

INFORMATION BROUCHER FOR AICTE APPROVED COURSES
Academic Year 2020-2021



High Level of Excellence



Well Equipped Library & Labs



Industrial R&D Infrastructure



Students Project



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.

(Ravi Shankar Prasad)

*Message from Hon'ble Minister of State,
HRD, Communication, Electronics & IT*



The Ministry of Electronics & IT (MeitY) & its organizations, through various programmes are working towards expansion of Hon'ble PM's vision of Digital India. NIELIT, being an autonomous organization under MeitY, imparts qualitative capacity building programmes for development of employable human resource, required in line with Govt. of India's initiatives for Digital India.

I am also happy with the initiatives taken by NIELIT in other areas such as in 'Skill India' and 'Make in India' programmes of Govt. of India, that are potentially setting up the stage for scaling up Indian economy to a 'Trillion Dollar economy'. It is envisaged that digital economy would create millions of jobs in Electronics, Communication and Information Technology.

The efforts being put-in by NIELIT towards development of qualified human resource in emerging/future technologies in the area of Artificial Intelligence, Cloud Computing & Virtualization, Internet of Things (IoT), Cyber Laws/ Security, Big Data Analytics, Robotics, 3D Printing, Mobile Applications Development (Android), ESDM and related verticals, are praiseworthy. Here, I shall mention that NIELIT, with its pan India presence, has a key role to play in developing human resources in the area of Cyber-Security Auditors also.

I am convinced that NIELIT will continue to foster existing capabilities by adopting multi-pronged approach of skilling and achieve new milestones in attaining the vision of Digital India leading towards greater employability. I wish NIELIT for its all-round growth and greater success in its future endeavors

(Sanjay Shamrao Dhotre)

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.

(Ajay Prakash Sawhney)

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.

(Jaideep Kumar Mishra)



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 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.

(Sanjeev Kumar Gupta)

Governing Council of NIELIT

			
Shri. Ravi Shankar Prasad Chairperson Hon'ble Minister of Electronics & IT and Law & Justice	Shri Dhotre Sanjay Shamrao Deputy Chairperson Hon'ble MoS Electronics & IT	Shri Ajay Prakash Sawhney Executive Vice Chairperson Secretary, Ministry of Electronics and IT	Shri Amit Khare Member Secretary, Department of higher Education Ministry of Human Resources Development
			
Prof. Dharendra Pal Singh Member Chairman, UGC	Prof. Anil D. Sahasrabudhe Member Chairman, AICTE	Ms. Jyoti Arora Member Additional Secretary & Financial Adviser, MEITY	Dr. Jaideep Kumar Mishra Member Joint Secretary & Group-Cordinator
			
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) J W Bakal 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
			
Dr. Jaideep Kumar Mishra Member Secretary, Director General, NIELIT and JS, MeitY			

CONTENTS

Sl. No.	Details	Page No.
	SAY NO TO RAGGING	
1.0	NIELIT Aurangabad – An Introduction	1-5
2.0	Formal Courses	6-7
3.0	DEPM	8-14
4.0	B. Tech(Electronics Engineering)	15-20
5.0	M. Tech(EDT) Full Time	21-25
6.0	M. Tech(EDT) Part time	26-29
7.0	Partial List of Teaching Staff	30-32
8.0	Placement Assistance	33
8.0	Partial List of Alumni	34-36
10.0	Refund of fees in the event of cancellation of admission	37

Annexure Details

Annexure No.	Purpose	Page No.
Annexure-I	Tentative Academic Calendar	38
Annexure-II	Assessment Computation of SGPA & CGPA	39
Annexure-III	Application form for 3 Year's DEPM (Diploma in Electronics Production and Maintenance)	40
Annexure-IV	Application form for Lateral Entry Admission (Direct 2nd Year) of 3 Year's DEPM (Diploma in Electronics Production and Maintenance)	41
Annexure-V(A)	Application Form for Eligibility cum Admission to DIPLOMA / B. Tech/M. Tech Full Time for Foreign Nationals	42-43
Annexure-V(B)	Declaration and Undertaking for Foreign Nationals	44
Annexure-V(C)	Declaration and Undertaking	45
Annexure-VI	Application form for Lateral Entry Admission (Direct 2nd Year) of 4 Year's B. Tech (Electronics System Engineering)	46
Annexure-VII	Application form for 2 Year's M. Tech (Electronics Design Technology) Full Time Course	47-48
Annexure-VIII	Application form for 3 Year's M. Tech (Electronics Design Technology) Part Time Course Admission	49-50
Annexure-IX	SC/ST Caste Certificate (Format)	51-52
Annexure X	OBC Caste Certificate (Format)	53-55
Annexure XI	Physical Disability Certificate (format)	56
Annexure XII	Physical Fitness Certificate (format)	57
Annexure XIII	Sponsorship Certificate	58
Annexure XIV	No Objection Certificate for M. Tech (EDT) Part Time Candidate	59
Annexure-XV	CAD/CAM LAB	60
Annexure XVI	Consumer Electronics Lab	61-62
Annexure-XVII	Industrial Automation Lab	63-64
Annexure XVIII	Internet of Things	65
Annexure XIX	Network and Server Facility	66-67
Annexure XX	Opto-Electronics Lab	68
Annexure XXI	Power Electronics Lab	69
Annexure XXII	Printed Circuit Board Lab	70-71
Annexure XXIII	VLSI Lab	72
Annexure XXIV	Embedded System Lab	73
Annexure XXV	Open Source Computing	74
Annexure XXVI	AR- VR Lab	75
Annexure XXVII	Library Infrastructure	76
Annexure XXVIII	Multimedia Lab	78
Annexure XXIX	Additive Manufacturing / 3D Printing La	79

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 or 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
6. **Industrial Consultancy** in IECT.
7. 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.



Industry Interaction:

The Institute also provides 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.

1.4 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.

1.5 Some of the laboratories

- i. CAD/CAM (*refer AnnexureXIV*)
- ii. Consumer Electronics (*refer AnnexureXV*)
- iii. Industrial Automation (*refer AnnexureXVI*)
- iv. Internet of Things (*refer AnnexureXVII*)
- v. Network & Server Facilities (*refer AnnexureXVIII*)
- vi. Opto-Electronics (*refer AnnexureXIX*)
- vii. Power Electronics (*refer AnnexureXX*)
- viii. Printed Circuit Board (*refer AnnexureXXI*)
- ix. VLSI Design (*refer AnnexureXXII*)
- x. Embedded System Design (*refer AnnexureXXIII*)
- xi. Open Source Computing (*refer AnnexureXXIV*)
- xii. AR/VR Lab (*refer AnnexureXXV*)
- xiii. Library Infrastructure (*refer AnnexureXXVI*)
- xiv. Multimedia Lab (*refer AnnexureXXVII*)
- xv. Additive Manufacturing/3D Printing Lab (*refer AnnexureXXVIII*)

1.6 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 online access to IEEE Journals and National Digital Library of India along with a rich print 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

