Library, NKN, rich repertoire of e-journals, Hostel, Gymnasium, Sport Facility.

Shri Jaideep Kumar Mishra (Director General, NIELIT and Joint Secretary, MeitY)

Message from Executive Director

The **NIELIT Aurangabad** Centre (erstwhile CEDTI) is one of the prominent Centres of NIELIT that was established in the year 1987 to bring an **innovative, entrepreneurial spirit** along with excellence in teaching, learning and research to develop leaders in IT and Electronics. It is co-located in Dr. Babasaheb Ambedkar Marathwada University (BAMU) campus and possesses state-of-the-art 14 well equipped laboratories and Mechanical workshop besides a rich Library, NKN, Gymnasium for students, Auditorium, Hostel, Canteen, Sports facility spread over more than 18 acres.

The Centre is offering AICTE approved **B. Tech (Electronics System Engineering), M. Tech (Electronics Design and Technology), Diploma in Electronics Production & Maintenance** and is also a Research Centre of the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for conducting research leading to award of **Ph.D. Degree** in Engineering and Technology.

Based on **project-based** teaching methodology, these courses provide practical skills in in the areas of **Electronics Design & Technology** and includes interdisciplinary field issues such as requirements engineering, industrial design, product engineering, ergonomics, aesthetics, System-level packaging, thermal design, reliability, EMI&EMC, testing & evaluation, maintainability, Serviceability necessary for successful system development, design, implementation and ultimate disposal after decommission. These courses take into account latest **industrial trends** & **requirements** and trains students to become **entrepreneurs, experts & designers**, carry out **R&D** and provide **Industrial Consultancy** in IECT.

NIELIT Aurangabad Centre is promoting Industry Oriented Projects, R & D and consultancy to raise the overall standards. The Centre reckoned on the ideology that identifying the needs of modern engineering & technology education for modern age students supplemented with a vision & mission will lead to a greater education system which is outcome oriented, transparent, accountable & accessible and is also effective in keeping ourselves abreast and keep us way ahead of our competitors.

All the faculty members and scientists working at Centre are striving hard to impart **professional education**, combined with fostering **innovative thinking**, **application of knowledge**, inculcating **professional ethics** and consciousness to social responsibilities. Our core values of excellence, integrity, transparency, quality, team work, execution with passion, trust, continuous and student centric learning are all closely integrated into our academic programs.

I encourage you to explore all that NIELIT Aurangabad Centre has to offer and I am confident that each one of you graduating from the Centre will leave your indelible mark of success in whichever sphere of life you choose to be.

Dr. Sanjeev Kumar Gupta
(Executive Director)
NIELIT Aurangabad

Governing Council of NIELIT

			
Shri. Ravi Shankar Prasad **Chairperson** Hon'ble Minister of Electronics & IT and Law & Justice	**Shri S .S. Ahluwalia** **Deputy Chairperson** Hon'ble MoS Electronics & IT	**Shri Ajay Prakash Sawhney** Executive Vice Chairperson Secretary, Ministry of Electronics and IT	**Shri R. Subrahmanyam** **Member** Secretary, Department of higher EducationMinistry of Human Resources Development
			
Prof. Dhirendra Pal Singh **Member** Chairman, UGC	**Prof. Anil D. Sahasrabudhe** **Member** Chairman, AICTE	**Ms. Anuradha Mitra** **Member** Additional Secretary & Financial Adviser, MEITY	**Shri Jaideep Kumar Mishra** **Member** Joint Secretary, HRD, MEITY
			
Shri Rajiv Kumar **Member** Joint Secretary, MEITY	**Shri Rajesh Aggarwal** Member, Director General (Training), DGET Ministry of Skill Development & Entrepreneurship	**Mrs. Debjani Ghosh** **Member** President, NASSCOM	**Prof (Dr) K T V Reddy** **Member** President, IETE
			
Prof. Pushpak Bhattacharya, Member, Director, Department of Comp. Sci. & Engg., IIT Patna	**Shri Hariom Rai** **Member** Chairman, Lava International Limited	**Shri. T.V. Mohandas Pai** Member, Chairman Manipal Global Education Services pvt. ltd.	**Shri. Vineet Nayar** Member, Founder Sampark Foundation
			
Shri Jaideep Kumar Mishra **Member Secretary,** Director General, NIELIT and Joint Secretary, MeitY			

CONTENTS

Annexure Details

SAY NO TO RAGGING

According to UGC guidelines, the definition of ragging states that any conduct whether by words spoken or written or by an act which has the effect of teasing, treating of handling with rudeness any other student, indulging in rowdy or undisciplined activities which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in a fresher or a junior student or asking the student to do any act or perform something which such student will not in the ordinary course and which has the effect of causing or generating a sense of sham or embarrassment so as to adversely affect physique or psyche of a fresher or a junior student.

IMPORTANT INSTRUCTIONS FOR THE STUDENTS

1. As per the directions of the Hon'ble Supreme Court in SLP No. 24295 of 2006 dated 16-05-2007 and in Civil Appeal number 887 of 2009, dated 08-05-2009, ragging is strictly prohibited and banned.
2. All students of the institute have to study and fill affidavit online **http://antiragging.in/site/affidavits_registration_form.aspx**.
3. Ragging is a Cognizable Offence. Students are advised not to indulge in Ragging.
4. Ragging entails heavy fines and/or suspension/expulsion.
5. In case the applicant for admission in the institute is found to have indulged in ragging in the past or if it is noticed later that he has indulged in ragging, admission may be refused or he/she shall be expelled from the institution.
6. It is mandatory for the parents to report immediately to the Authorities of the Institute in case their wards inform them about ragging.

PUNISHABLE INGREDIENTS OF RAGGING

1. Abetment to ragging or Criminal conspiracy to rag
2. Unlawful assembly and rioting while ragging
3. Public nuisance created during ragging
4. Violation of decency and morals through ragging
5. Injury to body, causing hurt or grievous hurt
6. Wrongful restraint or Wrongful confinement
7. Use of criminal force
8. Assault as well as sexual offences or unnatural offences
9. Extortion or Criminal intimidation
10. Criminal trespass or Offences against property
11. Attempts to commit any or all of the above mentioned offences against the victim(s)
12. Physical or psychological humiliation
13. All other offences following from the definition of "Ragging"

PUNISHMENT

Depending upon the nature and gravity of the offence as established by the Anti-Ragging Committee of the institution, the possible punishment for those found guilty of Ragging at the Institution level shaped any one or any combination of the following:

1. Suspension from attending classes and academic privileges
2. Withholding/ Withdrawing scholarship/ fellowship and other benefits
3. Debarring from appearing in any test/ examination or other evaluation process
4. Withholding results
5. Debarring from representing the institution in any regional, national or international meet, tournament, youth festival etc.
6. Suspension expulsion from the hostel
7. Rustication from the institution for period ranging from 1 to 4 semesters
8. Expulsion from the institution and consequent debarring from admission to any other institution for a specified period
9. Fine ranging between Rupees 25,000/- and Rupees 1 Lakh
10. Collective punishment: When the persons committing or abetting the crime of ragging are not identified, the institution shall resort to collective punishment
11. Fresher who do not report the incidents of ragging either as victims or as witnesses shall also be punished suitably.

As per the directions of the Hon'ble Supreme Court of India, if any incident of ragging comes to the notice of authority, the concerned student shall be given liberty to explain and if his/her explanation is not found satisfactory, the authority would expel him/her from the Institute"

1.0 NIELIT Aurangabad –An Introduction

1.1 Genesis

The history of NIELIT dates back to 1974 when the Department of Electronics (DoE) now Ministry of Electronics and Information Technology (MeitY), Govt. of India and the University Grants Commission (UGC) set up the first CEDT within the premises of **Indian Institute of Science (IISc.), Bangalore** with assistance from Swiss Development Corporation.

A decade after the successful running of CEDT, Bangalore, DoE (now MeitY) set up similar centres at **Aurangabad, Imphal** and **Srinagar in 1987, Calicut, Mohali** and **Gorakhpur in 1989**, with an objective to develop human resources at different levels and in different specialized areas of Electronics Design. Aim was to bridge the gap between the academic institutions and industries.

The CEDT centres based at Aurangabad, Calicut, Gorakhpur, Imphal and Srinagar were merged with **DOEACC (a scientific society of MeitY)** in 2001. In order for its metamorphism into an **Institute of National Importance** the Society was renamed as '**National Institute of Electronics and Information Technology (NIELIT) on October 10, 2011**.

The **NIELIT Aurangabad** is co-located inside the lush green campus of Dr B.A.M. University and its campus is spreads over **more than 18 acres**. It has about **14 well equipped laboratories** and **Mechanical workshop** besides a rich Library, Gymnasium for students, Auditorium, Canteen, Basket-ball ground, Volley ball ground, Kho Kho ground etc.

The Centre started offering unique AICTE approved courses viz **Diploma in Electronics Production and Maintenance** since 1987, **M.Tech (Electronics Design and Technology)** since 1990, **B Tech (Electronics System Engineering)** since 2013 and is also a Recognized Research Centre of the Dr. B.A.M. University, Aurangabad since 2007 for conducting research leading to award of Ph.D. Degree in Engineering and Technology.

The Centre also provides **consultancy** and other services to leading **Industries** of the region like Bajaj Auto Ltd, Videocon, Sterlite, Siemens, Meltron, Maharashtra Police Wireless, etc. It is also implementing **ESDM scheme** sponsored by **Ministry of Electronics and Information Technology (MeitY)** for developing human resource with adequate competence levels in **Electronics Design & Production Technologies.**

The Industrial grade laboratories of the Centre are fully equipped with the latest systems and development tools in the area of Printed Circuit board, VLSI Design, Embedded Systems, Product Design, Digital Systems, Process Control & Instrumentation and in CAD/CAM.

Besides numerous reference books, Journals, magazines; the students of the Centre have access to **MeitY Library Consortium** (rich collection of latest e-Journals including IEEE and books) and **National Knowledge Network (NKN)** a strong a network with multi-gigabit capability connected to all universities, research institutions, libraries, laboratories, healthcare and agricultural institutions across the country.

All the labs, library and office are connected through the central network and students can retrieve information from their terminals itself and through well connected Wi-Fi system. The Centre organizes **National Level Seminars/Workshops** in areas like Agri- Electronics, Electronics Product Design, Intellectual Property Rights(IPR), Neural Networks, e-learning regularly.

Trained to become R&D engineers students of the centre are working in **leading and reputed organizations** like C.G Coral. Lucent India, Texas, L&T, HCL, Wipro Technologies, BITS, IIT, BEL, HAL, ISRO, DRDO, BARC, ECIL, Messung, Thermax, Honeywell Cyrus logic L&T EMSYS to name a few.

The Centre has become a solution-oriented model organization and knowledge-based enterprise and is tirelessly working for creating a pool of R&D engineers and Entrepreneurs.

1.2 Objectives of Centre

1. To bring an **innovative, entrepreneurial spirit** along with excellence in teaching, learning and research to develop leaders in IT and Electronics.
2. To generate and keep update **Industry-ready quality professionals** with **knowledge-based skill set** in IECT and allied fields through formal and informal education system.
3. To establish a **Quality system of examination and certification** that is globally recognized and provides a fair assessment of the competency of students
4. To maintain **close links** with **Industries, R&D and Academic Institutions** to promote electronics, IT and industrial design culture
5. To develop **entrepreneurs, experts and designers**, carry out R&D and provide **Industrial Consultancy** in IECT
6. To offer **e-Training** in Electronics, Information Technology and Industrial Design methodology and production technique

Mission

Identifying the needs of modern engineering & technology education and providing **Quality Technical Education** leading to **Academic Excellence**, **creativity** and **innovation** in the areas of Electronics and Information Technology

Vision

To impart **professional education** that is outcome oriented, combined with fostering **innovative thinking**, **application of knowledge**, inculcating **professional ethics** and consciousness to social responsibilities.

1.3 Product Design

The Centre is providing world-class educational & skill development opportunities to the youth and the course structure at the Centre is designed to inculcate system level understanding among the students. Most of the M.Tech. projects are sponsored by companies and result in Hardware Electronic Products. Some of the students later transform their knowledge into commercial ventures.

1.4 Industry Interaction:

The institute is also providing the services like product design & development, product engineering, proto-type development, process automation, consultancy, etc. to industries. The institute is also making all efforts to create best infrastructure to provide quality services to industry in servicing and maintenance of sophisticated instruments / machines, support in technology absorption and procurement of latest equipment/ machines.

1.5 R & D, Projects and Consultancy

Post Graduate level academic projects are of one (01) year duration, whereas Diploma and B.Tech level projects are of one (01) semester (six months) duration. Students are encouraged to interact with industry to expose them to industry environment and motivated to undertake real problems of industry as their innovative project work, guided by the faculty.

In addition to above, the institute also undertakes Government as well as industry sponsored projects. Some of them are "Training of Teachers in e-learning", "Information Security Education & Awareness" and Women Empowerment through Value Added Skill Development in IECT". Apart from above, the consultancy is also provided to the industry.

1.6 Some of the laboratories

i. CAD/CAM (*refer Annexure XV*)
ii. Consumer Electronics (*refer Annexure XVI*)
iii. Industrial Automation (*refer Annexure XVII*)
iv. Internet of Things (*refer Annexure XVIII*)
v. Network & Server Facilities (*refer Annexure XIX*)
vi. Opto-Electronics (*refer Annexure XX*)
vii. Power Electronics (*refer Annexure XXI*)

viii. Printed Circuit Board (*refer Annexure XXII*)
ix. VLSI Design (*refer Annexure XXIII*)
x. Embedded System Design (*refer Annexure XXIV*)
xi. Open Source Computing (*refer Annexure XXV*)

1.7 Other Amenities / Facilities:

Lecture Halls	Uninterrupted Power (63 KVA DG Set)
Seminar Hall	Cafeteria
Conference Hall	Boy's Hostel
Auditorium	PG Boy's Hostel
Local Area Network with 225 (100 Mbps) Nodes.	Warden Quarters
Leased line internet connectivity	Guest House
Library with NKN, MeitY Library Consortium and National Digital library of MHRD, India besides rich collection of Books, Journals and Magazines (*refer Annexure XXVI*)	Vehicle Parking
Virtual Smart Class-Room facility	Open Theatre
Placement Cell and Model Career Centre	Record Room (143 Sqm)
Gymnasiums(Separate for Boys & Girls)	Sports Facilities
Dramatics, dance and Extra-Curricular	Jogging Track

1.8 Student Life

The course work is project based and students get ample time to work on innovation. There are various sports and cultural clubs that are being managed by the student community on campus which serve for various extra-curricular activities:

1. Cricket
2. Badminton
3. Lawn Tennis
4. Basket-Ball
5. Body Building
6. Drama Club
7. Music Club
8. Athletics
9. Literary and Fine Arts
10. Photography

1.9 Location

NIELIT Aurangabad
Dr Babasaheb Ambedkar Marathwada University Campus, Aurangabad,
Maharashtra-431004

Website: http://nielit.gov.in/aurangabad/
Landline: (+91-240) 2982021, 2982022
Telephone/Fax: (+91-240) 2982050

2.0 Formal Courses

The Institute Offers following AICTE approved courses:

A. Diploma in Electronics Production and Maintenance (DEPM) (3 years after Matriculation).
B. B.Tech in Electronics System Engineering.
C. M. Tech in Electronics Design and Technology
D. Part-time M. Tech in Electronics Design and Technology

These courses are practical oriented and are designed with an emphasis on design and project work. The quality of education is maintained by periodic review and update of syllabus considering the latest trends and needs of industry, in-depth study by the students through semester system, transparent evaluation system and flexibility being autonomy granted to the Centre by Dr. B.A.M. University, Aurangabad (M.S).

The Centre enjoys the reputation of its students getting employed in reputed industries and organizations almost immediately on their completion of courses or settled as successful entrepreneur.

Important Dates

SNo.	Last date	DEPM (Direct)/ DEPM(Lateral Entry)	B.Tech (Lateral Entry)	M.Tech (EDT)
1.	Downloading Application form from website	14th July, 2019	14th July, 2019	1st July, 2019
2.	Receipt of Application Form along with Fees	14th July, 2019	14th July, 2019	1st July 2019
3.	Written Test (tentative)	17th July, 2019	16th July, 2019	8th July, 2019
4.	Declaration of list of selected & waitlisted Candidates	20th July, 2019	18th July, 2019	12th July, 2019
5.	Document Verification and Admission to the course	23rd, 24thJuly 2019	19th, 20thJuly 2019	18th, 19th July, 2019
6.	Waitlist student Admission	27th July 2019	27th July 2019	25th July 2019
7.	Academic calendar starts	1st August 2019	1st August 2019	1st August 2019

*** Any change in date of Written Examination will be displayed on the website only*
*** List of Selected & Waitlisted Candidates will be displayed on the website only*
*** The dates for admission in B.Tech course will be as per the schedule of CSAB 2019*
*** The Competent Authority at his discretion may extend the Last date*

Important Links

SI.No	Purpose	URL
1.	Downloading of Application Form	https://www.nielit.gov.in/aurangabad
2.	List of Selected & Waitlisted Candidates	
3.	Date and time for operation of the waiting list	

Process for Payment for Fees

Name of the Institute/Beneficiary	National Institute of Electronics and Information Technology(NIELIT)
Name of the Bank	State Bank of India
Branch	Samarth Nagar Aurangabad Maharashtra
Saving Bank Account Number	32078399585
IFSC/RTGS NO	SBIN 0007919
Mode of Electronic Transfer	NEFT, SBI Collect, Website: www.onlinesbi.com

Syllabus of Written test

Sno	Purpose	Syllabus	Subjects
1.	DEPM (Direct)	X standard of CBSE Board	Science, Mathematics & English
2.	DEPM(Lateral Entry)	XII standard of CBSE Board	Physics, Chemistry and Mathematics & English
3.	B.Tech (Lateral Entry)	Diploma (Electronics) of Maharashtra State Board of Technical Education	
4.	M.Tech (EDT) for both full time and part time	Gate 2019 Syllabus for (Common Subject of Electronics and Communication/Instrumentation Engg./Electrical Engg.)	

