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# NATIONAL INSTITUTE OF ELECTRONICS & INFORMATION TECHNOLOGY, IMPHAL

(ISO 90001:2015 Certified Organisation)

An Autonomous Scientific Society Of Ministry Of Electronics And Information Technology,  
Government Of India



रा.इ.सू.प्रौ.सं  
**NIELIT  
IMPHAL**

## PROSPECTUS 2023-2024



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# CONTENTS

	<u>Page No.</u>
<i>From the Desk of Director</i>	- 01
<b>1. NIELIT Society</b>	- 03
<b>2. About NIELIT Imphal</b>	- 04
<b>3. Core Competencies &amp; Facilities</b>	- 06
<b>4. Courses offered</b>	
4.1 Formal University Affiliated Courses	- 07
4.2 Long Term Non-Formal Courses	- 07
4.3 Digital Literacy Courses	- 08
4.4 Job oriented NSQF aligned Skill Development Courses	- 08
4.5 Short Term Courses in the field of Information Technology (IT), Electronics & Allied fields	- 09
<b>5. In-Take and Reservation</b>	- 12
<b>6. Course Fee Structure</b>	- 13
<b>7. Scholarship Schemes &amp; Fee Concessions</b>	- 16
<b>8. Academic Calendars &amp; Events</b>	- 17
<b>9. Academic Curriculum for Formal Courses affiliated to the Manipur University</b>	
9.1 Diploma in Electronics and Communication Engg.	- 18
9.2 Diploma in Computer Science and Engg.	- 23
9.3 Post Graduate Diploma in Computer Application	- 27
9.4 Bachelor of Computer Application	- 30
9.5 Master of Science in Information Technology	- 37
9.6 Master of Computer Application	- 42
<b>10. Academic Curriculum for NIELIT Non-Formal Courses</b>	
10.1 NIELIT-‘O’ Level IT	- 47
10.2 NIELIT Computer Hardware Maintenance Technician(CHM-T O-level)	- 49

<b>11. Academic Curriculum for Digital Literacy Courses</b>	
11.1 NIELIT ACC	- 50
11.2 NIELIT BCC	- 51
11.3 NIELIT CCC	- 52
<b>12. Academic Curriculum for Job oriented NSQF aligned Skill Development Courses</b>	
12.1 Solar PV Installer (Suryamitra)	- 53
12.2 Goods & Services Tax (GST) Accounts Assistant	- 53
12.3 Set-top Box Installer and Service Technician	- 54
12.4 LED Light Repair Technician	- 55
12.5 CCTV installation Technician	- 55
12.6 DTH STB Installer & Service Technician	- 56
12.7 Field Technician - Air-Conditioning	- 57
12.8 Field Technician - UPS and Inverter	- 57
12.9 Field Technician -Other Home Appliance	- 58
12.10 Smartphone Repair Technician	- 59
12.11 Solar Panel Installation Technician	- 60
<b>13. Placement Profile</b>	- 61
<b>14. Hostel Facilities</b>	
14.1 Facilities	- 63
14.2 Hostel Fee	- 63
<b>15. Working hours and Holiday</b>	- 64
<b>16. Extracurricular Activities</b>	- 64
<b>17. NIELIT Churachandpur Extension Centre</b>	- 65
<b>18. NIELIT Senapati Extension Centre</b>	- 69
<b>19. How to apply for admission</b>	- 73
<b>20. NIELIT Achievers</b>	- 74

## **FROM THE DESK OF DIRECTOR**

National Institute of Electronics & Information Technology (NIELIT) - an Autonomous Scientific Society, is the Human Resource and Skill Development arm in the area of IECT of Ministry of Electronics and Information Technology (MeitY), Government of India. It is also one of the National Examination Body, which accredits Institutions/organizations for conducting courses in Digital Literacy and Skill Development in the non-formal sector.

NIELIT Imphal is participating in Nation Building by conducting various long term & short term skill development courses in the fields of Electronics & Communication Engineering and Information Technology. NIELIT Imphal also offers various short term courses in the skill development sector with an objective of enhancing the employability of the youth of the state and country as a whole as mandated by the Govt. of India under the National Skill Development policy.

The long-term courses viz, Diploma in Electronics and Communication Engineering (AICTE recognized), Diploma in Computer Science & Engineering (AICTE recognized), Post Graduate Diploma in Computer Applications (PGDCA), Bachelor of Computer Applications (BCA), Master of Computer Application (MCA) and Master of Science in Information Technology (MSc.IT) are formal courses affiliated to Manipur University (A Central University). NIELIT 'O' Level courses in IT and Hardware are in the non-formal sector but leading to govt. recognized certificate/P.G. Diploma.

With a vast experience in E-Learning areas, NIELIT Imphal was successful in migrating to Online mode of classes of all the above mentioned courses from the 1<sup>st</sup> wave lockdown due to COVID-19 pandemic. To have more effective Online classes, NIELIT Imphal is using MOODLE as LMS in addition to various other Tools & Techniques for both synchronous and asynchronous mode.

Over the years, NIELIT courses have benefited a number of students and its popularity has been increasing. So far the institution has 5157 students in Formal University affiliated courses and 6744 in Non-Formal NIELIT Courses. A total of **79,246** (including formal, non-formal, Digital Literacy and short term courses) candidates have been trained since its inception in the year 1989.