1.7 Student Life

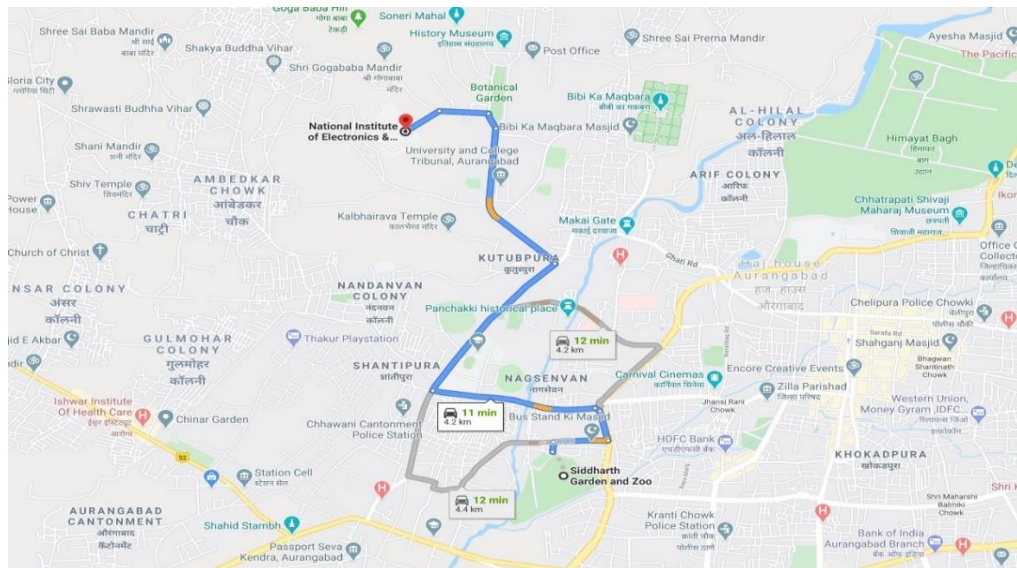
The course work is project based and students get ample time to work on innovation. There are various sports and cultural clubs that are being managed by the student community on campus which serve for various extra-curricular activities:

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





1.8Location



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 is offering 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

Sr. No.	Last date	DEPM (Direct)/ DEPM (Lateral Entry)	B.Tech (Lateral Entry)	M.Tech (EDT) Full-time	M.Tech (EDT) Part-time
1.	Downloading Application form from website	14-07-2020	14-07-2020	Please visit website www.ccmt.nic.in	14-07-2020
2.	Receipt of Application Form along with Fees	14-07-2020	14-07-020		14-07-2020
3.	Written Test (tentative)	17-07-2020	16-07-2020		16-07-2020
4.	Declaration of list of selected & waitlisted Candidates	20-07-2020	20-07-2020		20-07-2020
5.	Document Verification and Admission to the course	23-07-2020 to 24-07-2020	23-07-2020 to 24-07-2020		23-07-2020 to 24-07-2020
6.	Waitlist student Admission	27-07-2020	27-07-2020		27-07-2020
7.	Academic calendar starts	03-08-2020	03-08-2020		03-08-2020

All the dates are tentative and any change in date 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 JoSSA/CSAB 2020***

***** The dates for admission in M. Tech course will be as per the schedule of CCMT 2020***

***** The Competent Authority at his discretion may extend the Last date***

Important Links

Sr. 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

Sr. no	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) recognized by State/Central Board of Technical Education	
4.	M.Tech (EDT) for part time	Gate 2020 Syllabus for (Common Subject of Electronics and Communication/Instrumentation Engg. /Electrical Engg/ Electronics System Engineering)	

Written Test for Admission

1. The written entrance test will be of 1½ hours 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, Sharpener 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 and Pocket PCs are not allowed in the Exam Hall.
8. **Conduction of written test is subjected to the number of candidates applied for the course.**

Important Information

1. 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.
2. 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.
3. 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.
4. The mess is attached to the hostel.
5. 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- year (Six Semesters) course, which groom's 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

Xth 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		Economically Weaker Section	Foreign National	Total
				General	OBC			
28*	15*	09*	05*	02*	01*	6*	3*	69*

***Number of seats indicated above are tentative and subjected to be change by Government orders given time to time.**

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.

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 and Mathematics**.

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 merit based on class 10th percentage and/or written exam conducted by NIELIT Aurangabad subjected to the number of candidates applied for the course.
- 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 2020-21) of DEPM Course will be displayed on the website and Notice Board of the 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 counseling of the waiting list, otherwise their claim shall be forfeited.
- ix. The waitlisted candidates, available at the time of counseling 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 of documents asked and 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 is 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 DEPM full time course subjected 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 the following 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

Sr.No.	Code	Subject	Lecture	Tutorial	Practical	Credit	Marks
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.	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

Sr.No.	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

Semester VI

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

3.7 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
- Diploma should be completed within Six Years.**

3.8 Assessment:

- 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/she has a minimum attendance of 75% 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 (2020-21)

Sl. No.	Particulars	1 st Sem Fees (Rs.)	2 nd Sem Fees (Rs.)
1	Tuition Fee	23000	23000
2	Caution Money Deposit*	1250	--
3	Sub total	24250	23000
Boy's Hostel Accommodation			
4	Hostel Fee per Semester (5 months)	9100	9100
5	Hostel Deposit*	2500	--
6	Sub total	11600	9100
Other Fees			
	Particulars	Fees	
7	Exam Fee	100.00/- per subject/ Practical	
8	Backlog Exam Fee per subject	300.00/ per subject/practical	

*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. Presently, SC/ST students are exempted from paying Tuition Fee under SCST/TSP Scheme, only Caution Money deposit, hostel fee and deposit is required 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.

3.13 DEPM Lateral Entry Fee-Structure for Academic year (2020-21)

SI. No.	Particulars	1st Sem Fees (Rs.)	2nd Sem Fees (Rs.)
1	Tuition Fee	23000	23000
2	Caution Money Deposit*	1250	--
3	Sub total	24250	23000
Boy's Hostel Accommodation			
4	Hostel Fee per Semester (5 months)	9100	9100
5	Hostel Deposit*	2500	--
	Sub total	11600	9100
Other Fees			
	Particulars	Fees	
6	Exam Fee	100.00/- per subject/ Practical	
7	Backlog Exam Fee per subject	300.00/ per subject/practical	

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

*Mess Service are compulsory for Hostel Students. Outside food within the premises is not permissible. Mess charges are to be paid directly to mess manager on monthly basis.

Important:

- SC/ST students are exempted from Tuition Fee (SCST/TSP Scheme), only Caution Money deposit and hostel fee and deposit is to be paid.
- Back log Exam Fee is applicable to all students appearing Back log Exams.
- 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 produce 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 Sectors, Telecom Industry, IT, Automation & Instrumentation Industries.

Note: Name is likely to be changed to *B. Tech in Electronics Engineering with minor in System Engineering*

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 National Testing Agency (NTA) 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.

- The Eligible candidate has to register and fill choices for academic program under JoSAA.
- Document verification will be done for acceptance of and admitting to Institute of the candidates selected by JoSAA.
- Special vacant seat filling round (Special round) will be conducted by Central Seat Allocation Board. For further details please visit: <http://csab.nic.in>
- The allotted candidate to 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 centre in the stipulated duration and time.
- The candidate has to deposit the difference amount (if any) through NEFT/RTGS
- 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 in 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 seats are reserved as per Govt. of India Rules, AICTE and/or University Approval.

4.2.3 Selection Process for Lateral Entry

- 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 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 2020-21) of **2nd Year B.Tech (Lateral Entry)** will be displayed **only on the website and Notice Board of this Institute.**
- viii. The date and time for counselling 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 the waiting list counselling, otherwise their claim shall be forfeited.
- ix. The waitlisted candidates, available at the time of the waiting list counselling, shall be provisionally admitted as per the merit of the category-wise waiting list.
- x. The selected candidate from main list and waiting list candidates are required to register on the day as notified along with the documents and 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, 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 the assigned project work of 10 (ten) credits in the sixth semester satisfactorily. 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 student is permitted to appear for the semester examination subject to he/she has a minimum attendance of 75% in theory and practical classes, completes all his/her sessional assignments and clears all his/her dues.
- Non-appearance in any examination is treated as the student having secured zero mark in that subject examination.
- The evaluation is based on an **average weightage system**. Every subject has credit points based on the hours of study required.
- Every student is assessed in a subject with equal weightage to sessional work and semester examination, thereby making the students study regularly.
- Every student is awarded Grade points out of maximum 10 points in each subject. (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 (2020-21)

Sr. No.	Particulars	1st Sem. Fees & Deposit (Rs.)	2nd Sem. Fees (Rs.)
1	Tuition Fee	41000	41000
2	Caution Money Deposit *	1250	-
	Sub Total	42250	41000
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	Exam Fee	100.00/- per subject/ Practical	
6	Backlog Exam Fee per subject	300.00/ per subject/practical	

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

*Mess Service are compulsory for Hostel Students. Outside food within the premises is not permissible. Mess charges are to be paid directly to mess manager on monthly basis.