Written Test for Admission

1. The written entrance test will be of 1½hours duration
2. The question be of objective type, wherein the candidate is provided, multiple choice answers
3. The candidate is required to mark the correct answer in the same sheet, provided to him/her.
4. The candidates are required to bring Pen, HB Pencil, Sharpner and Eraser.
5. Candidates are not allowed to take the Question/Answer booklet outside the exam hall.
6. Test will be in English Medium only.
7. Calculators, Mobile, Digital Diary, Logbooks, Pocket PCs are not allowed in the Exam Hall.

Important Information

a. The student is required to submit the undertaking to agree to abide by the terms and conditions of the institute and AICTE New Delhi at the time of admission in the prescribed format as per Annexure V(C) and counter signed by parent / guardian.
b. The students are encouraged to interact with industry for getting familiar to industry environment and to study & undertake real problems being faced by them as their project work.
c. All the students (boarders as well as day scholars) are required to strictly abide by the rules of the Institute / Centre, failing which disciplinary action may be taken against them.
d. The mess is attached to the hostel.
e. Mess–Canteen facility is compulsory for the students who reside in NIELIT Hostel.

3.0 Diploma in Electronics Production & Maintenance (DEPM)

This is a three- y e a r (Six Semesters) course which grooms students for a career as Production/Maintenance Supervisor or Design Assistant in Electronics or allied industry or entrepreneur. The course is approved by AICTE, New Delhi and Maharashtra state Board of Technical Education (MSBTE), Maharashtra (India).

3.1 Admission in 1st Year

3.1.1 Minimum Eligibility Criteria

X standard/Secondary School Certificate (SSC) Examination passed from a recognized Board with a minimum average score of 35% in Mathematics and Science subjects.

3.1.2 Seat Matrix

General	OBC	SC	ST	PWD		Foreign National	Total
				General	OBC		
28	15	09	05	02	01	9	69

Important

i. Seats are reserved for candidates belonging to reserved categories as per Government of India Rules and approval of AICTE, New Delhi.

ii. General, OBC, SC, ST, PWD and Foreign National Seats are reserved as per Govt. of India Rules, AICTE and/or University Approval.

iii. Seats for Foreign Nationals are reserved as per Government of India Rules and University approval. These seats shall be subject to the maximum of 15% of the Sanctioned Intake seats or as prescribed by the appropriate authority, from time to time. Out of 15% seats, one third shall be reserved for the children of Indian Workers in Gulf Countries and two third seats shall be reserved for OCI / PIO or Foreign Student Candidates;

3.2 Lateral Entry/Direct Admission in 2nd Year

3.2.1 Minimum Eligibility Criteria

XIIth standard/ Higher Secondary Certificate (HSC) Examination passed from a recognized Board with Physics, Chemistry, Maths

OR

ITI (Electrical / Electronics) from recognized Institute.

3.2.2 Seat Matrix

12 Seats + Vacant Seats (if any)

Note: General, OBC, SC, ST, PWD and Foreign National Seats are reserved as per Govt. of India Rules, AICTE and/or University Approval.

3.3 Selection Process

(A) National Applicants

i. Only the Candidates meeting the minimum eligibility criteria will be eligible for admission.

ii. Admission to DEPM program for 1st year will be through DTE Maharashtra/ written exam conducted by NIELIT Aurangabad.

iii. The eligible candidates have to download the Application Form online and has to submit the same on **email id : depm-abad@nielit.gov.in**

iv. The Application fees will be Rs. 500/- non-refundable. However, the candidates belonging to SC/ST/PWD are exempted from application fees.

v. The Merit List for Lateral Entry/Direct Admission in 2nd Year to DEPM program will be based on the score in the Written Test and/or score in XII standard/ Higher Secondary Certificate (HSC)/ ITI (Electrical)/ ITI (Electronics) Examination.

vi. Admission of the Selected Candidates will be subject to their verification of Documents and payment of applicable fees.

vii. The category-wise Main List (selected) and Waiting List of the candidates for admission to (year 2019-20) of DEPM Course will be displayed on the website and Notice Board of this Institute.

viii. The date and time for operation of the waiting list shall also be declared along with the list of selected candidates. All the waitlisted candidates should make themselves available at the time of operation of the waiting list, otherwise their claim shall be forfeited.

ix. The waitlisted candidates, available at the time of operation of the waiting list, shall be provisionally admitted as per the merit of the category-wise waiting list.

x. The selected main and waiting list candidates are required to register on the day as notified along with the list displayed by making payment as mentioned in **Section 3.12** for admission in 1st year and **Section 3.13** for Lateral Entry/Direct Admission in 2nd Year**, otherwise their claim shall be forfeited**.

xi. Admission process of the DEPM Course is completed when the approved intake of candidates as per Seat Matrix are provisionally admitted and registered or a time limit decided by the competent authority is over, which- ever is earlier.

B) International Applicants for admission for 1st year

i. Admission of Foreign Nationals is subject to guidelines, laid down by Government of India from time to time.

ii. Persons of Indian Origin (PIO) is an individual with foreign citizenship, except Pakistan and Bangladesh, without "NRI" status, holding a Foreign Passport at the time of applying for admission as well as during the study period and is himself/herself or anyone/both of his/her parents or anyone/both of his/her grandparents is/was/were Indian citizens.

iii. Children of Indian workers in the Gulf Countries (CIWG) are children of an Indian who is working in Gulf Countries under relevant working visa.

iv. Non-Resident Indian (NRI) Candidate are Child/ward of the person having 'NRI status' as defined under section 6 of the Income Tax Act.

v. Foreign nationals may apply for admission to M.Tech (EDT) Full time course subject to fulfilling the minimum eligibility requirements through proper channel.

vi. Their application will, however, be considered separately on first cum first serve basis as per the procedure, mentioned in ANNEXURE-V(A)

vii. Foreign nationals are required to download and submit the application form for eligibility cum admission (Annexure-V(A)) and declaration & undertaking format (Annexure-V(B)) along with payment of Rs.5000/- or equivalent foreign currency (non-refundable).

3.4 Cancellation of Secured Admissions

If any vacancy arises after completion of admission process, the vacancy may be filled on case to case basis at the discretion of the Competent Authority as per below mentioned procedure:

i. Preference shall be given as per the ranking in common merit list.

ii. The Selected Students as per ranking in Merit List, who could not reach the Centre for admission on the pre-intimated day because of legal and/or genuine reason(s) and approaching/contacting the institute are first considered for filling the said vacancy.

iii. After (i) & (ii), the candidates, who have not been offered the admission and approaching, may be considered.

3.5 Academic Calendar – Refer **ANNEXURE – I**

3.6 Scheme of Instruction:

Every student has to register for all the subjects of a Semester as mentioned below. A four weeks mandatory vocational training is arranged for DEPM students during the summer vacation at the end of IV Semester.

Semester I

Sr. No.	Code	Subject	Lecture	Tutorial	Practical	Credit	Marks
1.	D101	English	2	0	0	2	50
2.	D102	Mathematics I	3	0	0	3	75
3.	D103	Physics I	3	0	3	4	100
4.	D104	Chemistry I	3	0	0	3	75
5.	D105	Electrical Technology I	3	0	0	3	75
6.	D106	Workshop Technology I	2	0	12	4	100
7.	D1P1	Drawing (Mechanical) I	8	0	0	3	75

Semester II

Sr. No.	Code	Subject	Lecture	Tutorial	Practical	Credit	Marks
1.	D201	Mathematics II	2	0	0	3	75
2.	D202	Physics II	3	0	0	3	75
3.	D203	Electronic Drawing	3	0	3	1	25
4.	D204	Power Electronics I	2	0	3	4	100
5	D205	Workshop Technology	2	0	8	4	100
6.	D206	Analog & Digital	3	0	3	4	100
7.	D2P1	Drawing (Mechanical)	8	0	0	3	75

Semester III

Sr. No.	Code	Subject	Lecture	Tutorial	Practical	Credit	Marks
1.	D301	Mathematics III	3	0	0	3	75
2.	D302	Electrical Technology II	3	0	3	3	75
3.	D303	Workshop Technology	2	0	0	2	50
4.	D304	Analog & Digital	3	0	3	4	100
5.	D305	PCB Technology I	2	0	6	4	100
6.	D306	Test & Measurement I	3	0	3	4	100
7	D307	Computer &Data	3	0	6	4	100

Semester IV

Sr. No.	Code	Subject	Lecture	Tutorial	Practical	Credit	Marks
1.	D401	Analog & Digital	3	0	6	4	100
2.	D402	PCB Technology II	2	0	6	4	100
3.	D403	Test & Measurement II	3	0	3	4	100
4.	D404	Components &	3	0	0	3	75
5.	D405	Consumer Electronics	3	0	6	4	100
6.	D406	Computer &Data	3	0	6	4	100

Sr. No.	Code	Subject	Lecture	Tutorial	Practical	Credit	Marks
1.	D501	Test & Measurement III	3	0	3	4	100
2.	D502	Power Electronics II	3	0	6	4	100
3.	D503	Microprocessors	3	0	6	4	100
4.	D504	Product Design	3	0	3	4	100
5.	D505	Material Technology	3	0	0	3	75
6	D506	Costing &Management	2	0	0	2	50

Semester V

Semester VI

sr.	Code	Subject	Lecture	Tutorial	Practical	Credit	Marks
1.	D601	Microcontroller	3	0	6	4	100
2.	D602	Maintenance &	2	0	6	4	100
3.	D603	Project	0	0	0	10	250

3.7 Term Course Load:

i. In each semester, subject load varies from 22 to 28 credits per semester.
ii. During the course period, student has to pass certain number of subjects and complete satisfactorily the assigned project work of 10 (ten) credits in the sixth semester.
iii. On valid grounds, the authority may advise a student, who is unable to complete the course requirements in the normal period, to continue for an extra term
iv. **Diploma should be completed within Six years**

3.8 Assessment:

i. The overall performance of a student is evaluated by assigning equal weightage to all the six semesters in order to maintain the quality of education.
ii. A student is permitted to appear for the semester examination subject to he or she has a minimum attendance of 70% in theory and practical classes, completes all his/her sessional assignments and clears all his/her dues.
iii. Non-appearance in any examination is treated as the student having secured zero mark in that subject examination.
iv. The evaluation is based on an average weightage system. Every subject has credit points based on the hours of study required.
v. Every student is assessed in a subject with equal weightage to sessional work and semester examination, thereby making the students study regularly.
vi. Every student is awarded Grade points out of maximum 10 points in each subject. (based on 10 Points Scale).
vii. Based on the Grade points obtained in each subject, Semester Grade Point Average (SGPA) and then Cumulative Grade Point Average (CGPA) are computed as per **ANNEXURE- II.**

3.9 Award of Diploma:

i. A student must complete the minimum requirement of credits in maximum period of six (6) years and must obtain a minimum CGPA of 3.3 in the course to qualify for award of Diploma.
ii. The Diploma is awarded by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
iii. It is also recognized by Directorate of Technical Education, Government of Maharashtra.

3.10 Scholarship

The institute encourages and provides assistance to all the students, particularly the reserved category, to apply for the Central / State Govt. scholarship for reimbursement of tuition fee and maintenance allowance as per State Govt. rules.

3.11 Assistance in Placement / Pursuing Higher Studies:

The Placement Cell of the Centre offers all assistance to the students for employment / self-employment. Most of the students passing out from the Centre have good opportunities to build their career.

3.12 DEPM Fee-Structure for 1st year admission for Academic year (2019-20)

SI. No.	Particulars	1st Sem Fees (Rs.)	2nd Sem Fees (Rs.)
1.	Tuition Fee	21000	21000
2.	Caution Money Deposit*	1250	--
	Sub total	22250	21000
Boy's Hostel Accommodation			
3.	Hostel Fee per Semester (5 months)	9100	9100
4.	Hostel Deposit*	2500	--
	Sub total	11600	9100
Other Fees			
	Particulars		Fees
5.	Backlog Exam Fee per semester (along with junior batch regular exam settings)		300.00
6.	Backlog Exam Fee per paper (with separate exam setting)		1000.00

* Caution Money Deposits are onetime payment and returnable on completion of the course subject to NIELIT rules.

*Mess charges are to be paid directly to mess manager on monthly basis.

Important:

i. SC/ST students are exempted from Tuition Fee(SCST/TSP Scheme), only Caution Money deposit and hostel fee and deposit is to be paid

ii. Back log Exam Fee is applicable to all students appearing Back log Exams.

iii. There shall be an increase up to 10% in (Sl. No 1 & 3) in every academic year.

3.13 DEPM Lateral Entry Fee-Structure for Academic year (2019-20)

SI. No.	Particulars	1st Sem Fees (Rs.)	2nd Sem Fees (Rs.)
1.	Tuition Fee	21000	21000
2.	Caution Money Deposit*	1250	--
	Sub total	22250	21000
Boy's Hostel Accommodation			
3.	Hostel Fee per Semester (5 months)	9100	9100
4.	Hostel Deposit*	2500	--
	Sub total	11600	9100
Other Fees			
	Particulars		Fees
5.	Backlog Exam Fee per semester (along with junior batch regular exam settings)		300.00
6.	Backlog Exam Fee per paper (with separate exam setting)		1000.00

* Caution Money Deposits are onetime payment and returnable on completion of the course subject to NIELIT rules.

*Mess charges are to be paid directly to mess manager on monthly basis.

Important:

i. SC/ST students are exempted from Tuition Fee(SCST/TSP Scheme), only Caution Money deposit and hostel fee and deposit is to be paid.

ii. Back log Exam Fee is applicable to all students appearing Back log Exams.

iii. There shall be an increase up to 10% in (SI. No 1 & 3) in every academic year.

4.0 B.Tech.(Electronics System Engineering)

This is four years (Eight Semesters) course approved by AICTE, New Delhi. This course is designed to produces Qualified and skilled engineers capable of doing Innovative Design and Development of Electronic Products. The prospective Engineers are groomed to adopt to changing professional and societal needs through the project-oriented teaching approach. They will become qualified to work in multiple sectors viz Public Sector, Telecom Industry, IT Industry, Automation & Instrumentation Industry.

4.1 Eligibility for Admission in 1st Year

Admission to B.Tech.(Electronics System Engineering) being offered by NIELIT Aurangabad will be made on the basis of JEE (Main) conducted by Central Board of Secondary Education (CBSE) on behalf of the Govt. of India. The Joint Seat Allocation (JoSAA) / Central Seat Allocation Board (CSAB) will conduct centralized admissions for this course. For further details candidate are advised to **please visit** **http://josaa.nic.in/** and **http://csab.nic.in/**

About Joint Seat Allocation Authority (JoSAA)

The **Joint Seat Allocation Authority (JoSAA)** has been set up by the Ministry of Human Resources Development (MHRD) to manage and regulate the joint seat allocation for admissions to IITs, ISM, NITs, IIITs and Other-Government Funded Technical Institutes (Other-GFTIs). Admission to all the academic programs offered by these Institutes will be made through a single platform.

a. The Eligible candidate has to register and fill choices for academic program under JoSAA.
b. Document verification will be done for acceptance of and admitting to Institute of the candidates selected by JoSAA.
c. Special vacant seat filling round (Special round) will be conducted by Central Seat Allocation Board . For further details please visit : **http://csab.nic.in**
d. The selected candidate NIELIT Aurangabad should report to this Institute along with the all original certificates & Xerox copy of each documents which the candidate had verified at the reporting canter in the stipulated duration and time.
e. The candidate has to deposit the difference amount (if any) through NEFT / RTGS
f. The fee structure is given in **Section 4.11**.

4.1.1 Seat Matrix

General	OBC	SC	ST	PWD		Student Studying Abroad	Total
				General	OBC		
28	15	09	05	02	01	9	69

There is a separate quota of 9 seats for Student studying abroad. The interested candidates will have to take admission through DASA **(https://www.dasanit.org/).**

4.2 Lateral Entry (Direct Second Year) in B.Tech.(Electronics System Engineering)

4.2.1 Minimum Eligibility Criteria

Three Year Diploma Passed candidate of Electronics & allied streams with **minimum 45% marks** (40 percent for SC/ST candidates) are eligible for **Lateral Entry (Direct Second Year) in B.Tech**.

4.2.2 Seat Matrix

12 Seats + Vacant Seats (if any)

Note: General, OBC, SC, ST and PWD are reserved as per Govt. of India Rules, AICTE and/or University Approval.

4.2.3 Selection Process for Lateral Entry

i. Only the Candidates meeting the minimum eligibility criteria will be eligible for

admission.

ii. Admission to lateral entry (direct second year) in B.Tech will be through Maharashtra Admission regulating Authority/ written exam conducted by NIELIT Aurangabad.

iii. The eligible candidates have to download the Application Form online and has to submit the same on **email id : btech-abad@nielit.gov.in**

iv. The Application fees will be Rs. 500/- non-refundable. However, the candidates belonging to SC/ST/PWD are exempted from application fees.

v. The Merit List for admission to **2nd Year B.Tech (Lateral Entry)** will be based on the score in the Written Test and/or score in Diploma Electrical/ Electronics and allied streams.

vi. Admission of the Selected Candidates will be subject to their verification of Documents and payment of applicable fees.

vii. The category-wise Main List (selected) and Waiting List of the candidates for admission to (year 2019-20) of **2nd Year B.Tech (Lateral Entry)** will be displayed on the website and Notice Board of this Institute only.

viii. The date and time for operation of the waiting list shall also be declared along with the list of selected candidates. All the waitlisted candidates should make themselves available at the time of operation of the waiting list, otherwise their claim shall be forfeited.

ix. The waitlisted candidates, available at the time of operation of the waiting list, shall be provisionally admitted as per the merit of the category-wise waiting list.

x. The selected main and waiting list candidates are required to register on the day as notified along with the list displayed by making payment as mentioned in **Section 4.11** for admission in 1st year and **Section 4.12** for Lateral Entry/Direct Admission in 2nd Year**, otherwise their claim shall be forfeited**.

xi. Admission process of the **2nd Year B.Tech (Lateral Entry)** is completed when the approved intake of candidates as per Seat Matrix are provisionally admitted and registered or a time limit decided by the competent authority is over, which-ever is earlier.