Many of our ex-students are employed in well-known multinational/private companies, State and Central Government agencies and offices.

Two Extension Centers of NIELIT Imphal are located Churachandpur & Senapati. These two extension Centres became operational from the academic session 2013-14 with intake capacity to train 600 students/year.

Besides the training activities, NIELIT Imphal also devoted to other activities such as sports, yoga, cleanliness drive, national integrity and voluntary participation in nation building. In the previous academic session, the institute had organized various event for students and staff such as Job fair, Sports meet, annual fresher's meet, etc.

**At present, the Institute has the following R&D and Capacity Building Projects:**

1. Capacity Building for Human resource development in Unmanned Aircraft System (Drone and related Technology)
2. R&D in "Design & Development of EEG Based Real-Time Depth of Anesthesia (DoA) Monitoring System".
3. Creation of IT Industries ready Software professional for unemployed Graduate/Diploma IT Diploma holders in Manipur through awareness, motivation and Experts trainings.
4. Capacity Building in IECT including training in Digital Skillsets and Current Industry Demanding Technologies for various sections of society in the NE States (NECB 2.0).
5. Work Based Learning Programme to Strengthen and Empower SC/ST/Women/EWS Graduate Engineers through MeitY Institutions
6. Capacity Building for unemployed ST youths of Manipur in Assembly and Repair & Maintenance of Solar Lighting system, Household Electronics/Electrical & IoT Devices.
7. "Big data Analytics" under FutureSkills PRIME Programme, sponsored by MeitY, Govt. of India.
8. Skill Development of Youths in Aspirational Districts in the area of IECT leading to enhancement in Employability.
9. Development of Cyber forensic Training cum Investigation Labs in North-Eastern States and Cloud based centralized Cyber forensics Lab Infrastructure.

**(N Debachandra Singh)**

Director  
NIELIT Imphal

## 1. NIELIT SOCIETY

National Institute of Electronics & Information Technology (NIELIT), (erstwhile DOEACC Society), an Autonomous Scientific Society under the administrative control of Ministry of Electronics & Information Technology (MoE&IT), Government of India, was set up to carry out Human Resource Development and related activities in the area of Information, Electronics & Communications Technology (IECT). NIELIT is engaged both in Formal & Non-Formal Education in the area of IECT besides development of industry oriented quality education and training programmes in the state-of-the-art areas. NIELIT has endeavoured to establish standards to be the country's premier institution for Examination and Certification in the field of IECT. It is also one of the National Examination Body, which accredits institutes/organizations for conducting courses in IT in the non-formal sector.

As on date, NIELIT has forty seven (47) centers located at Agartala, Aizawl, Ajmer, Alawalpur (Saksharta Kendra), Aurangabad, Bhubaneswar, Calicut, Chandigarh, Chennai, Chuchuyimlang, Churachandpur, Daman, Delhi, Dibrugarh, Dimapur, Gangtok, Gorakhpur, Guwahati, Haridwar, Imphal, Itanagar, Jammu, Jorhat, Kargil, Kohima, Kolkata, Kokrajhar, Kurukshetra, Lakhanpur (Saksharta Kendra), Leh, Lucknow, Lunglei, Majuli, Mandi, Pasighat, Patna, Pali, Ranchi, Ropar, Senapati, Shillong, Shimla, Silchar, Srinagar, Tezpur, Tura and Tezu with its Headquarters at New Delhi. It is also well networked throughout India with the presence of about 700 + institutes.

Over the last two decades, NIELIT has acquired very good expertise in IT training, through its wide repertoire of courses, ranging from 'O' Level (Foundation), 'A' Level (Advance Diploma), 'B' Level (MCA equivalent), 'C' Level (M-Tech level), IT literacy courses such as CCC (Course on Computer Concept), BCC (Basic Computer Course) and other such long term and short term course in the non formal sector like courses on Information Security, ITeS-BPO(Customer Care/Banking), Computer Hardware Maintenance (CHM-O/A level), Bio-Informatics(BI-O/A/B level), ESDM etc, besides, high end courses offered by NIELIT Centres at Post-Graduate level (M.Tech) in Electronics Design & Technology, Embedded Systems etc. which are not normally offered by Universities/Institutions in the formal sector, in association with the respective state Universities.

The basket of activities of NIELIT is further augmented by the wide range of projects that it undertakes. NIELIT has demonstrated its capability and capacity to undertake R&D projects, consultancy services, turnkey projects in office automation, software development, website development etc. NIELIT is also the nodal implementing agency on behalf of MeitY for Data Digitization of the population of 15 assigned States and 2 Union Territories for the creation of National Population Register (NPR) project of Registrar General of India (RGI).

NIELIT is also successfully executing the Agriculture Census and Input Survey project under which tabulation of about 10 crore data records have to be done. NIELIT has planned a roadmap for adopting appropriate pedagogy for metamorphosing NIELIT into an Institute of National Importance.

## **2. ABOUT NIELIT IMPHAL**

NIELIT Imphal was founded on October 1, 1988. The Centre became operational in July 1989 with the introduction of Three Years Diploma in Electronics Engineering Course. With the merging of all CEDTIs with DOEACC Society on 14th December 2002, all erstwhile CEDTIs' have been renamed as DOEACC Centres, now as NIELIT (National Institute of Electronics and Information Technology) Imphal.