Important:

- SC/ST students are exempted from Tuition Fee (SCST/TSP Scheme), only Caution Money deposit and hostel fee and deposit is to be paid.
- Back log Exam Fee is applicable to all students appearing Back log Exams.
- 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 (2020-21)

Sl. No	Particulars	3 rd Sem. Fees & Deposit (Rs.)	4 th Sem. Fees (Rs.)
1.	Tuition Fee	41000	41000
2.	Caution Money Deposit *	1250	-
	Sub Total	42250	41000
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.	Exam Fee	100.00/- per subject/ Practical	
6.	Backlog Exam Fee per subject	300.00/ per subject/practical	

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

*Mess Service are compulsory for Hostel Students. Outside food within the premises is not permissible. Mess charges are to be paid directly to mess manager on monthly basis.

Important:

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

Admission to M. Tech. degree courses will be through Centralized Counselling or M.Tech (CCMT) 2020. For details please visit <https://ccmt.nic.in/>

5.2 Intake (30 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
EWS	2
Total	22

Important

- Seats are reserved as per Govt. of India Rules, AICTE and/or University Approval.
- A quota of 15 % is reserved for the SC candidates, 7.5% for ST candidates, 27% for Other Backward Classes and 10% for Economic Weaker Section (EWS):
- Candidates selected against the quota for persons with disabilities (5%) 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

For Admission please visit <https://ccmt.nic.in/>

B) International Applicants

- Admission of Foreign Nationals is subject to guidelines, laid down by Government of India from time to time.
- 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.
- Children of Indian workers in the Gulf Countries (CIWG) are children of an Indian who is working in Gulf Countries under relevant working visa.
- Non-Resident Indian (NRI) Candidate is Child/ward of the person having ‘NRI status’ as defined under section 6 of the Income Tax Act.
- Foreign nationals may apply for admission to M. Tech (EDT) Full time course subject to fulfilling the minimum eligibility requirements through proper channel.
- Their application, will however, be considered separately on first cum first serve basis as per the procedure, mentioned in ANNEXURE-V(A)
- 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 USD (non-refundable).

5.4 Academic Calendar – Refer ANNEXURE – I

5.5 Scheme of Instruction:

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

Semester I (autumn)

Sr. 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

5.6 Term Course Load:

- In each semester, subject load varies from 16 to 24 credits per 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

5.7 Assessment:

- 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.
- A student is permitted to appear for the semester examination subject to he or she has a minimum attendance of 75% in theory and practical classes, completes all his/her sessional assignments and clears all his/her dues.
- Non-appearance in any examination is treated as the student having secured zero mark in that subject examination.
- The evaluation is based on an average weightage system. Every subject has credit points based on the hours of study required.
- Every student is assessed in a subject with equal weightage to sessional work and semester examination, thereby making the students study regularly.
- Every student is awarded Grade points out of maximum 10 points in each subject. (Based on 10 Points Scale).
- 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**.

5.8 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).

5.9 Scholarship

- 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.
- Sponsored students, or students not having a valid GATE SCORE are not entitled for the said scholarship.

- iii. The tuition fee as of now 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**

5.10 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.

5.11 M.Tech. Fee-Structure, Academic year (2020-21) Admission

Sr. No.	Particulars	1st Semester Fees & Deposit (₹)	2nd Sem Fees (₹)
1.	Tuition Fee	48000/-	48000/-
2.	Caution Money Deposit *	1250	-
	Sub Total	49250/-	48000/-
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.	Exam Fee	100.00/- per subject/ Practical	
7.	Backlog Exam Fee per subject	300.00/ per subject/practical	
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 Service are compulsory for Hostel Students. Outside food within the premises is not permissible. Mess charges are to be paid directly to mess manager on monthly basis.

Important:

- i. Presently, SC/ST students are exempted from Tuition Fee (under 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

- i. B.E. / B.Tech Degree or equivalent in Electronics / Electrical /Telecommunication /Instrumentation engineering etc. from a recognized University with at least 55% of marks.
- ii. 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
- iii. The candidate should be sponsored by the employer.
- iv. His/ Her working place should be within 60 km distance from the institute.
- v. 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 the waiting list counselling shall also be declared along with the list of selected candidates. All the waitlisted candidates should make themselves available at the time of the waiting list counselling, otherwise their claim shall be forfeited.
- vi. The waitlisted candidates, available at the time of counselling of the waiting list, shall be provisionally admitted as per the merit of the category-wise waiting list.
- vii. The selected merit and waiting list candidates are required to register on the day as notified along with the document and by making payment as mentioned in Section 6.10for 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)

Sl. 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:

- In each semester, subject load varies from **16 to 24 credits** per 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

6.8 Assessment:

- 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.
- A student is permitted to appear for the semester examination subject to he or she has a minimum attendance of 75% in theory and practical classes, completes all his/her sessional assignments and clears all his/her dues.
- Non-appearance in any examination is treated as the student having secured zero mark in that subject examination.
- The evaluation is based on an average weightage system. Every subject has credit points based on the hours of study required.
- Every student is assessed in a subject with equal weightage to sessional work and semester examination, thereby making the students study regularly.
- Every student is awarded Grade points out of maximum 10 points in each subject. (Based on 10 Points Scale).
- 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 M. Tech. Fee-Structure, Academic year (2020-21) Admission

Sl. No.	Particulars	1st Semester Fees & Deposit (₹)	2nd Sem Fees (₹)
	Tuition Fee	48000/-	48000/-
	Caution Deposit *	1250	-
	Sub Total	49250/-	48000/-
Boy's Hostel Accommodation			
	Hostel Fee per Semester (5 months)	9100	9100
	Hostel Deposit*	2500	-
	Sub Total	11600	9100
Other Fees			
	Particulars	Fees (₹)	
	Exam Fee	100.00/- per subject/ Practical	
	Backlog Exam Fee per subject	300.00/ per subject/practical	
	Project fee payable only in V & VI semester separately	5000	

7.0 Partial List of Teaching Staff

Sl. 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.	D. Rama Rao	Scientist/Engineer-D	B.Tech(Electronics & Communications). M.Tech(Electronic Design Technology)	* Overall 33 years of Experience which including 25 years of Teaching Experience to Diploma, Under Graduate, Post Graduate & Post Graduate Diploma Courses. * Subjects taught in the fields of Analog & Digital Electronics, Electronics, Measurements & Instrumentation, Service & Maintenance, Microprocessors & Microcontrollers and Linux Device Drivers. * Guided Academic Projects of the students of Diploma, Under Graduate, Post Graduate & Post Graduate Diploma Courses * Worked on Industry Sponsored & In-house R&D Projects.
4.	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

Sl. No	Name of Faculty	Designation	Educational Qualification	Brief Profile
				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.
5.	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.
6.	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.
7.	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.
8.	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.
9.	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.
10.	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.
11.	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
12.	Sh. M.S. Kshirsagar	Sr. Tech. Officer	Diploma (Ind. Electr)	He is highly motivated and experienced faculty who specializes in Electronics.
13.	Sh. Milind Garud	Sr. Tech. Officer	Diploma (Ind. Electr)	About 29 Years' experience in Power Electronics and conducting of lab/practical's. He is also looking after the examination related activities and