4.3 Admission in the event of cancellation of secured admission

If any vacancy arises after completion of admission process, the vacancy may be filled on case to case basis at the discretion of the Competent Authority as per below mentioned procedure:

i. Preference shall be given as per the ranking in common merit list.

ii. The Selected Students as per ranking in Merit List, who could not reach the Centre for admission on the pre-intimated day because of legal and/or genuine reason(s) and approaching/contacting the institute are first considered for filling the said vacancy.

iii. After (i) & (ii), the candidates, who have not been offered the admission and approaching, may be considered.

4.4 Academic Calendar – Refer **ANNEXURE – I**

4.5 Scheme of Instruction:

Every student has to register for all the subjects of a Semester as mentioned below.

Semester 1

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
1B1	Engineering Physics	3	1	2	4	100
1B2	Engineering Drawing-I	3	0	2	4	100
1B3	Engineering Mathematics- I	3	1	0	3	75
1B4	Electrical Science	3	1	0	3	75
1B5	Communicative English	3	1	0	3	75
1B6	Professional Ethics	2	0	2	3	75
1B7	Workshop	0	0	4	2	50

		17	**4**	**10**	**22**	**550**

Semester II

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
2B1	Digital Electronic Circuits	3	1	2	4	100
2B2	Electrical Networks	3	1	2	4	100
2B3	Analog Electronic Circuits	3	1	2	4	100
2B4	Engineering Mathematics-II	3	1	0	3	75
2B5	Engineering Chemistry	3	0	0	3	75
2B6	Engineering Mechanics	2	1	0	2	75
2B7	Engineering drawing II	0	0	4	2	50
		17	**5**	**10**	**22**	**575**

Semester III

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
3B1	Power Electronics-I	3	1	2	4	100
3B2	Measurement &Instrumentation	3	1	2	4	100
3B3	Computer programming C, C++	3	1	2	4	100
3B4	Electronics Systems Engineering	3	1	2	4	100
3B5	Engineering Mathematics-III	3	1	0	3	75
3B61 /3B62	General Elective-I (Commerce/Management)	3	0	0	3	75
		18	**5**	**8**	**22**	**550**

Semester IV

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
4B1	Product Design	3	1	2	4	100
4B2	Power Electronics-II	3	1	2	4	100
4B3	Microprocessor	3	1	2	4	100
4B4	Integrated Circuits and Applications	3	0	2	4	100
4B5	Control System Engineering	3	1	0	3	75
4B6	Electronics Design Technology	3	1	0	3	75
		18	**5**	**8**	**22**	**550**

Semester V

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
5B1	Industrial Design of Electronic Equipment	3	1	2	4	100
5B2	Microcontroller &Peripherals	3	0	2	4	100
5B3	Digital System Design	3	0	2	4	100
5B4	Printed Circuit Board Technology-I	3	0	2	4	100
5B5	Signal and Systems	3	1	0	3	75
5B61/ 5B62	Elective-II (Obj C++ Programming / Imbedded C)	3	1	0	3	75
5B7	Industrial training/visit/internship	0	0	2	1	
		18	**3**	**10**	**23**	**550**

Semester VI

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
6B1	Transducers and sensors	3	0	2	4	100
6B2	Analog System Design	3	1	2	4	100
6B3	Printed Circuit Board Technology-II	3	1	2	4	100
6B4	Ind. & Environmental instrumentation	3	0	2	4	100
6B5	Software Engineering	3	0	0	3	75
6B6	Mini Project	0	0	6	3	75
		15	2	**14**	**22**	**550**

Semester VII

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
7B1	Digital Signal Processing	3	1	2	4	100
7B2	Embedded Systems	3	1	2	4	100
7B3	PLD and FPGA Design	3	0	2	4	100
7B4	Analog & Digital Communication	3	1	0	3	75
7B51/ 7B52	Elective III (Opto Electronics / Digital image processing)	3	1	0	3	75
7B6	Project Part I	0	0	6	3	75
8B		15	4	12	21	525

Semester VIII

Code	Subject	Lecture	Tutorial	Practical	Credits	Marks
8B1	VLSI System	3	1	2	4	100
8B2	System Engineering	3	1	2	4	100
8B3	Network security	3	1	2	4	100
8B41/ 8B42	Elective –IV (MEMS/Linux OS)	3	1	0	3	75
8B5	Project Part II	0	0	10	5	125

4.6 Term Course Load:

In each semester, subject load varies from 22 to 28 credits per semester. During the course period, student has to pass certain number of subjects and complete satisfactorily the assigned project work of 10 (ten) credits in the sixth semester. On valid grounds, the authority may advise a student, who is unable to complete the course requirements in the normal period, to continue for an extra term.

4.7 Assessment:

a. A student is permitted to appear for the semester examination subject to he or she has a minimum attendance of 70% in theory and practical classes, completes all his/her sessional assignments and clears all his/her dues.
b. Non-appearance in any examination is treated as the student having secured zero mark in that subject examination.
c. The evaluation is based on an **average weightage system**. Every subject has credit points based on the hours of study required.

d. Every student is assessed in a subject with equal weightage to sessional work and semester examination, thereby making the students study regularly.
e. Every student is awarded Grade points out of maximum 10 points in each subject. (based on 10 Points Scale).
f. Based on the Grade points obtained in each subject, Semester Grade Point Average (SGPA) and then Cumulative Grade Point Average (CGPA) are computed.

Note: For computation of SGPA CGPA, refer **ANNEXURE- II.**

4.8 Award of Degree:

A student must complete the minimum requirement of credits in **maximum period of eight (8) years** and must obtain a **minimum CGPA of 3.3** in the course to qualify for award of Degree. The Degree is awarded by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

4.9 Scholarship

The institute encourages and provides assistance to all the students, particularly the reserved category, to apply for the Central / State Govt. scholarship for reimbursement of tuition fee and maintenance allowance as per State Govt. rules. The tuition fee is exempted for SC/ST candidates only, subject to his/her applying for the same and fulfilling the conditions.

4.10 Assistance in Placement / Pursuing Higher Studies:

The Placement Cell of the Centre offers all assistance to the students for employment / self-employment. Most of the students passing out from the Centre have good opportunities to build their career.

4.11 B.Tech Fee-Structure for 1st year admission for Academic year (2019-19)

Sr. No.	**Particulars**	**1st Sem. Fees & Deposit** (Rs.)	**2nd Sem. Fees** (Rs.)
1	Tuition Fee	38000	38000
2	Caution Money Deposit *	1250	-
	Sub Total	**39250**	**38000**
Boy's Hostel Accommodation			
3	Hostel rent per Sem. (5 months)	9100	9100
4	Hostel Deposit*	2500	-
	Sub Total	**11600**	**9100**
Other Fees			
	Particulars		**Fees** (Rs.)
5	Backlog Exam Fee per semester (along with junior batch regular exam settings)		400
6	Backlog Exam Fee per paper (with separate exam setting)		1000

*Caution Money Deposits are onetime payment and returnable on completion of the course subject to NIELIT rules.

*Mess charges are to be paid directly to mess manager on monthly basis.

Important:

i. SC/ST students are exempted from Tuition Fee(SCST/TSP Scheme), only Caution Money deposit and hostel fee and deposit is to be paid.
ii. Back log Exam Fee is applicable to all students appearing Back log Exams.
iii. There shall be an increase up to 10% in (SI. No 1 & 3) in every academic year.

4.12 B.Tech Fee-Structure for Lateral Entry admission for Academic year (2019-20)

SI. No	**Particulars**	**3rd Sem. Fees & Deposit** (Rs.)	**4th Sem. Fees** (Rs.)
1.	Tuition Fee	38000	38000
2.	Caution Money Deposit *	1250	-
	Sub Total	**39250**	**38000**
Boy's Hostel Accommodation			
3.	Hostel Fee per Sem. (5 months)	9100	9100
4.	Hostel Deposit*	2500	-
	Sub Total	**11600**	**9100**
Other Fees (Additional)			
	Particulars		**Fees** (Rs.)
5.	Backlog Exam Fee per sem. (along with junior batch regular exam settings)		400
6.	Backlog Exam Fee per paper (with separate exam setting)		1000
7.	Final Year Project fee (Rs. 2500 for VII & Rs. 2500 for VIII semester)		5000

* Caution Money Deposits are onetime payment and returnable on completion of the course subject to NIELIT rules.

*Mess charges are to be paid directly to mess manager on monthly basis.

Important:

i. SC/ST students are exempted from Tuition Fee(SCST/TSP Scheme), only Caution Money deposit and hostel fee and deposit is to be paid.

ii. Back log Exam Fee is applicable to all students appearing Back log Exams.

iii. There shall be an increase up to 10% in (SI. No 1 & 3) in every academic year.

5.0 MASTER OF TECHNOLOGY (ELECTRONICS DESIGN AND TECHNOLOGY) [M.Tech (EDT)] Full Time Course

This is four semesters (2 years) AICTE approved Postgraduate course with the Degree awarded by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS).

5.1 Eligibility

a. Admission to M. Tech. degree courses are made on the basis of candidate's score in the GATE examination.
b. Seats are first filled by admitting GATE qualified candidates and Remaining vacant seats are offered to Non-GATE* candidates, both GATE qualified and Non- GATE candidates must have minimum of 55 percent marks (50 percent for SC/ST candidates) in their B.E. / B.Tech Degree or equivalent in Electronics / Electrical /Telecommunication / Instrumentation engineering etc. from a recognized University.
c. Only GATE qualified candidates are eligible for scholarship.
d. The **Industry Sponsored Candidates** should have been serving in Academic Institution/ Industry/ R&D organization engaged in electronic product or system development for at least two years after completion of B.E. /B. Tech. in relevant area. He/ She should produce necessary sponsorship certificate along with application in the prescribed form given in **Annexure XIII**

***Non-GATE candidates: Candidates who have not appeared for GATE exam**

5.2 Intake (28 Seats)

Five seats are reserved for Industry Sponsored Candidates and **three seats** are reserved for Non-Resident Indian (NRI) / Persons of Indian Origin (PIO) / Children of Indian workers in the Gulf Countries (CIWG) quota. Distribution of remaining seats is as under:

Non-Sponsored category	
General	10
OBC	5
SC	3
ST	2
Total	20

Important

a. Seats are reserved as per Govt. of India Rules, AICTE and/or University Approval.
b. A quota of 15 % is reserved for the SC candidates, 7.5% for ST candidates, and 27% for Other Backward Classes.
c. Candidates selected against the quota for persons with disabilities (3%) as per PWD Act 1995 are placed in the appropriate category viz.SC/ST/OBC/General candidates depending upon the category to which they belong in the roster meant for reservation of SCs/STs/OBCs.

5.3 Selection Process for Admission for 1st year M. Tech (EDT) Full time

(A) National Applicants

i. Only the Candidates meeting the minimum eligibility criteria will be eligible for admission.
ii. The eligible candidates have to download the Application Form from website and has to submit the same on **email id : mtech-abad@nielit.gov.in**
iii. The selection for admission to M.Tech (EDT) Full Time Course, will be based on GATE marks out of 100 for the current year/ valid GATE score (out of 1000) and/or score in the written test. List of Shortlisted Candidates will be displayed on the institute website.
iv. Admission of the Selected Candidates will be subject to their verification of Documents and payment of applicable fees.
v. The date and time for operation of the waiting list shall also be declared along

with the list of selected candidates. All the waitlisted candidates should make themselves available at the time of operation of the waiting list, otherwise their claim shall be forfeited.

vi. The waitlisted candidates, available at the time of operation of the waiting list, shall be provisionally admitted as per the merit of the category-wise waiting list.

vii. The selected main and waiting list candidates are required to register on the day as notified along with the list displayed by making payment as mentioned in **Section 5.13** for admission.

viii. The decision of Executive Director, NIELIT, Aurangabad in respect of selection and closing of admission will be final. Canvassing in any form will lead to disqualification.

B) International Applicants

i. Admission of Foreign Nationals is subject to guidelines, laid down by Government of India from time to time.

ii. Persons of Indian Origin (PIO) is an individual with foreign citizenship, except Pakistan and Bangladesh, without "NRI" status, holding a Foreign Passport at the time of applying for admission as well as during the study period and is himself/herself or anyone/both of his/her parents or anyone/both of his/her grandparents is/was/were Indian citizens.

iii. Children of Indian workers in the Gulf Countries (CIWG) are children of an Indian who is working in Gulf Countries under relevant working visa.

iv. Non-Resident Indian (NRI) Candidate are Child/ward of the person having 'NRI status' as defined under section 6 of the Income Tax Act.

v. Foreign nationals may apply for admission to M.Tech (EDT) Full time course subject to fulfilling the minimum eligibility requirements through proper channel.

vi. Their application will, however, be considered separately on first cum first serve basis as per the procedure, mentioned in ANNEXURE-V(A)

vii. Foreign nationals are required to download and submit the application form for eligibility cum admission (Annexure-V(A)) and declaration & undertaking format (Annexure-V(B)) along with payment of Rs.5000/- or equivalent foreign currency (non-refundable).

5.4 Cancellation of Secured Admissions

If any vacancy arises after completion of admission process, the vacancy may be filled on case to case basis at the discretion of the Competent Authority as per below mentioned procedure:

i. Preference shall be given as per the ranking in common merit list.

ii. The Selected Students as per ranking in Merit List, who could not reach the Centre for admission on the pre-intimated day because of legal and/or genuine reason(s) and approaching/contacting the institute are first considered for filling the said vacancy.

iii. After (i) & (ii), the candidates, who have not been offered the admission and approaching, may be considered.

5.5 Academic Calendar – Refer **ANNEXURE – I**

5.6 Scheme of Instruction:

Every student has to register for all the subjects of a Semester as mentioned below.

Semester I (autumn)

SI No.	Code	Course Title	L	T	P	C	Marks
THEORY							
1.	M101	Industrial Design of Electronic Equipment	3	0	2	4	100
2.	M102	Microcomputer System Design	3	0	2	4	100
3.	M103	Analog & Digital Systems	3	0	2	4	100
4.		Elective - 1	3	0	2	4	100
5.		Elective - 2	3	0	2	4	100
6.		Elective - 3	3	0	2	4	100
Total			18	0	12	24	600
ELECTIVES							
M104	Power Electronics						
M105	Instrumentation & Process Control						
M106	Medical Electronics I						
M107	Optoelectronics and Optical Fiber Communication Devices						
M108	Software Engineering						

Semester II (spring)

SI No.	Code	Course Title	L	T	P	C	Marks
THEORY							
1.	M201	Project Feasibility Seminar	2	0	0	2	50
2.	M202	Advanced Microcomputer System Design	3	0	2	4	100
3.	M203	Physical Design of Electronic Equipment	3	0	2	4	100
4.		Elective - 4	3	0	2	4	100
5.		Elective - 5	3	0	2	4	100
6.		Elective - 6	3	0	2	4	100
Total			17	0	10	22	
ELECTIVES							
M204	Agri Instrumentation & Control						
M205	Advanced Power Electronics						
M206	Digital Communication						
M207	Optoelectronics and Optical Fiber Communication System						
M208	Software Engineering-II						

Semester III (autumn)

SI No.	Code	Course Title	L	T	P	C	Marks
PROJECT WORK							
1.	Project Work and Seminar		0	0	32	16	400
Total : 16 Credits							

Semester IV (spring)

SI. No.	COURSE CODE	COURSE TITLE	L	T	P	C	Marks
PROJECT WORK							
1.	Project Work and Seminar		0	0	36	18	450
Total : 18 Credits							

Note: L: Lecture, T: Tutorial P: Practical, C: Credits

5.7 Term Course Load:

i. In each semester, subject load varies from 16 to 24 credits per semester.
ii. On valid grounds, the authority may advise a student, who is unable to complete the course requirements in the normal period, to continue for an extra term

5.8 Assessment:

i. The overall performance of a student is evaluated by assigning equal weightage to all the four semesters in order to maintain the quality of education.
ii. A student is permitted to appear for the semester examination subject to he or she has a minimum attendance of 70% in theory and practical classes, completes all his/her sessional assignments and clears all his/her dues.
iii. Non-appearance in any examination is treated as the student having secured zero mark in that subject examination.
iv. The evaluation is based on an average weightage system. Every subject has credit points based on the hours of study required.
v. Every student is assessed in a subject with equal weightage to sessional work and semester examination, thereby making the students study regularly.
vi. Every student is awarded Grade points out of maximum 10 points in each subject. (based on 10 Points Scale).
vii. Based on the Grade points obtained in each subject, Semester Grade Point Average (SGPA) and then Cumulative Grade Point Average (CGPA) are computed as per **ANNEXURE- II.**

5.9 Award of PG Degree:

A student must complete the minimum requirement of credits in **maximum period of four (04) years** and must obtain a **minimum CGPA of 3.3** in the course to qualify for award of Degree. The PG Degree is awarded by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS).

5.10 Scholarship

i. Non-sponsored students, admitted to the M Tech (EDT) course, provided they have a valid GATE SCORE, are eligible for the scholarship of **Rs. 12400/- * per month**, subject to sanction and receipt of the said amount from AICTE New Delhi. Disbursement of PG-Scholarships is through direct cash transfer scheme through AICTE portal subject to his/her applying for the same and fulfilling the conditions. The award of scholarship and its continuation is subject to regular attendance, satisfactory progress, good conduct and abiding by the rules of the Institute.
ii. Sponsored students, or students not having a valid GATE SCORE are not entitled for the said scholarship.
iii. The tuition fee is exempted for SC/ST candidates only, subject to his/her applying for the same and fulfilling the conditions.
iv. It is obligatory for every student, granted admission to M. Tech (EDT) and awarded scholarship, to undertake work related to teaching and research activities as assigned to him / her.

* Subject to the policies of GOI

5.11 Assistance in Placement / Pursuing Higher Studies:

The Placement Cell of the Centre offers all assistance to the students for employment / self-employment. Most of the students passing out from the Centre have good opportunities to build their career.