Spread over an area of more than 24 acres, it houses the main Institute Building consisting of Administrative wing, Seminar Hall, Lecture Halls, Computer Labs, Mechanical Workshop, Electro-medical Laboratory, PCB Lab, Servicing cell, Cyber Forensic Lab, IT Security Lab, Embedded System & IoT Lab, Big Data Analytics Lab, AR/VR lab, Multimedia Lab, Industry Ready Training Lab, Drone Electronics Lab and other laboratories. Besides the institute's main building, the campus houses the staff quarters, students' hostels, guest house, electrical substation and other host of essential facilities.

The campus of NIELIT Imphal is located at Akampat, Imphal East, Manipur about 5 kms in the south-east direction from the heart of the city. It is about 0.5 Km away from Singjamei Market.

Imphal, the capital of Manipur, nestles in the shadow of hills at the far north-east of the country. It is well connected by air with Kolkata, Guwahati, Aizawl, Agartala, New Delhi, Bangalore and Hyderabad. The nearest railway stations are Dimapur (215 km) and Jiribam (210 km) besides connected by national highways No. 2, 37 and 150. Manipur state in which the institute is located has a number of tourist spots. It is also the gateway to the prosperous economies of South-East ASEAN Countries – the border town of Tamu in Myanmar which is 103 kms away from Imphal.



*NIELIT Imphal Campus*



## **3. CORE COMPETENCIES & FACILITIES**

### **3.1 Core Competencies**

NIELIT Imphal specializes in development of skill in the fields of Electronics & Communication Engineering and Information Technology through various long term and short term courses. NIELIT Imphal also implements various PMKVY skill development courses in the field of IT, Electronics, Renewable energy etc. The Institute also focus on skill development & re-skilling in emerging technologies viz. Cyber Security & Cyber Forensic, Big Data Technologies, AR/VR, Blockchain, Internet of Things, Drone Electronics and Machine Learning and Artificial Intelligence (AI) etc.

The Centre is competent in the following areas:

- 1) Cyber Security & Cyber Forensic
- 2) Medical Electronics
- 3) Embedded System & IoT
- 4) Big Data Analytics
- 5) Augmented Reality & Virtual Reality
- 6) Blockchain
- 7) Renewable Energy
- 8) Computer Networking & Security
- 9) Advanced Multimedia
- 10) Machine Learning and Artificial Intelligence (AI)

### **3.2 Facilities**

There are 12 nos. of standard Computer Labs under Local Area Network system along with specialized “Cyber Security & Networking”, “Embedded System & IoT”, “Nano Technology” and “Augmented Reality & Virtual Reality” Labs. All labs are well equipped with branded desktop PCs, well furnish Tables & Chairs with Projector Display. All the PCs are provided internet connection through NKN network. The Institute assigned one computer to one student for training.

The Institute has also well-equipped labs in Electronics & allied fields labs – “Communication Engineering”, “Design & Fabrication of PCB”, “Electro-Medical”, “Power Electronics and Test & Measurement”, “Solar Energy” etc.

Apart from labs, the Institute has Mechanical Workshop, Library (with digital library facility), 150 seats capacity Seminar Hall, Multipurpose Hall and Indoor Basketball hall.

## 4. COURSES OFFERED

### 4.1 Formal University Affiliated Courses

<i>Sl.</i>	<i>Name of the Course</i>	<i>Course Duration</i>	<i>Certificate awarded by</i>
1	Diploma in Electronics and Communication Engineering (DECE)	03 years (6 Semesters)	Manipur University
2	Diploma in Computer Science and Engineering (DCSE)	03 years (6 Semesters)	Manipur University
3	Post Graduate Diploma in Computer Applications (PGDCA)	01 year (2 Semesters)	Manipur University
4	Bachelor of Computer Application (BCA) Course	04 years (8 Semesters)	Manipur University
5	Master of Science in Information Technology (MSc.IT)	02 years (4 Semesters)	Manipur University
6	Master of Computer Application (MCA)	02 years (4 Semesters)	Manipur University

### 4.2 Long Term Non-Formal Courses

<i>Sl.</i>	<i>Name of the Course</i>	<i>Course Duration</i>	<i>Certificate awarded by</i>	<i>NSQF Aligned Level</i>
1	NIELIT 'O' level IT course	01 year	NIELIT	4
2	Computer Hardware Maintenance-Technician(CHM-T O-Level)	01 year	NIELIT	4

### 4.3 Digital Literacy Courses

<i>Sl.</i>	<i>Name of the Course</i>	<i>Course Duration</i>	<i>Certificate awarded by</i>	<i>NSQF Aligned Level</i>
1	ACC - Awareness in Computer Concepts	20 Hours	NIELIT	-
2	BCC - Basic Computer Course	36 Hours	NIELIT	-
3	CCC - Course on Computer Concepts	80 Hours	NIELIT	3

### 4.4 Job oriented NSQF aligned Skill Development Courses

<i>Sl.</i>	<i>Name of the Course</i>	<i>Course Duration (hours)</i>	<i>Certificate awarded by</i>	<i>NSQF Aligned Level</i>
1	Solar PV Installer (Suryamitra)	300	SCGJ	4
2	BFSI Goods & Services Tax (GST) Accounts Assistant	100	BFSI	4
3	DAS Set-top Box Installer and Service Technician	200	ESSCI	4
4	LED Light Repair Technician	200	ESSCI	4
5	CCTV installation Technician	200	ESSCI	4
6	DTH Set Top Box	200	ESSCI	4
7	Field Technician - Air-Conditioning	200	ESSCI	4
8	Field Technician - UPS and Inverter	200	ESSCI	4
9	Field Technician -Other Home Appliance	200	ESSCI	4
10	Mobile Phone Hardware	200	ESSCI	4
11	Solar PV System Installation Technician	200	ESSCI	4