Sl. No	Name of Faculty	Designation	Educational Qualification	Brief Profile
				academic for about 15 years. Also working as NSS Officer for past 4 Years.
14.	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.
15.	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.
16.	Surya charan	Senior Technical Assistant	B.Tech (Electronics and communication.)	With expertise in Electronics System design, he has experience of teaching various subjects of electronics. He has also worked as program analyst in cognizant for 2 years on ETL testing, SQL, Informatics and MSTR. His area of interest include Microelectronics, AI and data acquisition using NI DAQ cards.
17.	Saket kumar Yadav	Senior technical Assistant	B.tech. in Electronics and Communication Engineering (NIT CALICUT),	He completed his Bachelors from National Institute of technology Calicut. After +2, he secured all India rank 12000 in AIEEE And Rank 9000 in IITJEE In his professional career, he started his career as IITJEE Mathematics faculty in T.I.M.E. institute. He secured A.I.R. 27 in GATE 2019 under Electronics and Telecommunication branch. He is currently working under the projects related to Arduino and Robotics. His areas of Interest include Artificial intelligence and Mathematical modeling.
18.	Bhaskar Chaturvedi	Senior Technical Assistant	B.Tech (Electronics and communication Engineering.)	He is extremely passionate about new emerging area of electronics, and he has completed engineering from Dr. A. P. J. Abdul Kalam Technical University, Lucknow. He started his professional career from DRDO as Junior Researcher and has research experience in the field of Data Communication Network. His area of interest includes Communication System, Networking, IoT & VLSI Design.

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 signed 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

<p>1. Dr. Suresh D. Shirbahadurkar</p>  <p>Professor Zeal College of Engineering, Narhe, Pune</p>	<p><i>“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.”</i></p>
<p>2. Dr. Radhakrishna Naik</p>  <p>Vice Principal G S Mandals Maharashtra Institute of Technology Aurangabad</p>	<p><i>“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”</i></p>
<p>3. Dr Varsha Ratnaparkhe</p>  <p>Assistant Professor & Dean (Quality Assurance), Department of Electronics & Telecommunication Engineering, Government College of Engineering, Aurangabad</p>	<p><i>“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.”</i></p>
<p>4. Mr. Sumit Wankhad</p>  <p>VLSI Engineer, Cerium Systems, Bangalore</p>	<p><i>“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.”</i></p>

<p>5. Dr. Alka Mahajan</p>  <p>Director Nirma University, Indore</p>	<p><i>“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”.</i></p>
<p>6. Mr. Jaykumar H Prabhakar</p>  <p>Vice President (Global lead incident management) at Accenture, Thane. Also a Member of ISKCON working with NGO for Swachh Bharat</p>	<p><i>“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.”</i></p>
<p>7. Arvind B Nyayadhish</p>  <p>Director Enman Automation Pvt.Ltd, Aurangabad</p>	<p><i>“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.”</i></p>
<p>8. Mr. Mahendra Padalkar</p>  <p>Principal Technical Architect (Cloud) at Tech Mahindra Ltd, Pune</p>	<p><i>“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.”</i></p>
<p>9. Mr. Pradeep Kizhiseeri</p>  <p>Senior Consultant Presently into Hatstand, Singapore</p>	<p><i>“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.”</i></p>

<p>10. Mr. Sandeep K Patni</p>  <p>Co-Founder and VP of Systems and Engineering at CumuloLogicInc, NewJersey, USA</p>	<p><i>“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.”</i></p>
<p>11. Mr. Rupesh Kollale</p>  <p>President & Director Endress+Hauser InforServe (India) Pvt. Ltd. Aurangabad</p>	<p><i>“NIELIT (CEDTI), provides the perfect platform for students to excel ‘Beyond the theory’ to work and experiment with latest technological things, this is a world class environment right here in Aurangabad where there is freedom to hone your practical skills which are very important along with the theory. We had very supportive and passionate teachers who made us what we are today. I am immensely thankful to NIELIT for shaping my life.”</i></p>
<p>13. Mr. Hrushikesh Gangur</p>  <p>Sr. Solutions Architect, Amazon Web Services, San Francisco, California</p>	<p><i>“It is close to 25 years, and I still have memories of those golden days that made me a complete man. The education, labs and end-to-end understanding of product lifecycle learnt for CEDTI (now known as NIELIT) still help me in day-to-day work and life. I am blessed that I had my education done from this institute. I wish other engineering colleges have a same bar raising faculties, facilities, and methodology as NIELIT has to build quality engineers for India.”</i></p>

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

1. If a candidate after accepting the offer wishes to withdraw from the admission process, Deposited fee will be refunded after deducting Rs.1500/- towards application processing fee. Provided the withdrawal is made on or before 3rd August 2020.
2. Candidate must send an email to depn-abad@nielit.gov.in / btech-abad@nielit.gov.in with subject **Refund, for claiming refunds towards withdrawal from course** giving Application Number, Name, etc.
3. However, if a candidate withdraws the offer on or after 3rd August 2020, the candidate will forfeit the entire deposited seat booking fees and NO refund will be made.
4. Refund of fees for M.Tech (First Semester) will be in accordance to CCMT-2020.
5. Seat booking fee includes tuition fee and hostel fee.
6. In case of any discrepancy, the decision of Executive Director, NIELIT, Aurangabad in respect of refund of fees in the event of cancellation of admission will be final

ANNEXURE I

Tentative Academic Calendar for M. Tech (EDT), B. Tech (ESE) and DEPM Programs Academic Year 2020-2021 (Semester I)

Sr. No.	Semester-I (Spring)	
1	Start of On line application	1 st May 2020
2	Last date of On line application	3 rd July 2020
3	Instruction Begins	3 rd Aug 2020
4	Class Test-1	10 th Sept to 14 th Sept 2020
5	Class Test-2	12 th to 16 th Nov 2020
6	Instruction Ends	23 rd Nov. 2020
7	Semester (Practical) Examination	24 th to 27 th Nov 2020
8	Semester (Theory) Examination	3 rd to 24 th Dec 2020
9	Project Assessment	10 th Dec to 24 th Dec 2020
	Project Feasibility Seminar	
10	Semester Break (DEPM and B. Tech)	25 th Dec to 14 th Jan 2020
11	Declaration of Results	12 th Jan 2020

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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:

$$\text{SGPA} = \frac{U_1 \times M_1 + U_2 \times M_2 + \dots + U_n \times M_n}{U_1 + U_2 + \dots + U_n}$$

Where U_1, U_2, \dots are subject credit of respective course and M_1, M_2, \dots are the marks Obtained in the respective subject out 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:

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

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

- Six (6) in case of DEPM Program
- Eight (8) in case of B. Tech Program
- Four (4) in case of Full-time M. Tech Program.
- 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)	<div style="border: 1px solid black; padding: 10px; margin: 0 auto; width: 80%;"> Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm) </div>	
Sir/Madam, I have passed X th 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 2020-2021 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)		<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm) </div>	
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 2020-2021 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
1 st Year		Physics	
2 nd 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

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: depam-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:**CANDIDATE'S DETAILS**

Passport Size Recent
 Photograph Attested

Last Name: First Name: Middle Name: Mother Name: Date of Birth: (Size: 4.5x5.5cm)
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			

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 by them.
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 by them.
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)		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm) </div>		
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 2020-21 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		
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)	<div style="border: 1px solid black; padding: 5px; text-align: center;"> Passport Size Recent Photograph Attested (Size: 4.5x5.5 cm) </div>	
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 2020-2021. 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)]		
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 (1 st Semester M. Tech Fee & Deposits)		
Category	Institute Fee	Institute Hostel fee (in case hostel required)
All other than SC/ST	Rs: 49,250/-	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 VIII

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 recognized 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 recognized 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 IX
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 theCommunity 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, 2020.