5.12 Refund of fees in the event of cancellation of admission

a. There will be no refund
   i. If admission is cancelled after the 1st Semester is over.
   ii. If admission is cancelled in 1st Semester and the vacancy is not filled.

b. However, if admission is cancelled in 1st Semester and the vacancy is filled, then Refund of fees will be as under: -
   i. Student leaving before start of the course – Entire fee minus Rs1000/- (Rupees One Thousand only) as processing fee.
   ii. Student leaving after start of the course but before closing of admissions- Entire fee minus Rs1000/- or (Semester fee/6), whichever is higher.
   iii. Student leaving after start of the course and closing of admissions-Entire fee minus [Rs1000/- + (Semester fee/6) x Registered Period in number of months)]
   iv. For students staying in hostel, [(Hostel Rent/6) x Registered Period in number of Months] will be deducted from Semester hostel fee paid by the student.
   v. All the deposits will be refunded after adjusting student dues, if any.
   vi. Fraction of month will be treated as full month.

5.13 M.Tech. Fee-Structure, Academic year (2019-20) Admission

Sr. No.	Particulars	1st Semester Fees &Deposit (₹)	2nd Sem Fees (₹)
1.	Tuition Fee	46000/-	46000/-
2.	Caution Money Deposit *	1250	-
	Sub Total	47250/-	46000/-
Boy's Hostel Accommodation			
3.	Hostel Fee per Semester (5 months)	9100	9100
4.	Hostel Deposit*	2500	-
5.	Sub Total	11600	9100
Other Fees			
	Particulars		**Fees (₹)**
6.	Backlog Exam Fee per semester per paper (along with junior batch regular exam settings)		500
7.	Backlog Exam Fee per semester per paper (with separate exam setting)		1000
8.	Project fee payable only in III &IV semester separately		5000

* Caution Money Deposits are onetime payment and returnable on completion of the course subject to NIELIT rules.

*Mess charges are to be paid directly to mess manager on monthly basis.

Important:

i. SC/ST students are exempted from Tuition Fee(SCST/TSP Scheme), only Caution Money deposit and hostel fee and deposit is to be paid.
ii. Back log Exam Fee is applicable to all students appearing Back log Exams.
iii. There shall be an increase up to 10% in (Sl. No 1 & 3) in every academic year.

6.0 MASTER OF TECHNOLOGY (ELECTRONICS DESIGN AND TECHNOLOGY) [M.Tech (EDT)] PART TIME COURSE

This is six semesters (3 years) AICTE approved course for working professionals with the Degree awarded by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS).

6.1 Eligibility

a. B.E. / B.Tech Degree or equivalent in Electronics / Electrical /Telecommunication /Instrumentation engineering etc from a recognized University with at least 55% of marks.
b. The candidate should have been serving in Academic Institution/ Industry/ R&D organization engaged in electronic product or system development for at least two years after completion of B.E./ B. Tech. degree
c. The candidate should be sponsored by the employer.
d. His/ Her working place should be within 60 km distance from the institute.
e. He should produce necessary sponsorship certificate along with application in the prescribed form given in Annexure XIII.

6.2 Intake: 24 Seats

6.3 Selection Process

i. Only the Candidates meeting the eligibility criteria will be eligible for admission.
ii. The eligible candidates have to download the Application Form from website and has to submit the same on **email id : mtech-abad@nielit.gov.in**
iii. The selection for admission to M.Tech (EDT) part Time Course, will be based on **score in the written test**. List of Shortlisted Candidates will be displayed on the institute website.
iv. Admission of the Selected Candidates will be subject to their verification of Documents and payment of applicable fees.
v. The date and time for operation of the waiting list shall also be declared along with the list of selected candidates. All the waitlisted candidates should make themselves available at the time of operation of the waiting list, otherwise their claim shall be forfeited.
vi. The waitlisted candidates, available at the time of operation of the waiting list, shall be provisionally admitted as per the merit of the category-wise waiting list.
vii. The selected main and waiting list candidates are required to register on the day as notified along with the list displayed by making payment as mentioned in **Section 4.2.13** for admission.
viii. The decision of Executive Director, NIELIT, Aurangabad in respect of selection and closing of admission will be final. Canvassing in any form will lead to disqualification.

6.4 Admission in the event of cancellation of secured admission

If any vacancy arises due to leaving the course by a registered student after completion of admission process, the vacancy may be filled on case to case basis at the discretion of the Executive Director as the admission process is completed, by following below mentioned procedure:

i. Preference shall be given as per the ranking in common merit list.
ii. The Selected Students as per ranking in Merit List, who could not reach the Centre for admission on the pre-intimated day because of legal and/or genuine reason(s) and approaching/contacting the institute are first considered for filling the said vacancy.
iii. After (i) & (ii), the candidates, who have not been offered the admission and approaching, may be considered.

6.5 Academic Calendar – Refer **ANNEXURE – I**

6.6 Scheme of Instruction:

Every student has to register for all the subjects of a Semester as mentioned below.

Semester I (Autumn)

SI. No	Code	Course Title	L	T	P	C	Marks
1.	M101	Industrial Design of Electronic Equipment	3	0	2	4	100
2.	M103	Analog & Digital Systems	3	0	2	4	100
3.		Elective - 1	3	0	2	4	100
Total			9	0	6	12	
Electives							
M104	Power Electronics						
M105	Instrumentation & Process Control						

Semester II (Spring)

SI. No	Code	Course Title	L	T	P	C	Marks
1.	M102	Microcomputer System Design	3	0	2	4	100
2.		Elective - 2	3	0	2	4	100
3.		Elective - 3	3	0	2	4	100
Total			09	0	06	12	
Electives							
M107	Optoelectronics And Optical Fibre Communication Devices						
M108	Software Engineering I						

Semester III (Autumn)

SI. No	Code	Course Title	L	T	P	C	Marks
1.	M202	Advanced Microcomputer System Design	3	0	2	4	100
2.		Elective - 4	3	0	2	4	100
3.		Elective - 5	3	0	2	4	100
Total			9	0	6	12	
Electives							
M207	Optoelectronics And Optical Fibre Communication System						
M208	Software Engineering-Ii						

Semester IV (Spring)

SI. No	Code	Course Title	L	T	P	C	Marks
1.	M201	Project Feasibility Seminar	2	0	0	2	50
2.	M203	Physical Design of Electronic Equipment	3	0	2	4	100
3.		Elective - 6	3	0	2	4	100
Total			9	0	6	12	
Electives							
M204	Agri Instrumentation & Control						
M205	Advanced Power Electronics						

Semester V (Autumn)

SI. No	Code	Course Title	L	T	P	C	Marks
Project Work							
1.		Project Work and Seminar	0	0	32	16	400
Total : 16 Credits							

Semester VI (Spring)

SI. No	Course Code	Course Title	L	T	P	C	Marks
Project Work							
1.		Project Work and Seminar	0	0	36	18	450
Total : 18 Credits							

Note: L: Lecture, T: Tutorial P: Practical, C: Credits

6.7 Term Course Load:

i. In each semester, subject load varies from **16 to 24 credits** per semester.
ii. On valid grounds, the authority may advise a student, who is unable to complete the course requirements in the normal period, to continue for an extra term

6.8 Assessment:

i. The overall performance of a student is evaluated by assigning equal weightage to all the four semesters in order to maintain the quality of education.
ii. A student is permitted to appear for the semester examination subject to he or she has a minimum attendance of 70% in theory and practical classes, completes all his/her sessional assignments and clears all his/her dues.
iii. Non-appearance in any examination is treated as the student having secured zero mark in that subject examination.
iv. The evaluation is based on an average weightage system. Every subject has credit points based on the hours of study required.
v. Every student is assessed in a subject with equal weightage to sessional work and semester examination, thereby making the students study regularly.
vi. Every student is awarded Grade points out of maximum 10 points in each subject. (based on 10 Points Scale).
vii. Based on the Grade points obtained in each subject, Semester Grade Point Average (SGPA) and then Cumulative Grade Point Average (CGPA) are computed as per **ANNEXURE- II.**

6.9 Award of PG Degree:

A student must complete the minimum requirement of credits in **maximum period of seven (07) years** and must obtain a **minimum CGPA of 3.3** in the course to qualify for award of Degree. The PG Degree is awarded by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS).

6.10 Refund of fees in the event of cancellation of admission:

a. There will be no refund
   i. If admission is cancelled after the 1st Semester is over.
   ii. If admission is cancelled in 1st Semester and the vacancy is not filled.
b. However, if admission is cancelled in 1st Semester and the vacancy is filled, then Refund of fees will be as under: -
   i. Student leaving before start of the course – Entire fee minus Rs1000/- (Rupees One Thousand only) as processing fee.

ii. Student leaving after start of the course but before closing of admissions- Entire fee minus Rs1000/- or (Semester fee/6), whichever is higher.
iii. Student leaving after start of the course and closing of admissions-Entire fee minus [Rs1000/- + (Semester fee/6) x Registered Period in number of months)]
iv. For students staying in hostel, [(Hostel Rent/6) x Registered Period in number of Months] will be deducted from Semester hostel fee paid by the student.
v. All the deposits will be refunded after adjusting student dues, if any.
vi. Fraction of month will be treated as full month.

6.11 M.Tech. Fee-Structure, Academic year (2019-20) Admission

SI. No.	Particulars	1st Semester Fees &Deposit (₹)	2nd Sem Fees (₹)
1.	Tuition Fee	46000/-	46000/-
2.	Caution Deposit *	1250	-
	Sub Total	47250/-	46000/-
Boy's Hostel Accommodation			
3.	Hostel Fee per Semester (5 months)	9100	9100
4.	Hostel Deposit*	2500	-
	Sub Total	11600	9100
Other Fees			
	Particulars		Fees (₹)
5.	Backlog Exam Fee per semester per paper (along with junior batch regular exam settings)		500
6.	Backlog Exam Fee per semester per paper (with separate exam setting)		1000
7.	Project fee payable only in III &IV semester separately		5000

7.0 Partial List of Teaching Staff

SI. No	Name of Faculty	Designation	Educational Qualification	Brief Profile
1.	Dr. Sanjeev Kumar Gupta	Executive Director	Ph.D. (Computer Engg.), MS (Software Systems) and B.Tech (Computer Engg.)	Alumnus of BITS Pilani and NIT Kurukshetra, he is a renowned engineer, technocrat and administrator. In his professional career he is also instrumental in automation of various organizations such as Punjab State Power Corporation Limited, HSEB, CHB, ICSI, Labor Bureau. His research work is spanned across various aspects of Wireless Sensor Network. His other areas of Interest include Web Application Development, Mobile Application Development, Software Engineering, IoT, Blockchain, Big Data & Cyber Security
2.	Sh. Sasi Kumar Gera	Dean (Skill Development) & Scientist E	M.Tech (Manuf. Engg) and B.Tech(Mech.)	Alumnus of IIT Madras, in his professional career spanned over 24 years he is instrumental in initiating many out-of-box research works in areas of CAD/CAM,CNC Machines, Industrial Robots Machine vision, Industrial Design. He has implemented real-time robot path control by using image processing for seam-less welding applications at the University of Liverpool, England as research associate (UNDP/UNIDO fellowship). He has guided several projects at Masters level. His research interests are Industry 4.0, Autonomous Robots, CAD/CAM, Lean Manufacturing.
3.	Dr. Manish Arora	Scientist E	Ph. D. (Computer Science and Applications), MCA	He completed his Ph.D. from Panjab University, Chandigarh. His research was in the area of Multi Agent Systems, a branch of Artificial Intelligence. He has over 25 years of experience in software development and teaching. His area of interest includes Big Data, Cloud Computing & Virtualization, Software Engineering and web Applications Development.
4.	Sh.Yashpal Gogia	Scientist D	M.Tech(Opto Electronics & Fiber Optics) M.Sc (Electronics) B.Sc (Sciences)	Alumnus of IIT Delhi, he possesses expertise in Fiber Optics, Opto Electronics. He has over 28 years of experience in Optical Communication Systems, U controller & embedded, Internet of Things and Security.

SI. No	Name of Faculty	Designation	Educational Qualification	Brief Profile
5.	Sh. Lakshman	Scientist D	M.Tech B.E.	In his professional career spanning over 12 years, he has executed many Government Projects of IT Mission(Kerala), Ministry of Social Justices, and ISEA project etc. His areas of areas of interest are Thermal Image Processing, Blockchain, Cyber Security, Mobile Application Development and Software Engineering. He is also working as a Placement Officer and Nodal Officer of Model Career Centre.
6.	Sh. D.S. Raje	Scientist C	B.E.(Electronics)	He has over 27 years of experience as Electronics Engineer and excels in the field of Test and Measurement.
7.	Sh. A. K. Joshi	Pr. Tech. Officer	M.Sc.(Physics)	He is alumni of Meerut University and has experience of more than 30 years in the field of Engineering Physics, Electronics, Software Engineering and Management.
8.	Sh. Y. A. Khan	Principal Programmer	M.C.A.	Experienced Software Professional. Developed the projects for Office Automation. Well versed with Database techniques and Software Engineering Practices.
9.	Sh. Saurabh Bansod	Scientist B	M.Tech(Electronics & Instrumentation) B.E.(Electronics)	Alumnus of N.I.T. Rourkela, In the span of 18 months he has done tremendous work in the area of Industrial Automation. His area of interest includes data acquisition using NI DAQ cards.
10.	Sh. Prashant Pal	Scientist B	B.Tech (Electronics and Communication Engineering)	With expertise in Electronics System design, he has experience of teaching advanced microcontroller and microprocessor. He has sound knowledge of Deep learning and Machine learning. He is also doing projects on Artificial Intelligence, Visual Information and Embedded Systems from IIT Kharagpur.
11.	Sh.Yogesh	Scientist 'B'	B.Tech (CSE)	A young scientist who possesses expertise in the area of Internet of Things, Scripting languages like Python. His other areas of interest are Cyber Security, Web Application Development.
12.	Sh. B. B. Sorte	Sr. Tech. Officer	DME, (DCS&M)	More than 20 Years' experience as Trainer / faculty of CAD/CAM/CAE including 08 Years of experience as Faculty for Mechanical Design and Developments and Workshop Technology. He is looking after Design & Development of Electro- Mechanical products under Academic activities of DEPM & B.Tech & M.Tech courses

SI. No	Name of Faculty	Designation	Educational Qualification	Brief Profile
13.	Sh. M.S.Kshirsagar	Sr. Tech. Officer	Diploma (Ind. Electr)	He is highly motivated and experienced faculty who specializes in Electronics.
14.	Sh. Milind Garud	Sr. Tech. Officer	Diploma (Ind. Electr)	About 29 Year's experience in Power Electronics and conducting of lab/practicals. He is also looking after the examination related activities and academic for about 15 years. Also working as NSS Officer for past 4 years.
15.	Sh. Kishor Chaudhari	Sr. Tech. Officer	BCA, CCNA, CCNP	Specialization in VPN technologies, Routing & Switching, VOIP, Switched Network Design. Area of Interest is MPLS, SNMP, Network security, IPS, IDS, and Data Center.
16.	Sh. Krishna Kumar Bhargav	Senior Technical Assistant	B.E (CSE)	He is a young and dynamic faculty who has 5 years of experience in Software Development, Big Data Analysis, Artificial Intelligence, Cyber Security and IoT
17.	Sh. Th. Sunil Kumar Singh	Principal Technical Officer	BE(ECE)	He is interested learning new trends in Technologies in his area. He has more than 20 years of undergraduate teaching microprocessor and microcontrollers.

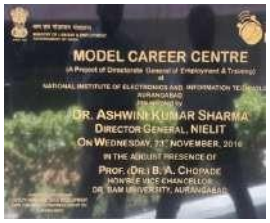
8.0 Placement Assistance and Support

Students of the Centre are trained to become R&D engineers. In Course curriculum there is emphasize on Innovation, Design and Development of Electronic Product. The Centre has also sign an MoU with Chamber of Marathwada Industries and Agriculture (CMIA) to platform to Startup Aspirants students. In association with Directorate of Employment, Ministry of Labour & Employment (MoLE), a Model Career Centre is also functioning to provide a variety of employment related services. Apart from this an independent Placement Cell is providing Placement support and assistance to all the students. Almost all the students of the Institute gets career opportunities of their choice.

1. MoU with CMIA

CMIA is a group organization representing around 650 small scale / medium scale / large scale industries including the Multinational Companies (MNC's) of the Maharashtra. An MoU was signed with CMIA in November, 2017 for referral of Students Projects which have potential of developing into scalable business models and also adoption of their business startup ideas. The support for internship and employment to our students in member companies of CMIA was another goal of the MoU.

2. Model Career Centre



In association with Directorate of Employment, Ministry of Labour and Employment(MoLE), NIELIT is providing a variety of employment related services to students of the region. The students of the institute are by default members of National Career Services (NCS) of Government of India. The Model career Centre apart from organizing multiple Job Fairs every year is also conducting counseling sessions to improve Soft Skills and presentation skills of the students. Leading Experts and Industrialists are invited for these counseling sessions to share their views.

3. Industrial Tie-up

Multiple visits of the students are arranged in leading Industries of the region so that they can get well versed with current Industrial trends. The students also get a chance to take up real Industrial issues as their project work. The bright students are also provided with mentoring support for establishment of their own start-up by Industrialists.

4. Some of Companies who have come from Campus Placement

9.0 Some of the Alumni of the Centre

NIELIT Aurangabad believes in developing and maintaining a strong alumni association for its growth and progress

1. Dr. Suresh D. Shirbahadurkar

Professor Zeal College of Engineering, Narhe, Pune

"Progress Seminars Conducted by NIELIT Aurangabad research centre and attended by fellow researches, M.Tech Students & eminent guides provided me a forum to present and discuss my research. All the IEEE publications were available for reference. The state of art lab facilities were available for simulation & experimentation."

2. Dr. Radhakrishna Naik

Vice Principal G S Mandals Maharashtra Institute of Technology Aurangabad

"The industrial Design & Product Design subjects helped me to compliment my class room learning with in-depth project work. Guest lectures arranged at NIELIT exposed us to latest trends in industry & real life problems. Industrial visits helped us to understand & relate our subject to industrial environment"

3. Dr Varsha Ratnaparkhe

Assistant Professor & Dean (Quality Assurance), Department of Electronics & Telecommunication Engineering, Government College of Engineering, Aurangabad

"Skills that I acquired and honed while in NIELIT Aurangabad, are benefiting me continuously in my professional career. NIELIT has helped me shape my character and strengthened attitude required to deliver strong results in academia."