#### 4.5 Short Term Courses in the field of IT, Electronics & Allied fields

Sl. No.	Course Name	Duration in hours	Eligibility	NSQF Aligned Level
<b>NSQF Aligned IT COURSES</b>				
1.	Certified Computer Application Accounting and Publishing Assistant	360	XII passed	4
2.	Certified Data Entry and Office Assistant (Upskilling)	210	XII passed with Min 50 % Marks	4
3.	Certified Android Apps Developer (Upskilling)	210	Programming Knowledge	4
4.	Computer Applications Associate(CAA)	450	XII passed	4
5.	Certificate Course in ITES BPO, Soft Skills & Communicative English	250	Graduate/ Post Graduate with good communication Skills	3
6.	Certified Office Automation and IT Assistant	450	X passed	3
7.	Cyber Security Assistant	300	XII passed	3
<b>NSQF Aligned ELECTRONICS COURSES</b>				
1.	Solar-LED Lighting Product (Design and Manufacturing)	350	XII Passed	4
2.	Diploma in Installation & Repair of Consumer Electronics Products	350	XII Passed	4
3.	Foundation course in Internet of Things(IoT)	90	Diploma	4
4.	Foundation course in VLSI Design	90	Diploma	4
5.	Internet of Things (IoT) Developer	540	Diploma	4.5

<b>Non NSQF Aligned IT COURSES</b>			
1.	Certificate course in Desk Top Publishing	80	Computer Knowledge
2.	Certificate course in .NET	80	B.Sc + Programming Knowledge
3.	Certificate course in Programming in C Language	80	Computer Knowledge
4.	Certificate course in Programming in C++	80	Programming Knowledge
5.	Certificate Course in Core Java	80	Computer Knowledge
6.	Advance Java (J2EE)	80	Basic knowledge of programming
7.	Certificate Course in Python programming	80	Computer knowledge
8.	Diploma in Computer Application	360	Class XII passed
9.	Computer Application Accounting and Publishing Assistant	200	Class XII passed
10.	Computer Application & Networking	400	Class XII passed
11.	Cyber Security /AR-VR/ Blockchain	100	Engineering Diploma
12.	IoT/Social Media Marketing & Advertisement/ Machine Learning using Python	100	Engineering Diploma
13.	Machine Learning using Python	100	Engineering Diploma
14.	Solar Power Installation Operation and Maintenance/ Artificial Intelligence/ Big Data Analytics:	100	XII Passed
15.	Solar Power Installation Operation and Maintenance		XII Passed
16.	Big Data Analytics		Engineering Diploma
17.	Office Automation & Data Analytics using R & SPSS	200	Engineering Diploma

18.	Optical Fiber Technician/Installation & Repair of Consumer Electronics Products/	200	Engineering Diploma
19.	Installation & Repair of Consumer Electronics Products		XII Passed
20.	Multimedia Development	200	XII Passed
21.	Programming Technologies	200	Engineering Graduates
22.	Web or Mobile Technologies	200	Engineering Graduates
23.	Database Technologies	200	Engineering Graduates
24.	System Administration / Security	200	Engineering Graduates
25.	Software Testing/ QA/ Management	200	Engineering Graduates
26.	Technical Support	200	Engineering Diploma
27.	BPO Expert	200	Undergoing Graduate
28.	IoT		Engineering Diploma
<b>Non NSQF Aligned FINANCIAL ACCOUNTING COURSES</b>			
1.	Certificate course in Financial Accounting Using Tally ERP 9.0	100	XII pass with Computer Knowledge
<b>Non NSQF Aligned ELECTRONICS COURSES</b>			
1.	Smartphone Repair Technician	200	X Passed
2.	Certificate Course in Embedded System and IoT	80	Diploma / BE / BSc. Physics

## 5. IN-TAKE AND RESERVATION

In-take capacity of the various courses are:

<i>Sl.</i>	<i>Courses</i>	<i>Imphal</i>		<i>Senapati</i>		<i>Churachandpur</i>	
		<i>January</i>	<i>July</i>	<i>January</i>	<i>July</i>	<i>January</i>	<i>July</i>
1	DECE		60				
2	DCSE		60				
3	BCA		200				
4	MSc.IT		40				
5	PGDCA		50		30		30
6	MCA		30				
7	NIELIT 'O' Level	60	200	30	30	30	30
8	CHM-'O' Level	20	20	30	30	30	30
9	Other Courses	Will be notified from time to time					

15%, 7.5% and 27% of seats are reserved for SC, ST and OBC candidates respectively. Other reservations include 3% for physically handicapped persons as per Govt. of India rules. However, candidates applying against reserved seats will have to qualify in the admission test.