Signature of the Candidate

Place: Date:

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

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."

Creamy Layer Definition

OBC Creamy layer is defined comprehensively at <http://ncbc.nic.in/html/creamyayer.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 X

Physical Disability Certificate (format)

Certificate No.

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

Photograph
Of the
Candidate
Showing the
Physical
Disability

- i. He/She is suffering from.....which comes under the sub category Blindness /Low vision/Speech & Hearing impairment/Orthopedic disorder/Learning disabilities. Dyslexia, Dyscalcula, Dysgraphia, 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 ofyears 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 2020-21 at NIELIT Centre, Aurangabad (MS).

Date:

Place:

Director OR Dean
/ Civil Surgeon

Seal of Institution/Hospital

ANNEXURE XI

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

GENERAL EXPECTATIONS				
Candidates should have good general physique. In particular,				
<div style="margin-left: 20px;"> 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 unocular 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. </div>				
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	Unocular 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)				
<input type="checkbox"/>	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.			
<input type="checkbox"/>	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 XII

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 XIII

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-XIV

CAD/CAM LAB

Objectives

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/CAM 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, Computer Integrated Manufacturing and Industrial Robots.

CAD/CAM Lab is equipped with the latest Machines of for CNC machining, also has flagship CAD/CAM software packages and high end CAD/CAM workstations to meet the present industrial requirements. This Lab equipped with latest professional A0 width colour Plotter with paper roll feeder that makes realistic printout of colour CAD models and drawings. Also equipped with an 85 inch smart interactive digital display with various connectivity for Lab cum class room delivery.

Some of the facilities available as follows:

Main Equipment's Available

1. CNC Lathe Machine



Lathes are machines that cut work pieces 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 Automatic tool turret with 6 tools and Graphic simulation for product

3. Colour Plotter



It prints professional-quality full colour real scaled drawings, models as per CAD at your desk. This plotter is equipped with roll feeder to allow print larger lengths drawings easily with the width A0 size.

4. Vacuum Formation



Vacuum forming is a simplified version of thermoforming, where a sheet of plastic is heated to a forming temperature, stretched onto a single-surface mold, and forced against the mold by a vacuum. Vacuum-formed components can be used in place of complex fabricated sheet metal, fiberglass, or plastic injection molding.

5. CAD/CAM Software



Major CAD/CAM Software available for this Lab

- 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 3DCAD models Surface Machining and Product proving.

ANNEXURE-XV 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 Equipment's 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)



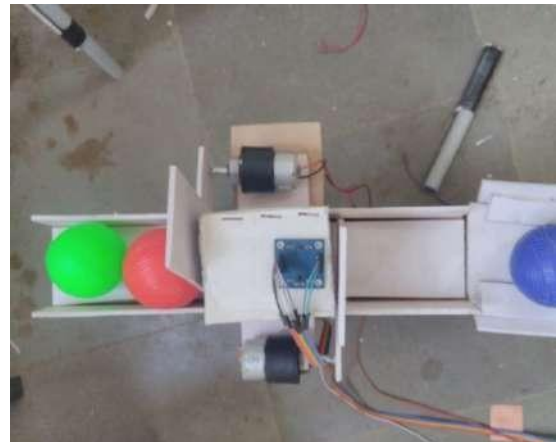
High-End Digital storage Oscilloscope (DSO) can ensure the proper functioning of the device or design flaws allowing for a more intuitive visual diagnosis of the source of unexpected voltage.

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-XVI

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:



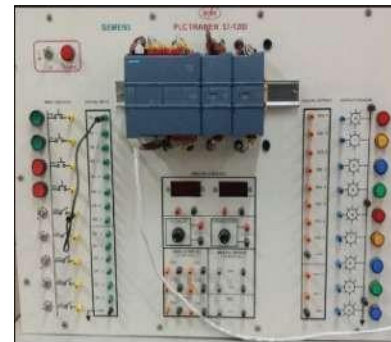
Plug-and-play connectivity via USB. Compatibility with J, K, R, S, T, N, E, and B thermocouple types. Small, portable device (12.1 x 8.6 x 2.5 cm)

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

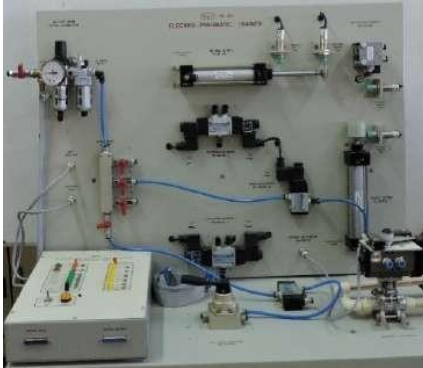


ANNEXURE XVI

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.

9. Siemens S7 300 & 1200 PLC, SCADA, HMI

Siemens S7 300 & 1200 PLC, SCADA, HMI is used for PLC programming on Siemens PLC software Simatic Manager & TIA portal V13 with Digital I/O as well as Analog I/O. SCADA designing with WinCC basic & advance Siemens SCADA software, HMI TP700 comfort programming & its applications.

10. Electro Hydraulic Trainer Kit

Electro Hydraulic Trainer outlines the basic Principle of Hydraulic Control System, Hydraulic Control System



Components & its applications using electronic proximity position sensor & electro-mechanical actuators (solenoid valves).



Some of the practical project experiment:



1. Optimized Operation of Induction Generator for Small-scale WindPower.
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 XVII

Internet of Things

Objectives

The lab is equipped with popular boards such as ARM Cortex Processors with IDE of 10 users license, Raspberry Pi, Arduino and Node MCU ESP 8266 in addition to wi-fi, BLE and other connectivity modules. The campus is equipped with 24x7 wired and wireless internet connectivity.

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



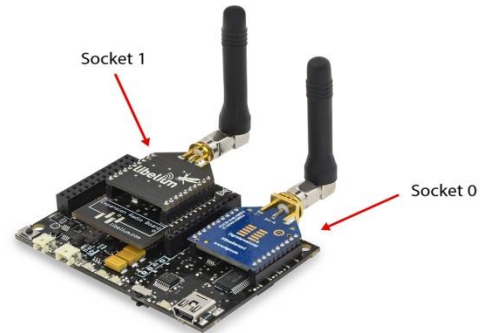
Low power, low cost modules for wireless mess networks suitable for home automation, environment monitoring etc.

4. SIM900 GPRS/GSM module



Very powerful single-chip 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 XVIII **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 XVIII

NETWORK and SERVER FACILITY

7. High Speed WAN interface card

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



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.

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.



ANNEXURE XIX

OPTO ELECTRONICS LAB

Objectives:

The Objective of the lab is to conduct Master level courses in Optical Fiber Communication, Test & Measurement of Optical Fiber parameters, project and Industry Oriented Short Term Courses of the field

Main Equipment's available

1. EXPO MAKE AX-110 ALL FIBER OTDR:

The OTDR EXPO AX-110 is ideal for occasional or experienced users looking for ruggedness, ease of use, automation and top-of-the-line optical performance. It performs testing at wavelenths (nm) 850/1310/1490/1550/1625 .



2. Connectorisation Kit



The Kit contain all necessary tools, consumables, connectors and cable to demonstrate and practice the process of Fiber preparation, Inserting the fiber into the connector, applying epoxy, cutting the fiber, & polishing the surface etc.