4. Mr. Sumit Wankhade

VLSI Engineer, Cerium Systems, Bangalore

"I found, NIELIT Aurangabad atmosphere conducive for learning. NIELIT Aurangabad helped in building strong fundamentals with deeper understanding in Electronics Product Design. A number of facilities including labs were accessible to students. Faculty were readily available to solve any study related difficulties and staffs were very kind in resolving any related issues."

5. Dr. Alka Mahajan

Director Nirma University, Indore

"NIELIT Aurangabad taught me to think critically and confidently in experimental and theoretical situations. I developed professionally and made a wealth of friends and resources.

6. Mr. Jaykumar H Prabhakar

Vice President (Global lead incident management) at Accenture, Thane. Also a Member of ISKCON working with NGO for Swachh Bharat

"What makes this course unique are the subjects in product design and PCB design which helped me understand the whole process of product development Making of the product was a very creative experience with starting from design , to manufacturing of PCB in the PCB Lab & then making the enclosure in the workshop, not to forget the innumerable sketches we made of the various versions & forms of the product."

7. Arvind B Nyayadhish

Director Enman Automation Pvt.Ltd, Aurangabad

"To shine in today's competitive world it is very essential to have the nurturing that helps you go the extra mile. NIELIT Aurangabad equipped me for the world outside with the best skill set. Those amazing years gave me much more than bookish knowledge; I met probably the best people in my life and some inspiring personalities Proud to be an alumnus of NIELIT Aurangabad."

8. Mr. MahendraPadalkar

Principal Technical Architect (Cloud) at Tech Mahindra Ltd, Pune

"In NIELIT Aurangabad, I acquired and honed not only technical skills but also management and people skills that are assisting me immensely in my career. I'm thankful to NIELIT Aurangabad for providing such a strong foundation towards my career."

9. Mr. Pradeep Kizhiseeri

Senior Consultant Presently into Hatstand, Singapore

"NIELIT Aurangabad is where the students are molded to Perfect Industry Professionals & Entrepreneurs. The reputation and brand equity associated with the institute makes one feel proud. Thanks to college management and faculty for engineering my career in right direction."

10. Mr. Sandeep K Patni

Co-Founder and VP of Systems and Engineering at CumuLogicInc, NewJersey, USA

"NIELIT Aurangabad taught me that education can be the most challenging, extremely rewarding, exciting, and fun. I learned that passion for learning really is the driver of finding new knowledge, and that passion is honestly contagious."

10.0 Refund of fees in the event of cancellation of admission:

10.1 No Refund

There will be no refund

i. If admission is cancelled after the 1st Semester is over.
ii. If admission is cancelled in 1st Semester and the vacancy is not filled.

10.2 Refund

However, if admission is cancelled in 1st Semester and the vacancy is filled, then Refund of fees will be as under: -

i. Student leaving before start of the course – Entire fee minus Rs1000/- (Rupees One Thousand only) as processing fee.
ii. Student leaving after start of the course but before closing of admissions- Entire fee minus Rs1000/- or (Semester fee/6), whichever is higher.
iii. Student leaving after start of the course and closing of admissions-Entire fee minus [Rs1000/- + (Semester fee/6) x Registered Period in number of months)]
iv. For students staying in hostel, [(Hostel Rent/6) x Registered Period in number of Months] will be deducted from Semester hostel fee paid by the student.
v. All the deposits will be refunded after adjusting student dues, if any.
vi. Fraction of month will be treated as full month.

ANNEXURE I

Tentative Academic Calendar for M.Tech (EDT),B.Tech(ESE) and DEPM Programs Academic Year 2019-2020 (Semester I)

Sr. No.	Semester-I (Spring)	
1	Start of On line application	1st May 2019
2	Last date of On line application	1st July 2019
3	Instruction Begins	01st Aug 2019
4	Class Test-1	10th Sept to 14th Sept 2019
5	Class Test-2	12th to 16th Nov 2019
6	Instruction Ends	23rd Nov. 2019
7	Semester (Practical) Examination	26th to 30th Nov 2019
8	Semester (Theory) Examination	3rd to 24th Dec 2019
9	Project Assessment	10th Dec to 24th Dec 2019
	Project Feasibility Seminar	
10	Semester Break (DEPM and B.Tech)	25th Dec to 14thJan 2020
11	Declaration of Results	12th Jan 2020

--

ANNEXURE – II

Assessment Computation of SGPA & CGPA

1. **Semester Grade Point Average (SGPA)** is the weighted average of Grade Points obtained by a student in a semester and is computed as follows:

$$SGPA=\frac{U1 \text{ X } M1+U2 \text{ X } M2+\cdots+Un \text{ X } Mn}{U1+U2+\cdots Un}$$

Where U1, U2,.... are subject credit of respective course and M1, M2,..... are the marks Obtained in the respective subject aout of 8 (grade point)

Note: The semester grade point average (SGPA) for all the six semester is also mentioned at the end of every semester.

2. **The Cumulative Grade Point Average (CGPA)** is used to describe the overall performance of a student in the Diploma / Degree course and is computed as under:

$$CGPA = \frac{\sum_{n=1}^{6/4} SGPA(n)\, C_n}{\sum_{n=1}^{6/4} C_n}$$

Where SGPA (n) is the n^{th} Semester SGPA of the student and Cn is the n^{th} Semester total credit. The maximum value of n is as under

a. Six (6) in case of DEPM Program
b. Eight (8) in case of B.Tech Program
c. Four (4) in case of Full-time M. Tech Program.
d. Six (6) in case of Part-time M. Tech Program.

Note: The Semester and Cumulative GPA are rounded off to the second place of decimal

ANNEXURE III

NIELIT Aurangabad, Maharashtra (India)	
Application form	
3 Year's DEPM (Diploma in Electronics Production and Maintenance)	
To, The Dean Academics, NIELIT Aurangabad, Dr.BAM University Campus, Aurangabad, 4310004 (MS)	Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm)

Sir/Madam,

I have passed Xth standard/Secondary School Certificate (SSC) Examination from a recognized Board with a minimum average score of 35% in Mathematics and Science subjects. I am hereby applying for the admission to Diploma in Electronics Production and Maintenance (DEPM) course during the Academic year 2019-2020 and request you to kindly allow me to appear in the selection test for the said course at NIELIT Aurangabad. I submit my particular as under:

Name of Candidate:		
Mother's Name		
Father's Name:		
Date of Birth:		
Category [General/SC/ST/OBC /PWD(General)/PWD(OBC)]		
Name of the Institute/Beneficiary	National Institute of Electronics and Information Technology(NIELIT)	
Name of the Bank	State Bank of India	
Branch	Samarth Nagar Aurangabad Maharashtra	
Saving Bank Account Number	32078399585	
IFSC/RTGS NO	SBIN 0007919	
Mode of Electronic Transfer	NEFT, SBICollect, Website: www.onlinesbi.com	
Application Fee	The application fee is Rs 500/-. However, the candidates belonging to SC/ST/PWD are exempted from application fees.	
Address for Correspondence:		
	Pin:	
E-mail ID:	Landline No.:	**Mobile No.:**
Total % marks in 10th standard subjects		
Mathematics		
Science		
Average of above two subjects		

Candidate Signature with date

Important Instructions

1. Form should be signed by the student.
2. Incomplete form will not be accepted.
3. Mail scanned copy of filled form & fee receipt to depm-abad@nielit.gov.in
4. Please attach the scan copy of fee deposit counter foil along with application form

ANNEXURE IV

NIELIT Aurangabad, Maharashtra (India)

Application form

Lateral Entry Admission (Direct 2nd Year) of 3 Year's
DEPM (Diploma in Electronics Production and Maintenance)

To,

The Dean Academics, NIELIT
Aurangabad,
Dr. BAM University Campus,
Aurangabad, 4310004 (MS)

Passport Size
Recent Photograph
Attested (Size:
4.5x5.5 cm)

Sir/Madam,

I have passed XII th standard/ Higher Secondary Certificate (HSC) Examination passed from a recognized Board with Physics, Chemistry, Maths OR ITI (Electrical / Electronics) from recognized Institute. I am hereby applying for Direct admission to 3rd Semester Diploma in Electronics Production and Maintenance(DEPM) Course during the Academic year 2019-2020 and request you to kindly allow me to appear in the selection test for the said course at NIELIT Aurangabad. I submit my particulars as under

Name of Candidate:		
Mother's Name		
Father's Name:		
Date of Birth:		
Category [General/SC/ST/OBC /PWD(General)/PWD(OBC)]		
Name of the Institute/Beneficiary	National Institute of Electronics and Information Technology(NIELIT)	
Name of the Bank	State Bank of India	
Branch	Samarth Nagar Aurangabad Maharashtra	
Saving Bank Account Number	32078399585	
IFSC/RTGS NO	SBIN 0007919	
Mode of Electronic Transfer	NEFT, SBICollect, Website: www.onlinesbi.com	
Application Fee	The application fee is Rs 500/-. However, the candidates belonging to SC/ST/PWD are exempted from application fees.	
Address for Correspondence:		
	Pin:	
E-mail ID:	Landline No.:	**Mobile No.:**

Total % marks in ITI or 12th standards subjects

ITI Year	**% Marks**	**12th standards subject**	**% Marks**
1st Year		**Physics**	
2nd Year		**Chemistry**	
		Maths	
		Vocational Training	
Average of above two years		Average of any above three subjects	

Candidate Signature with date

Important Instructions

1. Form should be signed by the student.
2. Incomplete form will not be accepted.
3. Mail scanned copy of filled form & fee receipt to depm-abad@nielit.gov.in
4. Please attach the scan copy of fee deposit counter foil along with application form

Application Form No:_____

ANNEXURE- V(A)

Application Form for Eligibility cum Admission to DIPLOMA / B.Tech/M.Tech Full Time for Foreign Nationals

To,

The Dean Academics,
NIELIT Centre Aurangabad,
University Campus,
Aurangabad 4310004 (MS)
India
Telephone: 91(0240) 2982021,2982022, 2982050(Fax)
Website: www.nielit.gov.in/aurangabad

Important Instructions

1. Form should be signed by the student.
2. Incomplete form will not be accepted.
3. No refund of Application form Fees.
4. Mail scanned copy of filled form & fee receipt to respective E-mail: depm-abad@nielit.gov.in, btech- abad@nielit.gov.in, mtech- abad@nielit.gov.in

Sir/Madam,

I hereby apply for grant of eligibility and admission as an International Student to Diploma in Electronics Production and Maintenance (DEPM) /B.Tech (EDT) / M.Tech course during the Academic year_____and request you to kindly grant me a certificate of eligibility and admission to the said course in NIELIT Centre, Aurangabad, Maharashtra (India). I submit my particular as under:

Course Applied: _____

Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm)

CANDIDATE'S DETAILS

Last Name : _____

First Name : _____

Middle Name : _____

Mother Name : _____

Date of Birth : DD/MM/ YYYY **Nationality:** _____

ADDRESS FOR CORRESPONDENCE	
	Pin:
E-mail ID:	Tel No. (with ISD/STD)

ACADEMIC QUALIFICATIONS (in ascending order)

Sr. No.	Examination Passed	Name of School / College	Name of Examining body (Board / University)	Year of Passing	% Marks obtained	Class / Division

QUALIFYING EXAMINATION DETAILS						
10th Std. Marks / Grade (For DEPM only)				GATE or Equivalent Score Details (if applicable) (For M.Tech (EDT) / Ph.D)		
Subject	Science	Mathematics	Total Marks	Year	Discipline	Percentile
Marks / Grade Obtained						
Maximum Marks						

WORKING EXPERIENCE	
Name of Industry / Institution	
Type of W ork / Experience	
Experience in years	

Passed Xth std. or higher level Examination with English as one of the passing subjects

Yes	No

Name and address of the School / College / Institution last attended:

(Tick Approporiate)

Details for online fee payment for DIPLOMA/ B.Tech/ M.Tech Full Time for Foreign Nationals Students are as given below.	
Bank Account No	20060526862
Account Type	Current a/c
Account Name	National Institute of Electronics and Information Technology (NIELIT), Aurangabad
Bank Name& Address	Bank of Maharashtra, Dr. B.A.M.University branch Aurangabad (MS)
IFSC Code	MAHB0000152
Mode of Electronic Transfer	NEFT, RTGS

Check List (Please attach Attested photocopies of all the Certificates for Sr. No. 2 to 6 below)			
01.	Two Passport Size Photograph pasted & attested	YES	NO
02	Date of Birth proof, copy attached (Xth Mark-sheet / Certificate)	YES	NO
03	Caste (OBC/SC/ST) Certificate, copy attach	YES	NO
04	Disability Certificate for PD, copy attached	YES	NO
05	12th /Graduation Passing Certificate, copy attached	YES	NO
06	Studentship Letter, Original attached	YES	NO
07	Qualifying Degree Certificate ,copy attached	YES	NO
08	GATE Score Card, copy attached (M.Tech Full Time)	YES	NO
09	Sponsorship letter Original / Experience letter attached	YES	NO
10	Payment receipt in the form of RTGS/NEFT Enclosed	YES	NO
Note: The application form is liable to be rejected if found incomplete or if the necessary & appropriate documents & Payment are not enclosed along with.			
CANDIDATE SIGNATURE:			

FOR OFFICE USE ONLY:

Registration No							**Application Form No**					

Checked By:

Academic Section I/C M.Tech Coordinator Dean Academics B.Tech Coordinator Diploma Coordinator

Date: DD /MM /YYYY

ANNEXURE-V (B)

(To be typed on Rs. 100/- Stamp Paper) Declaration and Undertaking

1. I hereby declare that I have carefully read this application form for eligibility and admission and have noted the instructions / requirements thereby.
2. I have also carefully noted the rules of eligibility & conduct and discipline, laid down by the NIELIT Centre, Aurangabad and I agree to abide bythem.
3. I understand and declare that I shall be responsible for any discrepancies, error, wrong or incorrect information, supplied by me in this application form and for cancellation of admission thereby or otherwise found ineligible.
4. I undertake to furnish the necessary certificate(s)/ document(s)/ paper(s) in original along with a true copy of each of them as and when asked for, failing which I understand that my eligibility and admission stands automatically cancelled and that the NIELIT Centre, Aurangabad is not responsible for the same.

I hereby declare that the information furnished by me in this form is true and correct to the best of my knowledge. I am liable to be disqualified if the competent authority notices that I have furnished any false information.

Yours Faithfully,

(Name & Signature of Foreign National)

Date: dd/mm/yyyy

Place:

ANNEXURE-V (C)

(To be typed on Rs. 100/- Stamp Paper) Declaration and Undertaking

1. I hereby declare that I have carefully read this application form for eligibility and admission and have noted the instructions / requirements thereby.
2. I have also carefully noted the rules of eligibility & conduct and discipline, laid down by the NIELIT Centre, Aurangabad and I agree to abide bythem.
3. I understand and declare that I shall be responsible for any discrepancies, error, wrong or incorrect information, supplied by me in this application form and for cancellation of admission thereby or otherwise found ineligible.
4. I undertake to furnish the necessary certificate(s) / document(s) / paper(s) in original along with a true copy of each of them as and when asked for, failing which I understand that my eligibility and admission stands automatically cancelled and that the. NIELIT Centre, Aurangabad is not responsible for the same.

I hereby declare that the information furnished by me in this form is true and correct to the best of my knowledge. I am liable to be disqualified if the competent authority notices that I have furnished any false information.

Yours Faithfully,

(Name & Signature of Candidate)

(Name & Signature of Guardian/Parent)

Date: dd/mm/yyyy

Place:

ANNEXURE VI

NIELIT Aurangabad, Maharashtra (India)

Application form

Lateral Entry Admission (Direct 2nd Year) of 4 Year's
B.TECH (Electronics System Engineering)

To,
The Dean Academics,
NIELIT Aurangabad,
Dr. BAM University Campus,
Aurangabad, 4310004 (MS)

Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm)

Sir/Madam,

I have passed 3 year diploma course in Electronics & allied streams with **minimum 45% marks** (40 percent for SC/ST candidates) approved by AICTE. I hereby register for admission to 3rd Semester B.Tech (Electronics System Engineering) Course through Lateral Entry during the Academic year 2019-20 and request you to kindly grant me admission to the said course at NIELIT Aurangabad. I submit my particular as under:

Name of Candidate:		
Mother's Name		
Father's Name:		
Date of Birth:		
Category [General/SC/ST/OBC /PWD(General)/PWD(OBC)]		
Name of the Institute/Beneficiary	National Institute of Electronics and Information Technology(NIELIT)	
Name of the Bank	State Bank of India	
Branch	Samarth Nagar Aurangabad Maharashtra	
Saving Bank Account Number	32078399585	
IFSC/RTGS NO	SBIN 0007919	
Application Fee	The application fee is Rs 500/-. However, the candidates belonging to SC/ST/PWD are exempted from application fees.	
Mode of Electronic Transfer	NEFT, SBICollect, Website: www.onlinesbi.com	
Address for Correspondence:		
	Pin:	
E-mail ID:	Landline No.:	**Mobile No.:**

Total % marks in Diploma Course in Engineering and Technology

Branch/Discipline	**1st Year %**	**2nd Year %**	**3rd Year %**	**Avg. %**

Candidate Signature with date

Important Instructions

1. Form should be signed by the student.
2. Incomplete form will not be accepted.
3. Mail scanned copy of filled form & fee receipt to **btech-abad@nielit.gov.in**
4. Please attach the scan copy of fee deposit counter foil along with application form

ANNEXURE VII

NIELIT Aurangabad, Maharashtra (India)	
Application form	
2 Year's M.Tech (Electronics Design Technology) Full Time Course	
To, The Dean Academics, NIELIT Aurangabad, Dr.BAM University Campus, Aurangabad, 4310004 (MS)	Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm)

Sir/Madam,

I have passed B.E. / B.Tech Degree or equivalent in Electronics / Electrical /Telecommunication / Instrumentation engineering etc. from a recognized University with a minimum of 55 percent marks (50 percent for SC/ST candidates). **I am hereby applying** for the admission to **M.Tech (Electronics Design Technology) full time** course during the Academic year 2019-2020. I submit my particular as under:

Name of Candidate:					
Mother's Name					
Father's Name:					
Date of Birth:					
Category [General/SC/ST/OBC /PWD(General)/PWD(OBC)]					
Industry Sponsored Candidates (Yes/No)					
GATE Score					
Name of the Institute/Beneficiary		National Institute of Electronics and Information Technology(NIELIT)			
Name of the Bank		State Bank of India			
Branch		Samarth Nagar Aurangabad Maharashtra			
Saving Bank Account Number		32078399585			
IFSC/RTGS NO		SBIN 0007919			
Mode of Electronic Transfer		NEFT, SBICollect, Website: www.onlinesbi.com			
Application Fee		The application fee is Rs 500/-. However, the candidates belonging to SC/ST/PWD are exempted from application fees.			
Address for Correspondence:					
		Pin:			
E-mail ID:		Landline No.:		**Mobile No.:**	
Total % marks in B.Tech/B.E Degree in Electronics Engineering or allied streams					
Stream/Discipline	**1st Year %**	**2nd Year %**	**3rd Year %**	**4th Year %**	**Avg. %**

Tick Appropriate cell based on category and hostel accommodation		
Amount to be paid on counseling for admission (1st Semester M.Tech Fee & Deposits)		
Category	Institute Fee	Institute Hostel fee (in case hostel required)
All other than SC/ST	Rs: 47,250/-	Rs: 11600/-
SC/ST	Rs: 1250	Rs:11600/-

Following documents with one self-attested copy of each document to be handed over to NIELIT Aurangabad academic section at the time of admission depending upon the category to which the candidate belongs.