## 6. COURSE FEE STRUCTURE

### 6.1 Formal University Affiliated Courses

Sl.	Name of the Course	Course Fee (₹)	Exam Fee(₹) *	Regn Fee (₹) *	Caution Money #	GST (₹)	Insurance Fee	Total (₹)
1	<b>Diploma in Computer Science and Engineering (DCSE) / Diploma in Electronics and Communication Engineering (DECE)</b> <b>Course Fee = ₹ 1,19,400 payable in six instalments (Semesters)</b>							
	1 <sup>st</sup> Semester	19,900/-	2,600/-	200/-	1,500/-	NIL	300/-	24,500/-
	2 <sup>nd</sup> - 6 <sup>th</sup> Semester	19,900/-	2,600/-	NIL	NIL	NIL	NIL	22,500/-
2	<b>Post Graduate Diploma in Computer Applications (PGDCA)</b> <b>Course Fee = ₹ 30,200 payable in two instalments (Semesters)</b>							
	1 <sup>st</sup> Semester	15,000/-	2,200/-	200/-	1,500/-	NIL	NIL	18,900/-
	2 <sup>nd</sup> Semester	15,200/-	2,200/-	NIL	NIL	NIL	NIL	17,400/-
3	<b>Bachelor of Computer Application (BCA) Course</b> <b>Course Fee = ₹ 1,59,200 payable in eight instalments (Semesters)</b>							
	1 <sup>st</sup> Semester	19,900/-	2,600/-	200/-	1,500/-	NIL	NIL	24,200/-
	2 <sup>nd</sup> - 8 <sup>th</sup> Semester	19,900/-	2,600/-	NIL	NIL	NIL	NIL	22,500/-
4	<b>Master of Science in Information Technology (M.Sc.IT)</b> <b>Course Fee = ₹ 91,000 payable in four instalments (Semesters)</b>							
	1 <sup>st</sup> Semester	22,750/-	2,200/-	200/-	1,500/-	NIL	NIL	26,650/-
	2 <sup>nd</sup> -4 <sup>th</sup> Semester	22,750/-	2,200/-	NIL	NIL	NIL	NIL	24,950/-
5	<b>Master of Computer Application (MCA)</b> <b>Course Fee = ₹ 91,000 payable in four instalments (Semesters)</b>							
	1 <sup>st</sup> Semester	22,750/-	2,200/-	200/-	1,500/-	NIL	200/-	26,850/-
	2 <sup>nd</sup> - 4 <sup>th</sup> Semester **	22,750/-	2,200/-	NIL	NIL	NIL	NIL	24950/-
**Project fee of Rs 2,000/- payable in 4 <sup>th</sup> Semester if done in-house.								

(\**) Fees subject to change as per University norms /notification(s).*

(\**) Refundable only after course completion.*



## 6.2 Long Term Non-Formal Courses

Sl.	Name of the Course	Tuition Fee (₹)	Exam Fee (₹)	Registration Fee (₹)	Caution Money (Refundable only after course completion)	GST (₹)
1	NIELIT 'O' level IT course	23,040/-	3,700/-	500/-	1,500/-	NIL
2	Computer Hardware Maintenance-Technician (CHM-T O-Level)	22,400/-	3,700/-	500/-	1,500/-	4,788/-

## 6.3 Digital Literacy Courses

Sl.	Name of the Course	Tuition Fee (₹)	Exam Fee (₹)	Registration Fee (₹)	GST (₹)	Total ₹
1	ACC - Awareness in Computer Concepts	1,000/-	100/-	100/-	216/-	1,416/-
2	BCC - Basic Computer Course	1,800/-	450/-	0	405/-	2,655/-
3	CCC - Course on Computer Concepts	4,000/-	500/-	100/-	828/-	5,428/-

## 6.4 Job oriented NSQF aligned Skill Development Courses

Sl.	Name of the Course	Tuition Fee (₹)	Exam Fee (₹)	Registration Fee (₹)	GST (₹)	Total ₹
1	Solar PV Installer (Suryamitra)	14,010/-	0	0	0	14,010/-
2	BFSI Goods & Services Tax (GST) Accounts Assistant	4,000/-	0	0	0	4,000/-
3	DAS Set-top Box Installer and Service Technician	14,010/-	0	0	0	14,010/-
4	LED Light Repair Technician	16,812/-	0	0	0	16,812/-
5	CCTV installation Technician	16,812/-	0	0	0	16,812/-
6	DTH Set Top Box	15,878/-	0	0	0	15,878/-
7	Field Technician - Air-Conditioning	16,812/-	0	0	0	16,812/-
8	Field Technician - UPS and Inverter	16,812/-	0	0	0	16,812/-
9	Field Technician -Other Home Appliance	18,680/-	0	0	0	18,680/-
10	Mobile Phone Hardware	16,812/-	0	0	0	16,812/-
11	Solar PV System Installation Technician	20,548/-	0	0	0	20,548/-