3. Core Alignment Fusion Splicing Machine:

A core alignment splicer (Sumitomo Electric Make) is a fusion splicer that uses the core alignment method to observe the core from two directions with a built-in microscope and determine through image processing the position in which the central axes of the cores are aligned.



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

BCP make Model 310 And Model 400 is high speed transmitter and receiver. This Model works at 850 and 1300nm and separate receivers are available with Si and Ge detectors.



5. 6-1/2 Digit Precision Multimeter

The 6 1/2 digit precision Multimeter deliver a comprehensive range of functions to meet our most demanding measurements on the bench or in a system.



The digital multimeters performs the functions we would expect to see in a multifunction DMM, including measuring volts, ohms, amps, and frequency measurements

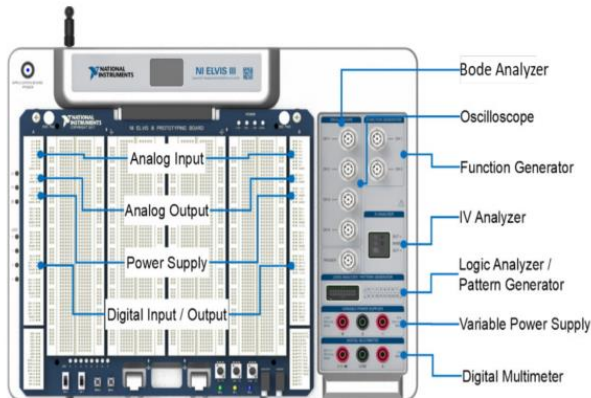
6. MIXED SIGNAL OSCILLOSCOPE (RHODE & SCHEWRTZ)

It has 4-Analog Channels & 16 Digital Channels with Bandwidth of 300 MHz ,a sampling rate of 4GSa/s and high vertical sensitivity down to 1 mv/Div. The integrated three-digit digital voltmeter enables the users to simultaneously perform voltage measurements on all analog channels .



7. NI Educational Laboratory Virtual Instrumentation Suite (NI ELVIS)

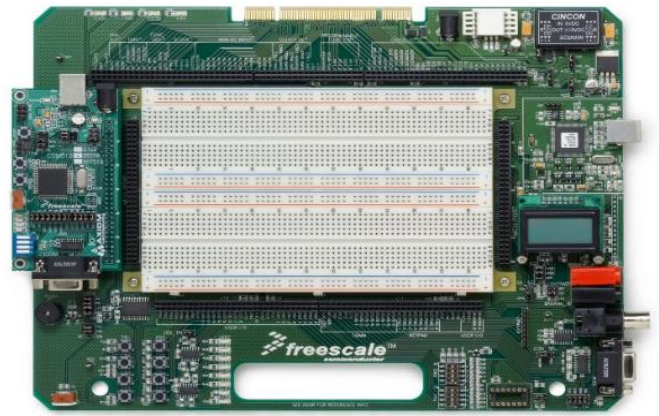
NI ELVIS is a project-based learning solution that combines instrumentation, embedded



design, and web connectivity for engineering fundamentals and system design. It provides a comprehensive teaching solution for engaging students in hands-on labs involving analog circuits, mechatronics, power electronics, instrumentation, digital communications, digital electronics, controls, and more. Each laboratory solution includes lab material and complete experiments developed by experts in industry and education, so students can explore theory in the physical laboratory with a safe, in-depth experience.

8. Freescale MCU SLK

The Project Board consists of a large solderless breadboard area for building electronic circuits and has dedicated connectors for its Application Modules.



Some salient features of the Project Board are- on-board voltage regulators provide 4 different voltage levels(5V,3.3V,+15V,-15V),push buttons, LEDs and LCD display for debugging, easy connectivity to the NI ELVIS/NI ELVIS II workstation via the NI ELVIS connector, power input from the included wall-plug transformer, integrated USB BDM, or from the NI ELVIS workstation.

Some of the Practical's/Experiments-

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. Measurement of numerical aperture (NA) of an Optical fibre
5. Study of Losses in Optical fibres.
6. Voice and Data Transmission on Optical Fibres
7. Study of High speed Optical Links
8. Study of OTDR
9. Study of Fusion Splicing Machine
10. Preparation of Optical fibre connectors
11. Study of Intensity Based Sensors
- 12.Study of Network Analyser as Component Analyser.



ANNEXURE XX

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.

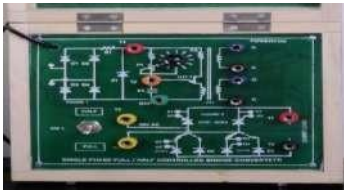
Main Equipment's Available

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 circuit 24Volt 10W Lamp load 24 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 XXI
PRINTED CIRCUIT BOARD (PCB) 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. CNC Machine:



CCD/ATC/XL is a high quality Computer Controlled Drilling machine with Automatic Tool Change (ATC). The ATC/XL CCDs allows directly processing of Excellon / Sieb & Meyer drill data or HP/GL route data for producing PCBs (drilling, cut-out-routing, isolation milling) or routing/ engraving plastics, aluminum and other metals. CCD/ATC XL has a larger work space (500x600 mm). The ATC is ideal for very big and complex PCBs with many different drill sizes and for special applications.

2. Electroplating Machine:

HitecPlate 3040 are universally applicable electroplating machines for the deposition of metals and serve for the production of plated-through-hole printed circuit boards in vertical technology for prototype and small batch production.



The HitecPlate 3040 is designed for direct metallization and have baths for process steps cleaning, rinsing, pre-dipping, activating, rinsing, intensifying, rinsing, copper deposition.

3. Etching / developing Machines:(DL 500)

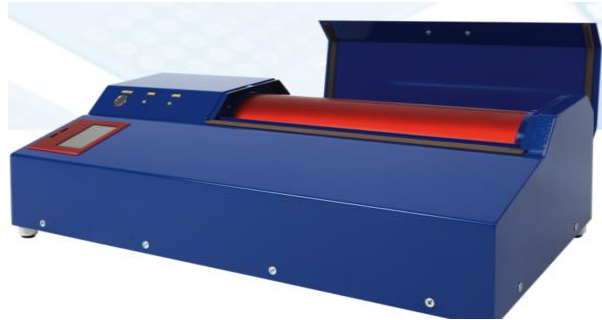


The DL 500 is a double sided conveyerised spray etching machine with integrated rinsing zone. This machine is easy to maintain and fits perfectly to a modern PCB laboratory. The maximum capacity within one hour is 10

m². Designed for being used for laboratory purposes, there are lots of different applications (e.g. spray developing of tenting or solder mask).

4. PCB Photo Plotter:

PCB Photo plotter (Film Master Plus XL from Bungard) is used for generation of high end film



artwork layout with maximum plot size of 360 mm X 430 mm and can process Gerber files or b/w bit map files.

5. 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.

7. 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.



7. 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).

8. 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.

9. PCB Brushing Machine :



The PCB Brushing machine (RBM 300 from Bungard) is used for deoxidizing, light deburring and surface finishing of single & double sided PCBs with working width of 33 mm.

10. Hot Air Oven:



The Hot Air Oven (Scientech SE-127) is used for PCB baking process and has the temperature range of upto 300 degree centigrade with digital display for temperature settings.

11. Soldering & De-soldering Unit:

DSS36 is an ESD soldering station used for SMD components mounting and rework, soldering common and directly-inserted electronics and lead-free soldering.



It is a new soldering station with a traditional heating system (ceramic heater), characterized by a 90 W power, temperature adjustment from 80°C to 480°C and temperature stability of $\pm 2^\circ\text{C}$.

The Quick 201B ESD Desoldering Tool allows removal of through hole soldered components with the minimum of effort, simply select the required temperature, place the nozzle over the lead and once the joint is molten press the trigger.