Documents (Original with Self attested copy)	**Certificate No. & Date of Issue**	**Yes/ No**	**Checked (By Office)**
Two Passport Size Photograph (attested)			
Date of Birth proof (Xth Mark-sheet / Certificate)			
All Mark Lists of the Qualifying Examination			
Degree Certificate of the Qualifying Examination.			
GATE Score Card			
Conduct Certificate from the College, where the student has last studied			
Transfer Certificate from the college last studied.			
Migration Certificate (In case students are from other university)			
Physical Fitness Certificate (as per given format)			
Non creamy layer OBC certificate valid up to 31st March 18, as per given format (OBC candidate only)			
SC/ST Certificate as per given format (SC/ST candidate only)			
Physical With Disability Certificate as per given format (PWD candidate only)			
Sponsorship Certificate and Experience Certificate (Sponsored Candidates Only)			

I hereby declare that the information furnished by me in this form is true and correct to the best of my knowledge. I am liable to be disqualified if the competent authority notices that I have furnished any false information. I am ready to remit Rs...../- to bank as per the details given above today itself to secure the admission.

Candidate Signature with date

Important Instructions

1. Form should be signed by the student.
2. Incomplete form will not be accepted.
3. Mail scanned copy of filled form & fee receipt to mtech-abad@nielit.gov.in
4. Please attach the scan copy of fee deposit counter foil along with application form

ANNEXURE VIII

NIELIT Aurangabad, Maharashtra (India)	
Application form	
3 Year's M.Tech (Electronics Design Technology) Part Time Course Admission	
To, The Dean Academics, NIELIT Aurangabad, Dr.BAM University Campus, Aurangabad, 4310004 (MS)	Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm)

Sir/Madam,

I have passed B.E. / B.Tech Degree or equivalent in Electronics / Electrical /Telecommunication / Instrumentation engineering etc. from a recognized University with a minimum of 55 percent marks (50 percent for SC/ST candidates). I am hereby applying for the admission to M.Tech (Electronics Design Technology) Part time course during the Academic year 2019-2020. I submit my particular as under:

Name of Candidate:		
Mother's Name		
Father's Name:		
Date of Birth:		
Category [General/SC/ST/OBC /PWD(General)/PWD(OBC)]		
Sponsorship by Academic Institute/Industry		
Working Experience		
Approximate Distance of Working place from the Institute (Kms)		
Name of the Institute/Beneficiary	National Institute of Electronics and Information Technology(NIELIT)	
Name of the Bank	State Bank of India	
Branch	Samarth Nagar Aurangabad Maharashtra	
Saving Bank Account Number	32078399585	
IFSC/RTGS NO	SBIN 0007919	
Mode of Electronic Transfer	NEFT, SBICollect, Website: www.onlinesbi.com	
Application Fee	The application fee is Rs 500/-. However, the candidates belonging to SC/ST/PWD are exempted from application fees.	
Address for Correspondence:		
	Pin:	
E-mail ID:	Landline No.:	**Mobile No.:**

Total % marks in B.Tech/B.E Degree in Electronics Engineering or allied streams					
Stream/Discipline	**1st Year %**	**2nd Year %**	**3rd Year %**	**4th Year %**	**Avg. %**

Tick Appropriate cell based on category and hostel accommodation		
Amount to be paid on counselling for admission (1st Semester M.Tech Fee & Deposits)		
Category	Institute Fee	Institute Hostel fee (in case hostel required)
All other than SC/ST	Rs: 47,250/-	Rs: 11600/-
SC/ST	Rs: 1250	Rs:11600/-

Following documents with one self-attested copy of each document to be handed over to NIELIT Aurangabad academic section at the time of admission depending upon the category to which the candidate belongs.

Documents (Original with Self attested copy)	**Certificate No. & Date of Issue**	**Yes/No**	**Checked (By Office)**
Two Passport Size Photograph (attested)			
Date of Birth proof (Xth Mark-sheet / Certificate)			
All Mark Lists of the Qualifying Examination			
Degree Certificate of the Qualifying Examination.			
Conduct Certificate from the College, where the student has last studied			
Transfer Certificate from the college last studied.			
Migration Certificate (In case students are from other university)			
Physical Fitness Certificate (as per given format)			
Non creamy layer OBC certificate valid up to 31st March 18, as per given format (OBC candidate only)			
SC/ST Certificate as per given format (SC/ST candidate only)			
Physical With Disability Certificate as per given format (PWD candidate only)			
Sponsorship Certificate and Experience Certificate (Sponsored Candidates Only)			

I hereby declare that the information furnished by me in this form is true and correct to the best of my knowledge. I am liable to be disqualified if the competent authority notices that I have furnished any false information. I am ready to remit Rs...../- to bank as per the details given above today itself to secure the admission.

Candidate Signature with date

Important Instructions

1. Form should be signed by the student.
2. Incomplete form will not be accepted.
3. Mail scanned copy of filled form & fee receipt to mtech-abad@nielit.gov.in
4. Please attach the scan copy of fee deposit counter foil along with application form

ANNEXURE IX

Prescribed Performa for SC/ST Caste Candidates

Performa-I

The form of certificate to be produced by Scheduled Castes and Scheduled Tribes candidates applying for admission to UG/PG/Diploma Courses for Institutes under Government of India

This is to certify that Shri/Shrimati/Kumari*..... son/daughter* of ..... of village/town* ..... in District/Division* ..... of the State/Union Territory* ..... belongs to the..... Caste/Tribe* which is recognised as a Scheduled Caste/Scheduled Tribe* under: —

@ The Constitution (Scheduled Castes) Order, 1950 @ The Constitution (Scheduled Tribes) Order, 1950
@ The Constitution (Scheduled Castes) Union Territories Order, 1951 @ The Constitution (Scheduled Tribes) Union Territories Order, 1951

[as amended by the Scheduled Castes and Scheduled Tribes List (Modification) Order, 1956; the Bombay Reorganisation Act, 1960, the Punjab Reorganisation Act, 1966, the State of Himachal Pradesh Act, 1970, the North Eastern Areas (Reorganisation) Act, 1971, the Scheduled Castes and Scheduled Tribes Order (Amendment) Act, 1976., the State of Mizoram Act, 1986, the State of Arunachal Pradesh Act, 1986 and the Goa, Daman and Diu (Reorganisation) Act, 1987.]

@ The Constitution (Jammu and Kashmir) Scheduled Castes Order, 1956
@ The Constitution (Andaman and Nicobar Islands) Scheduled Tribes Order, 1959 as amended by the Scheduled Castes and Scheduled Tribes Order (Amendment) Act, 1976 @ The Constitution (Dadar and Nagar Haveli) Scheduled Castes Order, 1962
@ The Constitution (Dadar and Nagar Haveli) Scheduled Tribes Order, 1962 @ The Constitution (Pondicherry) Scheduled Castes Order, 1964
@ The Constitution (Uttar Pradesh) Scheduled Tribes Order, 1967
@ The Constitution (Goa, Daman and Diu) Scheduled Castes Order, 1968 @ The Constitution (Goa, Daman and Diu) Scheduled Tribes Order, 1968 @ The Constitution (Nagaland) Scheduled Tribes Order, 1970
@ The Constitution (Sikkim) Scheduled Castes Order, 1978 @ The Constitution (Sikkim) Scheduled Tribes Order, 1978
@ The Constitution (Jammu & Kashmir) Scheduled Tribes Order, 1989
@ The Constitution (SC) Order (Amendment) Act, 1990 @ The Constitution (ST) Order (Amendment) Act, 1991
@ The Constitution (ST) Order (Second Amendment) Act, 1991
@ The Scheduled Castes and Scheduled Tribes Orders (Amendment) Act 2002 @ The Constitution (Scheduled Castes) Order (Amendment) Act, 2002
@ The Constitution (Scheduled Castes and Scheduled Tribes) Orders (Amendment) Act, 2002
@ The Constitution (Scheduled Castes) Orders (Second Amendment) Act, 2002

% 2. Applicable in the case of Scheduled Castes/Scheduled Tribes persons who have migrated from one State/Union Territory Administration to another.

This certificate is issued on the basis of the Scheduled Castes/Scheduled Tribes certificate issued to Shri/Shrimati*..... Father/Mother of Shri/Shrimati/Kumari ..... of village/town* ..... in District/Division*..... of the State/Union Territory*..... who belongs to the Caste/Tribe* which is recognised as a Scheduled Caste/Scheduled Tribe in the State/Union Territory* of ..... issued by the ..... dated .....

% 3. Shri/Shrimati/Kumari*..... and/or* his/her* family ordinarily resides in village/town*..... of..... District/Division* of the State/Union Territory* of.....

Signature.....

**Designation.....

(With Seal of Office)
State/Union Territory*

Place: .....

Date: .....

*Please delete the words which are not applicable.
@Please quote specific Presidential Order.
% Delete the paragraph which is not applicable.

NOTE: The term "ordinarily reside (s)" used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.

**List of authorities empowered to issue Scheduled Caste/Scheduled Tribe Certificate.

(i) District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/Deputy Collector/1st Class Stipendiary Magistrate/† Sub-Divisional Magistrate/Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner. †(not below of the rank of 1st Class Stipendiary Magistrate).
(ii) Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate.
(iii) Revenue Officers not below the rank of Tehsildar.
(iv) Sub Divisional Officer of the area where the candidate and/or his/her family normally resides.
(v) Administrator/Secretary to Administrator/Development Officer(Lakshadweep)

ANNEXURE X
OBC Caste Certificate (Format)

The form of certificate to be produced by OBC candidates applying for admission to UG/PG/Diploma Courses for Institutes under Government of India

This is to certify that Shri/Shrimati/Kumari*..... son/daughter* of Shri..... of village/town* .....in District/Division*..... of the State/Union Territory*..... belongs to the .....Community which is recognised as a backward class under:

@ Government of India, Ministry of Welfare Resolution No. 12011/68/93-BCC (C) dated 10th September, 1993 published in the Gazette of India Extraordinary Part-I, Section-1, No. 186 dated 13th September, 1993. @ Government of India, Ministry of Welfare Resolution No. 12011/9/94-BCC dated 19-10-94, published in the Gazette of India Extraordinary Part-I, Section-1, No. 163 dated 20-10-1994.

@ Government of India, Ministry of Welfare Resolution No. 12011/7/95-BCC dated 24-5-95, published in the Gazette of India Extraordinary Part-I, Section-1, No. 88 dated 25-5-1995.

@ Government of India, Ministry of Welfare Resolution No. 12011/96/94-BCC dated 9th March, 1996 published in the Gazette of India Extraordinary Part-I, Section-1, No. 60 dated 11th March, 1996.

@ Government of India, Ministry of Welfare Resolution No. 12011/44/96-BCC dated 6th December, 1996 published in the Gazette of India Extraordinary Part-I, Section-1, No. 210 dated 11th December, 1996.

@ Government of India, Ministry of Welfare Resolution No. 12011/99/94-BCC dated 11th December, 1997 published in the Gazette of India Extraordinary Part-I, Section-1, No. 236 dated 12th December, 1997.

@ Government of India, Ministry of Welfare Resolution No. 12011/13/97-BCC dated 3rd December, 1997 published in the Gazette of India Extraordinary Part-I, Section-1, No. 239 dated 17th December, 1997.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12011/68/98-BCC dated the 27th October, 1999 published in the Gazette of India Extraordinary Part-I, Section-1, No. 241 dated the 27th October, 1999.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12011/88/98-BCC dated 6th December, 1999 published in the Gazette of India Extraordinary Part-I, Section-1, No. 270 dated 6th December, 1999.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12011/36/99-BCC dated 4th April, 2000 published in the Gazette of India Extraordinary Part-I, Section-1, No. 71 dated 4th April, 2000.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12011/44/99-BCC dated the 21st September, 2000 published in the Gazette of India Extraordinary Part-I, Section-1, No. 210 dated the 21st September, 2000.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12015/9/2000-BCC dated 6th September, 2001 published in the Gazette of India Extraordinary Part-I, Section-1, No. 246 dated 6th September, 2001.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12011/1/2001-BCC dated 19th June, 2003 published in the Gazette of India Extraordinary Part-I, Section, 1 No. 151 dated 20th June, 2003.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12011/4/2002-BCC dated 13th January, 2004 published in the Gazette of India Extraordinary, Part-I Section-1, No. 9 dated 13th January, 2004.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12011/14/2004-BCC dated 12th March, 2007 published in the Gazette of India Extraordinary, Part-I, Section-1, No. 67 dated 12th March, 2007.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12015/2/2007-BCC dated 18th August, 2010 published in the Gazette of India Extraordinary, Part-I, Section-I, No. 232 dated 18th August, 2010.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12015/2/2007-BCC dated 11th October, 2010 published in the Gazette of India Extraordinary, Part-I, Section-I, No. 274 dated 12th October, 2010.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12015/15/2008-BCC dated 16th June, 2011 published in the Gazette of India Extraordinary, Part-I, Section-I, No. 123 dated 16th June, 2011.

@ Government of India, Ministry of Social Justice and Empowerment Resolution No. 12015/13/2010-BC- II dated 8th December, 2011 published in the Gazette of India Extraordinary, Part-I, Section-I, No. 257 dated 8th December, 2011.

Shri/Shrimati/Kumari*.....and/or* his/her* family ordinarily resides in village/town*..... of..... District/Division* of the State/ Union Territory* of..... 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 8-9-1993 O.M. No. 36033/3/2004-Estt. (Res.) dated 9th March, 2004 and further modified vide OM No. 36033/3/2004- Estt. (Res.) dated 14th October, 2008 or the latest notification of the Government of India.

.

Signature.....

**Designation.....

(With seal of Office)

State/Union Territory

Place.....
Date.....

*Please delete the words which are not applicable. @
Strike out whichever is not applicable.

NOTE: The term 'Ordinarily' used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.

****List of authorities empowered to issue OBC Certificate**

i. District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner / Additional Deputy Commissioner/Deputy Collector/1st Class Stipendiary Magistrate/† Sub- Divisional Magistrate/Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner.
†(not below of the rank of 1st Class Stipendiary Magistrate).
ii. Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate.
iii. Revenue Officers not below the rank of Tehsildar.
iv. Sub Divisional Officer of the area where the candidate and/or his/her family normally resides.
v. Administrator/Secretary to Administrator/Development Officer(Lakshadweep)

Note 1: Candidates claiming to belong to OBCs should note that the name of their Caste (including its spellings) as indicated in their certificates, should be exactly the same as published in the lists notified by the Central Government from time to time. A certificate containing any variation in the Caste name will not be accepted.

Note 2: The OBC claim of a candidate will be determined in relation to the State (or part of the State) to which his/her father originally belongs. A candidate who has migrated from one State (or part of the State) to another should, therefore, produce an OBC certificate which should have been issued to him/her based on his/her father's OBC certificate from the State to which he (father) originally belongs.

Note 3: No change in the community status already indicated by a candidate in his/her simplified application form for this examination will ordinarily be allowed by the Commission.

Declaration/Undertaking for OBC (Non-creamy Layer) Candidates only

I, _____son / daughter of Shri _____ resident of village/town/city _____ district _____ State _____ hereby declare that I belong to the_____community which is recognised as a backward class by the Government of India for the purpose of reservation in services as per orders contained in Department of Personnel and Training Office Memorandum No.36012/22/93- Estt. (SCT), dated 8/9/1993. It is also declared that I do not belong to persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the above referred Office Memorandum, dated 8/9/1993, which is modified vide Department of Personnel and Training Office Memorandum No.36033/3/2004 Estt.(Res.) dated 9/3/2004 and further modified vide OM No 36033/3/2004-Estt.(Res.) dated 14/10/2008 or the latest notification of the Government of India.

I also declare that the condition of status/annual income for 'Creamy Layer' of my parents is within prescribed limits as on financial year ending on March 31, 2019.

Signature of the Candidate

Place: Date:

Note: <u>Declaration / undertaking not signed by Candidate will be rejected .</u>

NOTE: "The admission is provisional and is subject to the community certificate being verified through the proper channels. If the verification reveals that the claim of the candidate to belong to Other Backward Classes or not to belong to the creamy layer is false, his/her admission will be terminated forthwith without assigning any further reasons and without prejudice to such further action as may be taken under the provisions of the Indian Penal Code for production of false certificates."