<b>6.5 Short Term Courses in the field of IT, Electronics &amp; Allied fields</b>						
Sl. No.	Course Name	Tuition Fee (₹)	Exam Fee (₹)	Registration Fee (₹)	GST (₹)	Total (₹)
<b>NSQF Aligned IT COURSES</b>						
1.	Certified Computer Application Accounting and Publishing Assistant (360 hrs)	16,332/-	1,300/-	100/-	3,192/-	20,924/-
2.	Certified Data Entry and Office Assistant (Upskilling)(210 hrs)	9,702/-	1,300/-	100/-	1,652/-	12,754/-
3.	Certified Android Apps Developer (Upskilling) (210 hrs)	9,702/-	1,300/-	100/-	1,652/-	12,754/-
4.	Computer Applications Associate(CAA) (450 hrs)	20,790/-	1,300/-	100/-	3,994/-	26,184/-
5.	Certificate Course in ITES BPO, Soft Skills & Communicative English (250 hrs)	11,550/-	1,300/-	100/-	2,331/-	15,281/-
6.	Certified Office Automation and IT Assistant (450 hrs)	20,790/-	1,300/-	100/-	3,994/-	26,184/-
7.	Cyber Security Assistant (300 hrs)	13,860/-	1,300/-	100/-	2,747/-	18,007/-
<b>NSQF Aligned ELECTRONICS COURSES</b>						
1.	Solar-LED Lighting Product (Design and Manufacturing) (350 hrs)	16,170/-	1,300/-	100/-	3,163/-	20,733/-
2.	Diploma in Installation & Repair of Consumer Electronics Products (350 hrs)	16,170/-	1,300/-	100/-	3,163/-	20,733/-
3.	Foundation course in Internet of Things(IoT) (90 hrs)	4,158/-	500/-	100/-	856/-	5,614/-
4.	Foundation course in VLSI Design (90 hrs)	4,158/-	500/-	100/-	856/-	5,614/-
5.	Internet of Things (IoT) Developer (540 hrs)	24,948/-	1,300/-	100/-	4,743/-	31,091/-
<b>Non NSQF Aligned IT COURSES</b>						
1.	Certificate course in Desk Top Publishing	4,000/-	-	100/-	738/-	4,838/-
2.	Certificate course in .NET	4,000/-	-	100/-	738/-	4,838/-
3.	Certificate course in Programming in C	4,000/-	-	100/-	738/-	4,838/-
4.	Certificate course in Programming in C++	4,000/-	-	100/-	738/-	4,838/-

5.	Certificate Course in Core Java	4,000/-	-	100/-	738/-	4,838/-
6.	Advance Java (J2EE)	4,000/-	-	100/-	738/-	4,838/-
7.	Certificate Course in Python programming	4,000/-	-	100/-	738/-	4,838/-
8.	Diploma in Computer Application	10,000/-	-	100/-	1,818/-	11,918/-
<b>Non NSQF Aligned FINANCIAL ACCOUNTING COURSES</b>						
1.	Certificate course in Financial Accounting Using Tally ERP 9.0	5,000/-	-	100/-	918/-	6,018/-
<b>Non NSQF Aligned ELECTRONICS COURSES</b>						
1.	Smartphone Repair Technician	8,000/-	-	100/-	1,458/-	9,558/-
2.	Certificate Course in Embedded System and IoT	4,000/-	-	100/-	738/-	4,838/-

## 7. SCHOLARSHIP SCHEMES & FEE CONCESSIONS

Topper students and students who secured high marks in the University exams are awarded every year. Students of NIELIT Imphal enjoy various scholarships extended by UGC, North Eastern Council (NEC), State Governments and NIELIT Society.

**Protsahan Puraskar Scholarship Scheme for SC/ST/Physically Handicapped/Female Candidates:** NIELIT has been refunding the Examination Fee for NIELIT O/A/B level courses to SC/ST on successful completion of Theory Papers for relevant Level.

A NIELIT **Protsahan Puraskar** Scholarship Scheme was introduced for SC/ST/Physically Handicapped and female candidates w.e.f. July 2019 Examinations. Candidates pursuing full time NIELIT informal Courses will be offered Scholarship ranging from ₹ 12,000/- to ₹ 45,000/- depending upon the level of course.

The Centre grants free course fee to ST/SC candidates for all courses (AICTE approved and NSQF aligned) as per directives of MeitY, Govt. of India from time to time.

## 8. ACADEMIC CALENDAR & EVENTS

<b>Sl. No</b>	<b>Academic</b>	<b>Date</b>
01.	Start of Classes – Odd Semester	1 <sup>st</sup> week of July 2023
02.	Foundation Day cum Fresher Meet	1 <sup>st</sup> Oct 2023
03.	Swachh Bharat Abhiyan	Last week of Sept 2023
04.	Unit Test / Assessment - I	1 <sup>st</sup> week of Sept 2023
05.	Unit Test / Assessment - II	1 <sup>st</sup> week of Oct 2023
06.	Unit Test / Assessment - III	1 <sup>st</sup> week of Nov 2023
07.	Swachh Bharat Abhiyan	Last week of Oct 2023
08.	End of Classes – Odd Semester	Last of Nov 2023
09.	Start of Classes – Even Semester	2 <sup>nd</sup> Week of Jan 2024
10.	Unit Test / Assessment - I	2 <sup>nd</sup> week of Feb 2024
11.	Swachh Bharat Abhiyan	Last week of Feb 2024
12.	NIELIT Annual Sports Meet	Last of Mar 2024
13.	Unit Test / Assessment - II	2 <sup>nd</sup> week of April 2024
14.	Swachh Bharat Abhiyan	Last week of Mar 2024
15.	Unit Test / Assessment - III	2 <sup>nd</sup> week of May 2024
16.	End of Classes – Even Semester	Last week of May 2024

## 9. ACADEMIC CURRICULUM FOR FORMAL COURSES AFFILIATED TO THE MANIPUR UNIVERSITY

### 9.1 Academic Curriculum for Diploma in Electronics and Communication Engineering (DECE)

The objective of DECE is to impart training in Electronics with special emphasis on

- a) Design and Fabrication of Printed Circuit Boards (PCB)
- b) Industrial Product Design
- c) Repairing of Electronic Equipment
- d) Installation and Maintenance of Electronic, Electrical and Electro-Mechanical System
- e) Problem solving using computers.