Some of the Practical Experiments-

1. Introduction to Printed Circuit Board
2. Introduction to various Electronics component Footprints.
3. Design & Develop Single sided PCB Documents for Manufacturing
4. Design & Develop Double sided PCB Documents for Manufacturing
5. Introduction to Computer aided Design(CAD)
6. Introduction to various artwork generation method
7. Introduction to Etching Techniques.
8. Manufacturing of SSB
9. Manufacturing of DSB
10. Introduction to Soldering, soldering methods & component Assembly.

ANNEXUREXXII

VLSI LAB

Objective

This Laboratory is well equipped for challenging IC design and validation. The Basys 3 FPGA development board design for Xilinx Vivado Design Suit featuring. The Artix-7 FPGA Architecture allows us put complex logic into device and verification logic. This supports for conducting the UG/PG labs and also research activities in M.S and PhD level.

Main Equipment's Available

1. 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

2. 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.

3. 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: VIVADO Simulation and Synthesis

Synopsys:

1. Design and Verify logic of all basic gates using Switch and Led.
2. Design all sequential circuits' logic.
3. Design all Combinations circuits Logic.
4. ALU Design
5. Decoder design
6. UART design

ANNEXURE XXIII 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.

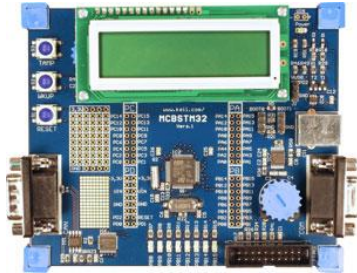
Main Equipment's available

1. High-end multipurpose embedded Development board



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 and Controllers: -



An ARM processor is one of a family of CPUs based on the RISC architecture developed by Advanced RISC Machines (ARM). The Keil MCBSTM32 Evaluation Board enables you to create and test working programs based on the STMicroelectronics STM32 family of ARM Cortex™-M3 processor-based devices.

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 P89V51RD2 are 80C51 microcontrollers with 16/32/64 kB flash and 1024 B of data RAM. The flash program memory supports both parallel programming and in serial ISP. Parallel programming mode offers gang-programming at high speed, reducing programming costs and time to market.

6. Arduino Development Board:



Arduino Development Board (micro embedded) used for programming of Micro ATmega328 & having flash memory of 32kb. Availability of interfacing present on microcontroller kit LED interfacing, Keyboard interfacing, LCD interfacing and other interfacing devices.

7. ARM CORTEX M3:



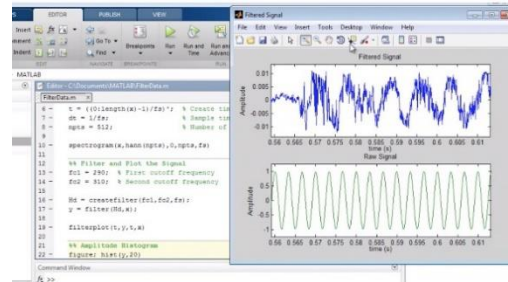
ARM CORTEX M3 (micro embedded) used for programming of LPC1768 & having flash memory of 512kb. Availability of interfacing present on microcontroller kit LED interfacing, Keyboard interfacing, LCD interfacing and other interfacing devices.

8. DSP Development Board:



The TMS320C6748 DSP development kit is a scalable platform that breaks down development barriers for applications that require embedded analytics and real-time signal processing, including biometric analytics, communications and audio. A wide variety of standard interfaces for connectivity and storage enable you to easily bring audio, video and other signals onto the board.

9. MATLAB-MathWorks:



MATLAB combines a desktop environment tuned for iterative analysis and design processes with a programming language that expresses matrix and array mathematics directly. It includes the Live Editor for creating scripts that combine code, output, and formatted text in an executable notebook. MATLAB allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages.

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 XXIV

OPEN SOURCE COMPUTING LAB

Objective

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.**

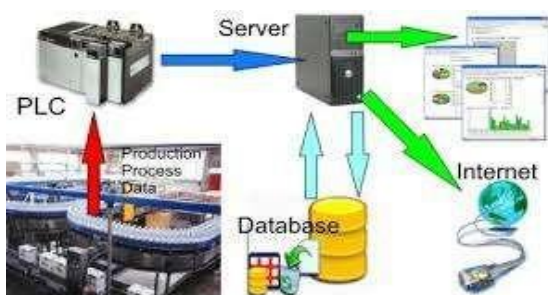
Course Available In Operating System:

- Certificate Course in System Administration using Unix
- Certificate Course in System Administration using Linux

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.**

Course Available In Database Management:



- Advanced Diploma in Big-Data Analytics
- Certified Data Scientist



3. Application Software's

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

Course Available In Application Software's and Programming Languages :

- Android Apps Developer
- Advanced Diploma in Java Enterprise
- Certified Course in Web Designing Course
- Certified Multimedia Developer
- Advance Diploma in .Net Technologies



4. 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

5. Mobile Application Development

Students are taught intricacies of professional Mobile Application Development on Android and Phone Gap platforms. Students can use latest tools for this purpose like Android Studio, AVD Manager, and Android Debugging Bridge etc..

6. Software for Scientific Use

Students can do simulation using Mat Lab and will do hands-on practical's on Industrial Grade Software such as AutoCAD, PLC & SCADA, Lab View, Xilite etc

7. 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 Defense Application
10. Design of Industrial Grade device using CAD/CAM, 3D Printing and other Software's
11. Medicouse Mobile Application
12. Ultimate fruits Mobile Application

ANNEXURE XXV

AR VR LAB

Objective:

The AR/VR Studio is a dedicated space for the exploration of cutting-edge immersive technologies physically and imaginatively. The AR/VR Studio is equipped with technologies that include various software and design platforms, multiple headset configurations, workstations, and filming resources to help students experiment and create innovations in a wide range of industries.

1. VR Headset: -

The HTC Vive is a virtual reality headset developed by HTC and Valve. The headset uses "room scale" tracking technology, allowing the user to move in 3D space and use motion-tracked handheld controllers to interact with the environment. The Vive headset has a refresh rate of 90 Hz and a 110 degree field of view. The device uses two OLED panels, one per eye, each having a display resolution of 1080×1200 (2160×1200 combined pixels). Safety features include a front-facing camera that allows the user to observe their surroundings without removing their headset. The software can also use the camera to identify any moving or static objects in a room; this functionality can be used as part of a "Chaperone" safety system, which will automatically display a virtual wall or a feed from the camera to safely guide users from obstacles or real-world walls.



2. Interactive Video Wall: -

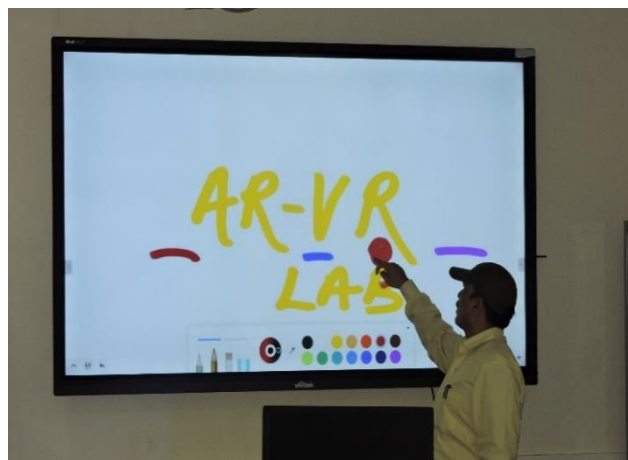
QHR Series high brightness displays provide 4K UHD non-glare picture quality with up to a billion colors for crystal clear, lifelike color and exceptional detail even in bright ambient light. With an elegant, slim design and a clean cable management solution, these displays are easy to install into any type of environment. Plus, the embedded Magic INFO Player S6 software allows for easy content management and playback, without the need for an external PC. Slim, easy-to-install 4K UHD non-glare high brightness display delivering crystal clear, lifelike color plus intelligent UHD up scaling.