<u>Creamy Layer Definition</u>

OBC Creamy layer is defined comprehensively at **http://ncbc.nic.in/html/creamylayer.html**. All candidates for the OBC reserved seats should make sure that they do not satisfy any of the creamy layer criteria as listed in the website. Some general exclusion for quick reference (no way comprehensive) are as follows.

i. Any one of the parents holds a constitutional position in Govt. of India.
ii. Any one of the parents is a class I officer.
iii. Both the parents are class II officers.
iv. Any one of the parents is employed in an equivalent rank to class I officer or both parents equivalent to class II officer in a public sector, insurance companies, banks, universities or in other organizations.
v. Land holding on irrigated land is 85% or more of the statutory ceiling area
vi. Parents income is more than Rs. 8 Lakhs per year

ANNEXURE XI

Physical Disability Certificate (format)

Certificate No.

Photograph Of the Candidate Showing the Physical Disability

This is to certify that I have examined Mr./Ms..... Son/Daughter/Wife of Mr. ..... age..... Sex..... on.....

i. He/She is suffering from.....which comes under the sub category Blindness /Low vision/Speech & Hearing impairment/Orthopedic disorder/Learning disabilities. Dyslexia, Dyscalculla, Dysgraphica, Spastic.
ii. The percentage of disability is .....%.
iii. The disability is permanent in nature.
iv. This condition is progressive/non-progressive/likely to improve/not likely to improve. Reassessment of this case is not recommended/is recommended after a period of .....years ..... months.
v. The candidate is capable of carrying out all activities related to theory and practical work as applicable to DEPM/B.Tech (ESE)/M.Tech (EDT) course of NIELIT Aurangabad without any special concession and exemptions.
vi. This certificate is issued as per the provisions given in the Persons with Disability Act, 1995 and its amendment.
vii. This Certificate is issued for the purpose of his/her admission to of DEPM/B.Tech (ESE)/M.Tech (EDT) course of NIELIT Aurangabad in the Academic Year 2019-20 at NIELIT Centre, Aurangabad (MS).

Date:

Place:

Director OR Dean
/ Civil Surgeon

Seal of Institution/Hospital

ANNEXURE XII

Physical Fitness Certificate (format)
(To be issued by a Registered Medical Practitioner)

GENERAL EXPECTATIONS

Candidates should have good general physique. In particular,

a Chest measurement should not be less than 70 cm, with satisfactory limits of expansion and contraction.

b Vision should be normal. In case of defective vision, it should be corrected to 6/9 in both eyes or 6/6 in the better eye. Colour blind and uniocular persons are restricted from admission.

c Hearing should be normal. Defective hearing should be corrected.

d Heart and lungs should not have any abnormality and there should be no history of mental illness and epileptic fits.

Name of the candidate:				
Identification Mark (a mole, scar or birthmark), if any				
Major illness/operation, if any (specify nature of illness/operation)				
Height in cm:		Weight in kg:		Blood Group:
Past History	(a) Mental illness (b) Epileptic Fit			
Chest		(a) Inspiration in cm		(b) Expiration in cm
Hearing				
Vision with or without glasses:	Right Eye	Left Eye	Colour Blindness	Uniocular vision
Respiratory System				
Nervous System				
Heart		a) Sounds		b) Murmur
Abdomen Liver Spleen		Hernia		Hydrocele
Any other defects:				

Certificate of Medical Fitness (tick appropriate box below)

	The candidate fulfils the prescribed standard physical fitness, medical fitness and is fit for admission to DEPM/B.Tech (ESE)/M.Tech (EDT) course of NIELIT Aurangabad.
	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 with date	Registration number	Seal

ANNEXURE XIII

Sponsorship Certificate
(On letterhead of the Institute /Organization)

Outward No.: Date : _____

To,

The Dean Academics, NIELIT
Aurangabad
Dr B A M University Campus, Aurangabad
431 004

This is to certify that Mr. / Ms .....is serving in our Organization / Institution as.....since…….....

The Organization / Institution has no objection for the mentioned candidate to join the M.Tech(EDT) at NIELIT, Aurangabad and will permit the candidate to attend lectures as per the institute timetable.

The Organization / Institution will render all possible help to him / her in persuasion of studies.

He / She will be relieved for a requisite period, if selected for the course.

Signature of Competent Authority

Name: Designation:

Seal of Sponsoring Organization

ANNEXURE XIV

No Objection Certificate For M.Tech (EDT) Part Time Candidate (On letterhead of the Institute /Organization)

Outward No.: Date : _____

To,

The Dean Academics, NIELIT
Aurangabad
Dr B A M University Campus, Aurangabad
431 004

This is to certify that Mr. / Ms .....is serving in our Organization / Institution as.....since…….....

The Organization / Institution has no objection for the mentioned candidate to join the M.Tech (EDT) Part time Course at NIELIT, Aurangabad.

The Organization / Institution will render all possible help to him / her in persuasion of studies.

He/ She will be relieved for a requisite period, if selected for the course.

His/ Her working place is within 60 km distance from the institute. If candidate resigns or transferred beyond 60 km distance, the intimation in this regard will be given to your office in writing within a week.

Signature of Competent Authority

Name : _____
Designation: _____

Seal of Sponsoring Organization

ANNEXURE-XV

CAD/CAM LAB

Objectives

CAD/CAM Lab is equipped with the latest Machines of both for machining and additive manufacturing, also has flagship CAD/CAM software packages and high end CAD/CAM workstations to meet the present industrial requirements.

The lab is aimed at giving exposure to and enhancing the knowledge and skills of engineers involved in the operation use of CNC machines, CAD packages and for those who want to provide training to others in this area. It gives exposure and on hand experience in the field of CAD/CAM and CNC machines, 3D printing, reverse engineering, Computer Integrated Manufacturing and Industrial Robots. Some of the facilities available as follows:

Main Equipment's Available

1. CNC Lathe Machine

Lathes are machines that cut workpieces while they are rotated. CNC lathes are able to make fast, precision cuts, generally using indexable tools and drills with Automatic Tool Changer. It has Graphic simulation for product proving.

2. CNC Milling Centre

CNC mills use computer controls that are able to translate programs consisting of alpha-numeric codes to move the spindle (or workpiece) to various locations and depths to cut materials. It has Automatics tool turret with 6 tools and Graphic simulation for product proving.

3. 3D Printer

It prints professional-quality models at your desk. It's as simple to use as a document printer, yet powered by FDM Technology to build spot-on, functional concept models and rapid prototypes in ABS plus thermoplastic. Mojo 3D Print Pack equipped with everything designers, engineers or educators need to start 3D printing:

4. 3D Scanner

A metrological 3D solution (reverse engineering), perfect for capturing 3D objects for CAD applications and captured images will be transformed to 3D Computer Aided Design (CAD) models that helps in improving the designs without having CAD drawings for the existing products.

5. CAD/CAM Software

- Catia V5
- Creo (Pro/Engineer)
- MasterCAM
- AutoCAD

6. Some of the Practical Project Experiments:

1. Creating 2D and 3D Models using CAD
2. CNC Part programming through CAD/CAM
3. Machining of complex parts using CNC Machines
4. 3D printing the products of created models
5. Scanning the parts to obtain 3D CAD models
6. Surface Machining and Product proving

ANNEXURE-XVI

CONSUMER ELECTRONICS LAB

Objective:

Consumer Electronics Lab has been established to provide hands on skills to the students that employers are seeking in Electronics Hardware & Productions as per Industrial requirements and standards. In various verticals of Consumer Electronics aspiring Maintenance Technician, Supervisor & Design Assistants are being skilled**.**

Main Equipments available:

1. **Rigol DS1104Z-S 100 MHz Digital Oscilloscope:**

The DS1000Z 4 channel oscilloscopes come in 70 or 100 MHz versions with a 7 inch display and Rigol's UltraVision technology as well as a host of options.

2. **EasyScope - Scientech 801C:**

EasyScope - Scientech 801C is a New Trend. The Vertical Bandwidth is more than adequate for all our needs and we can easily view signals upto 40 MHz.

3. **NI ELVIS Engineering Lab Workstation:**

The NI Educational Laboratory Virtual Instrumentation Suite (NI ELVIS) II is a modular engineering educational laboratory solution developed specifically for academia.

4. **Strain Gauge Trainer**

Use of ***strain gauge*** for such a purpose can be studied using this ***trainer***. This ***Load cell trainer*** is designed to measure the pressure of the cylinder by using a diaphragm as a primary transducer and ***strain gauge*** as a secondary transducer.

5. **LCD Digital TV Trainer**

This trainer has been designed with a view to provide theoretical and practical knowledge of a general LCD Digital TV (DTV) on SINGLE P.C.B.

6. **DTH Trainer Kit**

DTH trainer has been designed with a view to provide theoretical and practical knowledge of a Direct to Home Trainer (DTH) on Single P.C.B. Signals can be monitored and demonstrated at various testing point.

7. **High-End Digital storage Oscilloscope (DSO)**

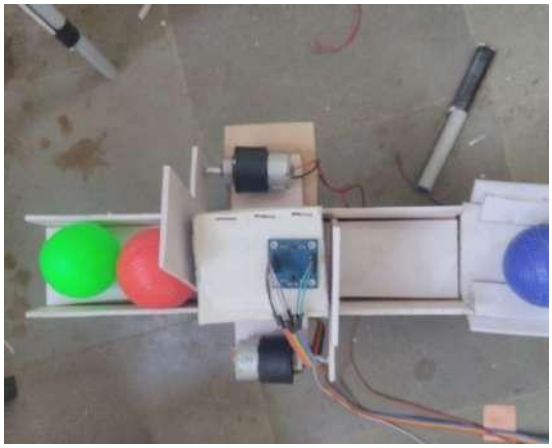
ANNEXURE XVI
CONSUMER ELECTRONICS LAB

High-End Digital storage Oscilloscope (DSO) can ensure the proper functioning of the device or design flaws allowing for a more intuitive visual diagnosis of the source of unexpected voltage.

It allows probing of individual components and connections within electronic devices, acting as a simple signal tracer to determine the specific malfunctioning part besides providing alert regarding replacement need or fine tuning of electronic component.

Some of the Practical / Project Experiments:

1. Testing of Passive and Active components -
2. Characteristics diode: Transistor
3. Rectifying circuits
4. Filter circuits
5. Oscillator: Design of different type of biasing and their comparison
6. Study of Amplifiers
7. Verification of Thevenins, theorem for a two port network
8. Verification of Norton's theorem for a two port network
9. Maximum Power Transfer theorem
10. Series resonance - BW and Q factor
11. Parallel resonance –B.W. and Q- factor
12. To learn LCD Digital TV working and repairing using Trainer kit
13. To learn DTH working and repairing using Trainer Kit
14. To learn Dvd player working and repairing using Trainer Kit



PTH Mechanical assembly

Electroless plating is "plating without the use of electrical energy" a chemical reduction process which depends upon the catalytic reduction process of metal ions in an aqueous solution (containing a chemical reducing agent) and the subsequent deposition of the metal. Typical choice for irregularly shaped, highly detailed part shapes because of completely uniform deposit thickness and high precision. By using this process and principle, PTH process has been completed shapes because of completely uniform deposit thickness and high precision. By using this process and principle, PTH process has been completed.

ANNEXURE-XVII

INDUSTRIAL AUTOMATION LAB

Objectives

Recent trend of merging control systems associated with both factory and process automation demands knowledge from diverse fields. The purpose of the lab work is to study automation of time critical systems that demand precise real-time readings and control.

Main Equipment's Available

1. NI 9217 4-Ch PT 100 RTD 24-bit, 100S/s/ch

The NI-9217 is compatible with 3- and 4-wire RTD measurements, and it automatically detects the type of RTD (3- or 4-wire) connected to the channel and configures each channel for the appropriate mode

2. NI PCIe-6321, X series multifunction DAQ (16 AI, 24 DIO, and 2 AO), 250kS/s single channel sampling rate:

The PCIe-6321 offers analog I/O, digital I/O, and four 32-bit counters/timers for PWM, encoder, frequency, event counting, and more.

3. NI USB-6211 Bus-powered M series Multifunction DAQ device:

It offers analog I/O, digital input, digital output, and two 32-bit counters. The device provides an onboard amplifier designed for fast settling times at high scanning rates.

4. NI USB-9211A, 4 Ch., 24-Bit Thermocouple input module:

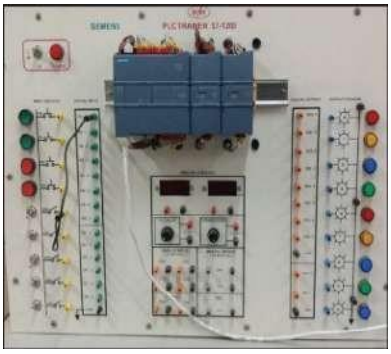
Plug-and-play connectivity via USB. Compatibility with J, K, R, S, T, N, E, and B thermocouple types

Small, portable device (12.1 x 8.6 x 2.5 cm)

5. **CompactRIO:**

CompactRIO (or cRIO) is a real-time embedded industrial controller made by National Instruments for industrial control systems. The **CompactRIO** is a combination of a real-time controller, reconfigurable IO Modules (**RIO**), FPGA module and an Ethernet expansion chassis.

6. **Programmable Logic Controller**

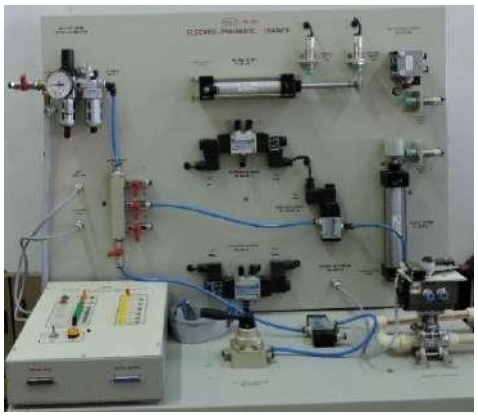


ANNEXURE XVII

INDUSTRIAL AUTOMATION LAB

PLC is used for control applications as in special purpose machines for milling, drilling, packaging etc. PLC senses inputs from field (using its input cards), for example from a level sensor, a proximity switch, pushbutton etc. PLC's have been programmed in a language called as ladder language.

7. Electro-Pneumatic Trainer Kit



Electro-pneumatic control consists of electrical control systems and operating pneumatic power systems. In this solenoid valves are used as interface between the electrical and pneumatic systems. Devices like limit switches and proximity sensors are used as feedback elements.

8. Level Measurement

Capacitive Level Sensors also referred as Radio Frequency (RF) level sensors, are used for measuring process level at a specific point, multiple points or continuously over the entire vessel height. Level change results in a variation of capacitance value around the probe, depending upon the degree of immersion.

Some of the practical project experiment:

1. Optimized Operation of Induction Generator for Small-scale Wind Power.
2. High Precision Stepper Motor Controller Implementation on FPGA with GUI on LabVIEW.
3. Real Time Data Monitoring of PV Solar Cell Using LabVIEW and DAQ.
4. Forest Fire Detection Using Optimized Solar-Power Zigbee Network
5. Optical Character Recognition Based Speech Synthesis System Using LabVIEW
6. LabVIEW and Web-Server Based Human Body Monitoring System

ANNEXURE XVIII

INTERNET of THINGS

Objectives

The lab is equipped with popular boards in addition to the facilities in embedded Lab. The equipment in the lab will be used mainly by M. Tech and B. Tech students as part of the academic curriculum and to develop projects to create new smart solutions.

Main Equipment's Available

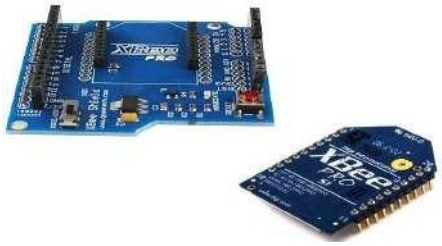
1. Raspberry Pi3 B Board

Smart card size PC board with CPU of 4× ARM Cortex-A53, 1.2GHz, 10/100 Ethernet 802.11n wireless, Bluetooth, 40-pin GPIO header, 4× USB 2.0, Ethernet, Camera Serial Interface (CSI), Display Serial Interface (DSI)

2. Arduino Boards

Very cheap IoT platform with ATmega328P cpu, 6 analog inputs, 14 digital I/O pins include 6 PWM outputs.

3. Xbee modules with explorer and shield



Low power, low cost modules for wireless mess networks suitable for home automation, environment monitoring etc.

4. SIM900 GPRS/GSM module

V[illegible] board integrating AMR926EJ-S core, Quad - band GSM/GPRS module suitable for M2M solutions.

5. LoRaWAN module

Module provides Long range - wireless technology solution, low power and high capacity nodes.

6. Ethernet Shield

The Arduino Ethernet Shield allows an Arduino Board to connect to the internet. It is based on the (Wiznet W5500 Ethernet chip).

Practical Project Experiments

1. Setting up of Raspberry Pi and connect to a network
2. Familiarization with GPIO pins and control hardware through GPIO pins.
3. Speed Control of motors using PWM with python programming.
4. Use sensors to measure temperature, humidity, light and distance.
5. Web based hardware control
6. Connect IOT devices through cloud using IoT protocol such as MQTT.
7. Controlling IoT devices using Arduino.
8. Create Wireless network of sensors using Zigbee.

ANNEXURE XIX

NETWORK and SERVER FACILITY

Objective

All the classrooms and lab are well connected with central switching center and have 100Mbps NKN Link. For academic and research purpose there is also a facility of a mini Data center having CISCO UCS 5108 Chassis with 4 Numbers of B220 blade servers. For faulty tolerance and to decrease downtime there are redundant Fabric Interconnect in clustered fashion.

Main Equipment's Available

1. CISCO Layer 3 Central Switch 4507.

This CISCO L3 main switch deployed with two sup Engines, 2 Line card for 10G fiber optic ports and 2 Line card for 48 PoE Gigabit Ethernet copper ports with dual 6000w power supply. This form main 10G backbone on fiber optic connectivity for NIELIT Aurangabad.

2. CISCO Catalyst 2960X-48TDL.

Every lab is deployed with CISCO Layer2 switch 48 Gigabit Ethernet port and 10G fiber optic port for uplink to main central L3 Switch.

3. UCS 5108 Chassis with 4 blade servers

Server is CISCO 5108 with 4 B220 blade server each having 2 Xeon processor and 192 GB RAM. Chassis is connected using Fabric Interconnect to 40 GB storage. The hardware is controlled is CISCO UCS and VMware software.