**Course Recognition:** The course is approved by the All India Council for Technical Education and affiliated to Manipur University. After completion of the course, students can become either self-employed professionals in Electronics or allied Industries or work as Junior Engineers, Supervisors or Technical Assistants in the field of production, Test, Quality control, Maintenance, Servicing and installation works. They can also continue studies by getting themselves admitted in 2nd year of corresponding B.E/ B.Tech programmes of Engineering Colleges.

**Eligibility for DECE:** A candidate seeking admission to Diploma in Electronics and Communication Engineering (DECE) must

- a) have passed (in single sitting without any grace mark) in the HSLC Examination (class-X) conducted by BSE, Manipur or any other examination recognized by the Manipur University as equivalent and
- b) be within the age group of 15-22 years on the 1st of July of the year of admission. Upper age limit is relaxable by 3 years for SC/ST/Physically handicapped candidates.

**Admission Test:** The selection for the admission to DECE is mainly on the basis of a written test of objective type based on class-X standard/syllabus in the subjects like Mathematics and Science.

**Course Structure of DECE:** The course is of 6-semester duration. The odd semesters starts on the 1<sup>st</sup> working day of July and even semesters starts on 1<sup>st</sup> working day of January every year. The medium of instruction is English. Semester wise subject and corresponding paper codes, Marks & Credits are as follows:

SI No	Code	Paper Name	Evaluation Scheme						Total Marks	Credit
			Theory			Practical				
			End Exam	Internal Assessment		End Exam	Internal Assessment			
				Class Test	Assignment		Sessional	Viva-voce		
<b>Semester -I</b>										
1	HU-1-101/ECE	Communication in English-I	70	15	15	0	0	0	100	1
2	HU-1-103/ECE	Applied Mathematics-I	70	15	15	0	0	0	100	2
3	HU-1-105/ECE	Engineering Science - I	70	15	15	25	25	0	150	3
4	ME/CE-1-201/ECE	Engineering Drawing – I	0	0	0	50	50	0	100	4
5	WS-1-203/ECE	Workshop Practice - I	0	0	0	0	25	25	50	5
6	EE-1-205/ECE	Electrical Circuits	70	15	15	0	0	0	100	6
TOTAL			<b>280</b>	<b>60</b>	<b>60</b>	<b>75</b>	<b>100</b>	<b>25</b>	<b>600</b>	<b>21</b>
<b>Semester -II</b>										
1	HU-2-102/ECE	Communication in English – II	70	15	15	0	0	0	100	3
2	HU-2-104/ECE	Applied Mathematics – II	70	15	15	0	0	0	100	3
3	HU-2-106/ECE	Engineering Science – II	70	15	15	25	25	0	150	5
4	ME/CE-2-202/ECE	Engineering Drawing – II	0	0	0	50	50	0	100	3
5	WS-2-204/ECE	Workshop Practice – II	0	0	0	0	25	25	50	2
6	CSE-2-206/ECE	Introduction to Computer Programming & C Programming Laboratory	70	15	15	0	25	25	150	5
TOTAL			<b>280</b>	<b>60</b>	<b>60</b>	<b>75</b>	<b>125</b>	<b>50</b>	<b>650</b>	<b>21</b>
<b>Semester-III</b>										
1	HU-3-301/302/303/ECE	Engg. Economics & Accountancy / Elements of Management & Industrial Legislation/Element of Electronics	70	15	15	0	0	0	100	3
2	ECE-3-401/ECE	Electronic Devices & Circuits	70	15	15	0	25	25	150	4
3	ECE-3-402/ECE	Digital Fundamentals	70	15	15	0	25	25	150	4
4	ECE-3-403/ECE	Principles of Communication Engineering	70	15	15	0	25	25	150	4
5	ECE-3-406/ECE	Electronics Drawing	0	0	0	100	50	50	200	4