3. Learning Tablets: -



4. Digital Workstation For Groups: -



Augmented reality is the experience of actual environments that is supplemented by digital information in the form of images, sounds, and texts. Setup of HI-Tech. laboratory with state of art facilities and equipments such VR head Sets, Tablet computers & Digital Workstations and Interactive display etc.

- a) For example, the Star Walk app for smart phones and tablets allows users to identify over 20 000 objects in the night sky. Sky Walk takes advantage of the built in GPS and Internet connections to provide an interactive 360-degree touch control star map that displays constellations, stars, planets, satellites, and galaxies that are currently overhead.
- b) Engineering labs have used augmented reality to conduct lab practices remotely and in interaction with an actual lab. In

short, augmented reality has the potential to provide learners with contextualized information in real time to enhance learning experiences in the field. Augmented Reality has approached a technical maturity where we can now say it is present in our society and is now becoming a true presence in the modern world. AR will push innovation to new levels and create flexible and functional tools to help society how the public safety sector, military, and the legal field will be influenced by the use of Augmented Reality.

5. Artificial Intelligence



(AI) Artificial Intelligence is very much essential for the operations of augmented reality. AR allows objects to be labeled and identified in the viewer's visual point of view. Many social media applications that we are using today are developed with a combination of augmented reality and artificial intelligence. For example, on Instagram and Snapchat there are various fun filters like the dog filter, bunny ears, pig filter etc. which are based on consumer-facing applications. These applications do not function unless and until both AI and AR are combined and operated. We are sure going to witness and get to use a lot of more social media applications which have functionalities like image enhancements.

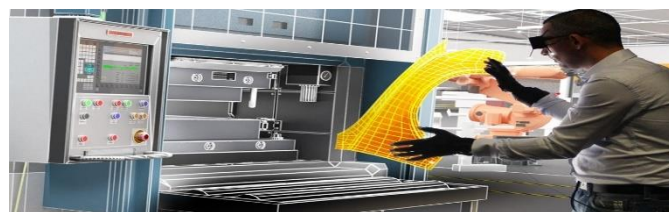
6. NIELIT AR in terms of Teaching and Training



Both the training and teaching technologies belong to the field of education. By using augmented reality technology, any information or data can be passed to a learner in real-time. These systems give a better sense of vision and pull out the objects and hazards which ultimately result in best-practice. Augmented Reality has proved its worth by decreasing the amount of risk and the cost rates in association with training.

7. AR's connections with Virtual Reality

Facebook is one of those most used social media applications which beliefs in augmented reality and virtual reality environments. AR vs VR is also a viral topic nowadays. Augmented Reality results in connecting people, socializing them with the help of virtual reality. Both virtual and augmented realities together worked in developing the "conference calls" where users can see one and other and at the same time, they can interact with each other. These conference calls can carry more than 2 people also at the same time. These



tools and equipment allow users to witness pin boards and whiteboards. Augmented Reality along with virtual reality together work on design-based documents lay on real-time objects.

8. AR in the Automobile Industry

Autonomous cars may take a few more years' time to come into reality. Meanwhile, many automobile companies are making use of augmented reality and artificial intelligence technologies to mark their presence in the market. The automobile industry is an advent of augmented reality businesses. Automobile companies are currently working in dashboard-mounted display graphics from around a vehicle with the help of camera footage.

This technology is likely to reduce the occurrence of accidents, as it has the capability of pointing out towards hazards along with the identification of landmarks which are historical along the way. Seeing the results coming from AR technology-based companies, large-scale automobile companies like Tesla, Toyota, Mercedes-Benz, and Volvo have signed contracts to work on this platform. Augmented Reality technology also has the capability to take routes in protecting AR data onto a car's windshield.

With the help of augmented reality technology, we can also experience the identification of frequently used lanes, navigational prompts, detection of hazards, information about the right direction etc

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 14500 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.



ANNEXURE XXVII

Multimedia Lab

Objectives:

The lab is equipped with state-of-art infrastructure and latest/popular software's to build proficiency in students in Multimedia and Animation to cater to the needs of growing Animation and Multimedia Industry. Students are enabled to apply knowledge, techniques, skills of modern multimedia tools in different digital media disciplines like text, images, audio, video and animation (2D & 3D).

Main Software's used

1. CorelDraw



Using Coreldraw practical training is imparted for Large format print designs, Billboards, Complete Branding and Mock-up design presentations, Cards/Letterheads/Brochures/Logo design, Vector based designs, Vinyl designs, Art work for laser/wood/metal cutting & engraving to name a few.

2. Adobe Photoshop



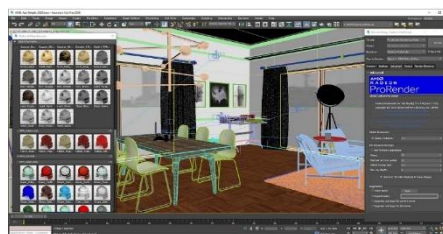
Using Adobe Photoshop image editing, manipulations and photo retouching are taught viz Integrities of creating, enhancing and editing of images, artwork, illustrations. Students are enabled to make Projects simulating a real-life painting or creating an alternative view of the universe. Tools are available for editing individual images as well as batches of photos & various video formats.

3. Adobe flash

Adobe flash for enabling professionals as well as beginners to create animations and interactive content for websites and applications.



4. 3D Max



3ds Max is a computer graphics program used for creating 3D models, animations, and digital images. The **software** can handle several stages of the animation pipeline including pre-visualization, layout, cameras, modeling, texturing, rigging, animation, VFX, lighting, and rendering.

5. Sound Forge

Developed and optimized by MAGIX this legendary audio



editor stands for innovation and combines the spirit of pioneering ambition with the art of engineering precision. Powerful editing, ultra-fast processing, crystal-clear audio quality and an innovative workflow are many other tools are available.

6. Adobe Premier Pro

Adobe Premier Pro is used for editing videos, commercials and other film, television, and online video. It allows its users to transform raw footage into incredibly amazing video



products. Variety of tools to fine-tune the audio, adjust colors, and do more to create professional-looking results are available

ANNEXURE XXVIII

Additive Manufacturing / 3D Printing Lab

Objectives

Additive Manufacturing / 3D Printing Lab is equipped with various configurations of 3D Printers, Professional 3D Scanner, 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 and enhancing the knowledge and skills of engineers involved in the operation use of 3D Scanners, 3D Printers, 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 Additive Manufacturing / 3D Printing, 3D scanning and, reverse engineering, Some of the facilities available as follows:

Main Equipment's Available

1. 3D Printer - Mojo



Mojo 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 3Dprinting. This 3D printer has an accessory of WaveWash 55 Cleaning System that dissolves and removes the support/waste material from the 3D printed objects to make printed parts ready to use..

1. 3D Printer Assemblies

This Lab also equipped with number of 3D printer assemblies. With the help of these kits students / participants will understand the working and assembling of 3D printers.



Students' versions allow to see the actual processing in the 3D Printer when it prints so that students can gain the knowledge of working of 3D Printers.

3. 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.



4. CAD/CAM Software

Major software packages available for this lab are

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



5. Some of the Practical Project Experiments

1. 3D printing the products of created models from CAD drawings
2. Scanning the parts to obtain 3DCAD models
3. Reverse engineering with the help of 3D Scanner
4. Assembling of 3D Printer kit.

3





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