4. Storage IBM v3700

IBM storage is used to provide space to the VMs created on servers. storage is configured and working on iSCSI connectivity with server Chassis.

5. CISCO router ISR 2911 and ISR2821

NIELIT Aurangabad is acting as CISCO network Academy for CCNA routing and Switching course. The lab is equipped with 3 Nos. of 2911 CISCO routers to understand working and configure various routing protocols.

6. CISCO Catalyst switches 2960:

There are 3 Nos. of CISCO Catalyst 2960 switches for CCNA practical. This is useful hands on practice to configure and troubleshoot various VLAN, VTP, STP, trunking protocols.

ANNEXURE XIX

NETWORK and SERVER FACILITY

7. Programmable Logic Controller

Cisco HWIC 2T serial port module is used to configure various WAN protocols like HDLC, PPP, Frame-relay, etc.

8. Connection to NKN link

Whole office is using 100Mbps NKN link for public connectivity using Juniper route MX-8 and for security using Cyberoam 300iNG as firewall.

9. System Administration using RHEL Linux and Windows Server 2008

There are 3 Nos. of HP Proliant DL160 Rack mount servers. One of those is deployed as Public web service where other is used as hardware accreditation portal is hosted.

One server is being used as intranet server where various services are running like DNS, DHCP, Web, FTP, Telnet, etc. Authentication server is configured in Windows environment as Active Directory Server.

Some of Practical Project Experiments

Students can practice and build their own network scenario and configure various protocols using the lab. Some of the practical experiment covered are:

1. Providing seamless, strong backbone connectivity to all labs.
2. Usage of High end Hardware and Software tools to deploy the infrastructure.
3. Creating of network scenario and configuration of routing protocols like Static routes, Dynamic routing protocols like RIP, OSPF, EIGRP and BGP, etc.
4. Experiments in the domain of networking particularly in routing and switching.
5. Students learn, practice and prepare for Industry Certification.
6. Project Experiments to get certified as CCNA.

ANNEXURE XX

OPTO ELECTRONICS LAB

1. EXPO MAKE AX-110 ALL FIBER OTDR:

The OTDR is having the facility to measure at 830/1300/1550 nm with accuracy of 24/37/35 dB. It can take MM 50/125 7 62.5/125 um and SM9/125 um fiber

2. Connecterisation Kit

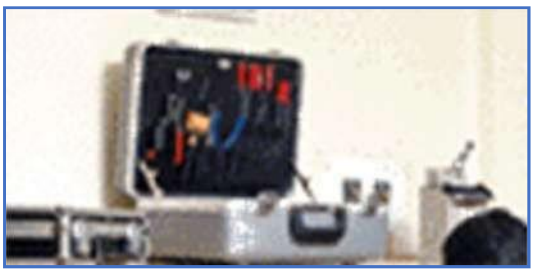
Kit containing number of tools to be used for preparation of optical Fiber ends and connectors

3. Splicing Machine:

Sumitimo Electric Make Core Alignment Fusion Splicing Machine

4. Transmitter/ Receiver (Model 310 And Model400):

BCP make high speed transmitter and receiver, which transmit at the rate of 1.2 Gbits. Model works at 850 and 1300nm and separate receiver are available with Si and Ge detectors



5. Mixed Domain Cro 30 Mhz

Mixed Domain CRO at 30 MHz, which can act as 8 bit logic Analyzer also

Some of the Practical Projects Experiment

1. Handling and preparation of Optical Fibres.
2. Study and setting up an Optical fibre link
3. Study and Setting of an Digital Optical Link
4. Power Meter and Optical Line tester
5. Measurement of numerical aperture (NA) of an Optical fibre
6. Study of Losses in Optical fibres.
7. Study and setting up an Analog optical links
8. Voice and Data Transmission on Optical Fibres
9. Study of High speed Optical Links
10. Study of Network Analyser as Component Analyser.
11. Study of OTDR
12. Study of Fusion Splicing Machine
13. Preparation of Optical fibre connectors
14. Study of Intensity Based Sensors

ANNEXURE XXI

POWER ELECTRONICS LAB

Objectives

The lab aims at imparting practical knowledge of Power Electronics to the students at various levels i.e. DEPM, B.Tech and M.Tech. It is accordingly well equipped with equipment's and trainer kits to teach practical from fundamentals to high level concepts to the students.

Main Equipment's Available

1. Triac AC Phase Control

All Components are terminated with a connector for the study of Students. One potentiometer is provided to vary the firing angle of SCR. Another potentiometer is provided to vary the firing angle of TRIAC.

2. Single Phase Converter

Power circuit with a DC shunt motor 2SCRs/4SCRs and 2 power diodes. A circuit breaker, a bridge rectifier for field supply.1 phase converter firing circuit. SCR converter with open/close loop with motor rpm indication, mech. Loading load regulation = 1% with tacho F/B

3. SCR Lamp Flasher

Scientech PE40 SCR Lamp Flasher is compact, ready to use experiment board for lamp flasher using SCR circuit. This board is useful for students to study and understand operation of SCR controlled lamp flasher circuit and measurement of frequency, time, and voltage.

Some of the Practical project experiments.

1. Triac based speed control of small single Phase Induction Motor.
2. Electronic Heater Temperature control.
3. Operation of SCR flasher.
4. Lamp brightness control using single Phase SCR Converter.

4. DC Chopper

DC Chopper Using SCR Trainer is very much useful for the students, to understand the principle of working and operation of the chopper. Output voltage can be controlled electronically by variation of Duty Cycle.

5. DC to AC Inverter

Power Electronic Training Board has been designed specifically for the study of working of inverter. A Battery 12V 80AH (Any car battery) is required to operate this apparatus. Different test points have been provided to check wave shape and amplitude of pulses how DC supply is changed to AC supply.

6. SCR Triggering Trainer

SCR trigger trainer system. UJT triggering circuit24Volt 10W Lamp load24 Volt ac supply for Circuit inputs LED indication for supply R-trigger circuit with phase angle control 5 degrees to 90 degrees R-trigger circuit half wave with phase angle control up to 180 degree maximum. UJT is an excellent triggering device which provides narrow gate pulses. Control is very accurate and from 0 Deg. to 180 Degree.

Practical project experiments.

1. DC Chopper based speed control of small DC Motor.
2. Lamp brightness control using inverter.
3. Inverter driven small induction motor.

ANNEXURE XXII
PRINTED CIRCUIT BOARD LAB

Objectives

Printed Circuit Board laboratory caters to the need of Electronic Designer. It brings out the importance of quality and reliability to Electronic Manufacturing Industries. The Printed Circuit Board are designed by considering DFM (Design for Manufacturing)/ DFA(Design for Assembly) and DFT (Design for Testing). Students are getting real world experience in PCB design and Manufacturing processes involved in Electronic Manufacturing and assembly Techniques.

Main Equipment's available

1. Dip Coating Machine:

Dip Coating Machine is used to coat photosensitive emulsion on Laminate surface to transfer the photographic image/Photo tool. By applying the photo resist on the metal surface, the surface becomes photo sensitive.

2. Reflow Oven

Reflow soldering is a process in which a solder paste (a sticky mixture of powdered solder and flux) is used to temporarily attach one or several electrical components to their contact pads, after which the entire assembly is subjected to controlled heat, which melts the solder, permanently connecting the joint.

3. U.V.Exposure Unit:

This Unit is used to expose photo tool /Film master /Image on photosensitive coated board. By exposing with proper wavelength, exposing time, light intensity, Temperature, type of photo tool. The light source affects the degree of polymerization of photopolymer.

4. SMD Components Pick And Place

SMT (surface mount technology) component placement systems, commonly called pick- and-place machines or P&Ps, are manual assisted or robotic machines which are used to place surface-mount devices (SMDs) onto a printed circuit board (PCB).

5. Stencil Printer

Stencil printer is use to deposit solder paste on the Printed Circuit Boards (PCB's). The laser etched screen allows to dispense a set amount of solder paste required for soldering the component.

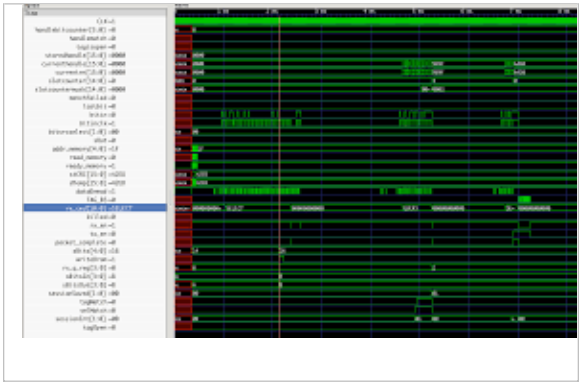
ANNEXUREXXIII
VLSI LAB

Objective

This Laboratory is equipped with Cutting- Edge Technology EDA Tools such as Synopsys for IC design and validation, Xilinx ISE for IP-core design and validation, and advanced equipment's which support for conducting the UG/PG labs and also research activities in M.S and PhD level.

Main Equipment's Available

1. Synopsys Tool

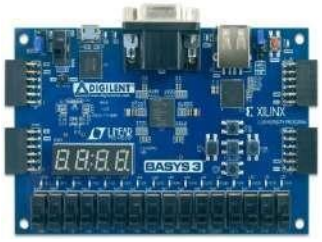


Synopsys is one of the world's most advanced tools for silicon chip design, verification, IP integration, and application security testing.

2. Altera DE2-115 Development and Education Board

DE2-115 offers an optimal balance of low cost, low power and a rich supply of logic, memory and DSP capabilities

3. Basys-3 FPGA Board



Board has complete ready-to-use hardware, a large collection of on-board I/O devices, all required FPGA support circuits, and development tools.

4. Analog discovery 2 with parts kit

Digilent Analog Discovery 2 is a USB oscilloscope and multi-function instrument that allows users to measure, visualize, generate, record, and control mixed-signal circuits of all kinds.

Some of the Practical Project Experiments:

Digital circuits designing in Verilog and analog circuit design

Xilinx: Simulation and Synthesis

Synopsys:

1. Simulation
2. Netlist, Area, Power, Timing Reports Generation
3. Layout Generation
4. Post Layout Simulation and Analysis

ANNEXURE XXIV
EMBEDDED SYSTEM LAB

Objectives

Studying a range of topics of immediate relevance to industry makes a student suitable for working in industries engaged in Embedded System and Electronic Product development. The purpose of this lab is to provide an excellent foundation for those wishing to engage in application research in this rapidly developing area.

Main Equipment's available

1. High-end multipurpose embedded Development board

ARM 7 DEVELOPMENT BOARD

This board is very useful for students to learn ARM7, AVR, 8051 and its interfacing with Micro SD Card interface, Graphical LCD, 8 LEDs, On board, LDR on board

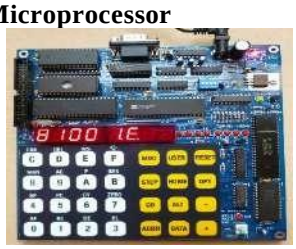
2. ARM processor

An ARM processor is one of a family of CPUs based on the RISC (reduced instruction set computer) architecture developed by Advanced RISC Machines(ARM). ARM makes 32-bit and 64- bit RISC multi-core processors

3. AVR

Learn how to interface any sensor or input output device with ATmega32 microcontroller. Here we teach the students all input output interfacing.

4. 8085 Microprocessor



The PS-8085 board which demonstrates the capabilities of the 40-pin 8085(various families). All programs are provided to demonstrate the unique features of supported device.

5. 8051 Microcontroller

The Intel MCS-52 (commonly termed as 8085) is an internally Harvard architecture, complex instruction set, and single chip microcontroller series developed by Intel in 1980 for use in embedded systems.

Some Practical Project Experiments

1) Familiarization with ARM board, RS- 232C interface with PC
2) Traffic Light Controller
3) SPI interface, ADC interfacing
4) Dining Philosophers Problem implementation in ARM processor
5) RMS Scheduler using Free RTOS
6) Program to demonstrate I2C Interface on IDE environment
7) Study and observation of Position control of Servo Motor.

Some Innovative Project Works

1) An Android Controlled Mini Rover for real time surveillance using Raspberry Pi 3
2) Smart Blind Stick

ANNEXURE XXV

OPEN SOURCE COMPUTING LAB

Objectives

Full-fledged three labs that are exclusively used for Open Source Software Development and Training purposes. All the labs are equipped with interconnected 10Gbps SFP+ port single mode fiber optics and has all PCs have at-least i7 processor, 8 GB RAM, 100Mbps NKN Link etc.

Main Software's available

1. Operating System

The students have facilities to work and explore multiple Operating Systems viz **Ubuntu, Red Hat Linux, Fedora** and **Microsoft Windows - 7,8,10**

2. RDBMS/ODBMS Software

Students can learn intricacies of Database Administration using both RDBMS and Object-Oriented DBMSs such as **MySQL, Oracle 11g** and **IBM DB2**.

3. Application Software

Students can master Web Application Development in all platforms of their choice such as Microsoft **DotNet, Java, LAMP**.

3. Programming Languages

The Centre has licensed software to learn latest programming languages for development purposes such as SQL, Assembly, Python, Perl, PHP, Java, C/C++, C# and VB.Net

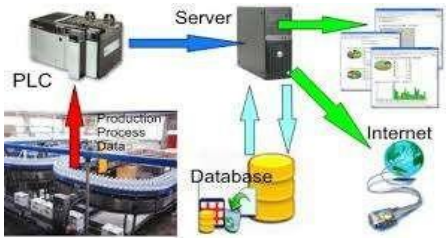
4. Mobile Application Development

Students are taught intricacies of professional Mobile Application Development on Android and PhoneGap platforms.

Students can use latest tools for this purpose like Android Studio, AVD Manager, and Android Debugging Bridge etc.

5. Software for Scientific Use

Students can do simulation using MatLab and will do hands-on practical's on Industrial Grade Software such as AutoCAD, PLC & SCADA, LabView, Xilie etc



Some Projects Developed by Students

1. 3-Tier Secured Web Application for Electricity Boards
2. Recruitment and Assessment Software
3. Digital marketing Mobile Application
4. Software for handling activities of Smart City Applications like Precision Agriculture, healthcare, Vehicular Traffic Management, Water Management, Home Automation etc.
5. Digital Image processing Software
6. Electrical Battery management System
7. Industrial Automation Software
8. Fault identification of Optical Fibre cable
9. Remote Control of Robots for Defence Application
10. Design of Industrial Grade devices using CAD/CAM, 3D Printing and other Softwares

ANNEXURE XXVI

LIBRARY INFRASTRUCTURE

Rich library caters to the information needs of the students, researchers and scientists with its well managed information resources housed in two floors spread over an area of 331 Sq.Mtr.

The library has a huge collection of books, reference books, periodicals, and electronic resources. The mission to facilitate creation of new knowledge through acquisition, organization and dissemination of knowledge resources.

Major Library Resources

1. MeitY Library Consortium

The Centre is part of MeitY Library Consortium and has access to an inventory of latest e-Books, Research Papers and e- Journals including **IEEEXPLORE among others**.

2. National Knowledge Network

The purpose of NKN goes to the very core of the country's quest for building quality institutions.

The Centre is part of NKN and can seamlessly connect at gigabit speed and enables students, scientists, researchers to work together for accessing information to stimulate research and create next generation applications & services in critical and emerging areas.

3. National Digital Library

The Centre is also part of National Digital library of MHRD, India. The students and staff can access and download 6.5 million books in vernacular languages of multiple national and international digital libraries.

4. Rich Collection of Books

The library possesses rich collection of more than 14000 latest books covering subjects such as Electronics, Computer Science, Microcontrollers, Embedded systems, Internet of things, Bioinformatics, Information Security, Precision-Agriculture, Bio technology, Control Engineering, Instrumentation, Networking, Communication, Robotics.

5. Journals, Theses and Periodicals More than 20 National Journals/Magazines of repute are being subscribed by the library.

6. Magazines and Newspapers

Library is subscribing to all leading newspapers in English, Hindi and Marathi.

Facilities to Students

1. Book Bank

Six books are given to each student per Semester.

2. Book Request

Students can give recommendation for procurement of any Books, Journals and Magazines (Foreign as well as National). The requests are examined and procurement of the same is done.

3. Open Access

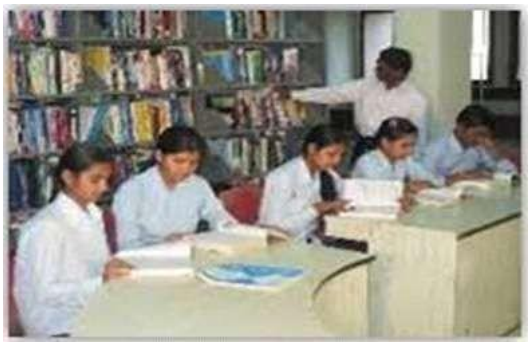
Students have unrestricted access to all shelf of books and Journals.

4. Facility for Downloading

There is adequate seating facility besides stack of computers for downloading research papers, e-Journals, e-Books and other reading material.

5. Miscellaneous Services

Reprographic service, Circulation, Curriculum Support for training programs and other User awareness services.




RAVS
HYTECH

Hostel and Canteen

Sports And Cultural Activities

Model Career Centre

रा.इ.सू.प्रौ.सं
NIELIT

राष्ट्रीय इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी संस्थान, औरंगाबाद (महाराष्ट्र)
इलेक्ट्रॉनिकी सूचना और प्रौद्योगिकी मंत्रालय
NATIONAL INSTITUTE OF ELECTRONICS AND INFORMATION TECHNOLOGY, AURANGABAD
(Ministry of Electronics and Information Technology, Govt. of India)

ADDRESS:
NIELIT AURANGABAD,
Dr. B.A.M. University Campus,
Aurangabad- 431004 (MS)

Ph.: 0240 2982021, 2982022,
Website: nielit.gov.in/aurangabad

AUR.NIELIT
@AUR_NIELIT

For Any Query Please Contact:

M. Tech.:
Saurabh Bansod - 9834081669

B. Tech.:
Korra Lakshman - 7038169142

Diploma :
Deepak Raje - 9960256680