6	ECE-3-409/ECE	Introduction to PLC	0	0	0	0	25	25	50	1
<b>TOTAL</b>			<b>280</b>	<b>60</b>	<b>60</b>	<b>100</b>	<b>150</b>	<b>150</b>	<b>800</b>	<b>20</b>
<b>Semester-IV</b>										
1	HU/CE-4-303/305/306/ECE	EDP/ Material Science / Environmental Education	70	15	15	0	0	0	100	3
2	ECE-4-506/ECE	Electronic Instrument & Measurement	70	15	15	0	25	25	150	4
3	ECE-4-408/ECE	Personal Computer System Technology	70	15	15	0	25	25	150	4
4	ECE-4-405/ECE	Trouble shooting & Maintenance of Electronics Equipment	35	5	10	0	25	25	100	4
5	ECE-4-507/ECE	Telecommunication System	70	15	15	0	25	25	150	4
6	EE-4-404/ECE	Industrial Electronics & Control	70	15	15	0	25	25	150	4
<b>TOTAL</b>			<b>385</b>	<b>80</b>	<b>85</b>	<b>0</b>	<b>125</b>	<b>125</b>	<b>800</b>	<b>23</b>
<b>Semester-V</b>										
1	CSE-5-505/ECE	Microprocessor & its Applications	70	15	15	0	25	25	150	5
2	ECE-5-501/ECE	Hardware Production Techniques	0	0	0	50	50	50	150	3
3	ECE-5-508/ECE	Advanced Communication Systems	70	15	15	0	25	25	150	4
4	ECE-5-509/ECE	Television Engineering	70	15	15	0	25	25	150	4
5	CSE-5-504/ECE	C Programming with LINUX	70	15	15	0	25	25	150	5
6	ECE-5-503/ECE	Display Systems	70	15	15	0	0	0	100	3
<b>TOTAL</b>			<b>350</b>	<b>75</b>	<b>75</b>	<b>50</b>	<b>150</b>	<b>150</b>	<b>850</b>	<b>24</b>
<b>Semester-VI</b>										
1	ECE-6-407/ECE	Fibre Optic Communication	70	15	15	0	25	25	150	4
2	ECE-6-510/ECE	Microwave Techniques	70	15	15	0	0	0	100	3
3	ECE-6-502/ECE	Technical Seminar & Industrial Tour	0	0	0	0	100	50	150	3
4	ECE-6-511/ECE	Project	0	0	0	0	50	50	100	2
5	ECE-6-601/602/603/ECE	Elective – I	70	15	15	0	0	0	100	3
6		Elective – II	70	15	15	0	0	0	100	3
<b>TOTAL</b>			<b>280</b>	<b>60</b>	<b>60</b>	<b>0</b>	<b>175</b>	<b>125</b>	<b>700</b>	<b>18</b>
<b>Elective Papers (Any two to be chosen)</b>										
1	ECE-6- 601/ECE	Cellular Technology	70	15	15	-	-	-	100	3
2	ECE-6- 602/ECE	Wireless Servicing Technique	70	15	15	-	-	-	100	3
3	ECE-6- 603/ECE	Entertainment Electronics	70	15	15	-	-	-	100	3
<b>TOTAL OF TWO COURSES</b>			<b>140</b>	<b>30</b>	<b>30</b>	<b>-</b>	<b>-</b>		<b>200</b>	<b>6</b>

**Change of Stream of DECE:** Any student who was registered in the Term-I course may be given the chance to change the trade/stream at either of the following two stages:

- (i) After the last date of admission and just before the beginning of the academic session, provided there is a vacancy in the desired trade.
- (ii) If the student earns credit in all the five (05) courses with end-term examination and has no backlog courses according to the availability of seat (s) in the desired trade / stream and fulfillment of the pre-requisite condition.

No change of trade shall be entertained in any other circumstances.

**Project work of DECE:** During the 6<sup>th</sup> semester each DECE student has to take up a project under the guidance of the faculty and should build a working prototype as partial fulfillment of the requirement for the award of Diploma.

**Examination, Evaluation and Promotion Rules:** The Internal Assessment marks for each theory paper shall be based on Class-Test (15) and Assignment (15) with a total mark of 30 each. The Internal Assessment mark for practical papers will be distributed in the following ratios and then converted to the nearest whole number such that the total mark is equal to the allotted full-mark of 25 or 50. If a student fails to secure 50% marks in the internal assessment, the concerned student shall not be allowed to appear in the end-term examination and he/she shall repeat the subject including attendance and internal assessment by registering afresh.

**Eligibility for passing & promotion with Backlog Courses:**

- a) Eligibility condition for promotion:
  - If a student is to be promoted from Year-I to Year-II, the student must earn a credit in at least one paper with end-term examination of year-I.
  - Similarly, a student of Year-II student must earn a credit in at least one course with end-term examination of Year-II and the total number of backlog courses in Year-I & II for re-registration/registration afresh must not exceed seven for promotion/continuation to Year-III and so on.
- b) Permissible number of backlog or 'kept the term' courses:
  - A student can register in any term for a maximum seven number courses, out of which, the courses having end-term examination shall not exceed six



- A student not having any course for re-registration would have to register in any term, except the last term for minimum three courses having end-term exams.
  - According to MPECS Guideline, maximum number of courses having end-term examination registered and re-registered by a student in any term shall not exceed ten.
- c) Maximum number of attempts to earn a credit in at least one course:
- Every registered student of Diploma Engineering program in the institution shall be given two (02) consecutive chance to earn a credit in at least one (01) course with end-term examination.
  - If anyone could not earn credit in the requisite one (01) course with end-term examination even after two consecutive attempts, the student shall be automatically prohibited from further registration/admission into the Term-I for the third consecutive term.
  - However, if such a student still desires to seek admission, he/she shall have to face fresh entrance test along with other candidates other candidates to secure another chance for admission into the diploma program.
  - According to MPECS Guideline, a student may be allowed to discontinue his/her studies after attending at least two (02) terms and he/she must rejoin within two (02) years from the date of discontinuation to be entitled for transfer of all credits accumulated by him/her. A student may avail of this flexibility of discontinuation the study maximum twice.

**Grading System of DECE:** A student would be awarded classes on the basis of CPA (Credit Point Average), computed for the whole diploma program according to MPEC Guidelines as below:

<b>CPA</b>	<b>Class</b>
75% and above	First Class with Distinction
60% and above and less than 75%	First Class
Less than 60%	Second Class

The method of calculating the CPA of a student is as:

CPA (%) of a student for diploma program equals to:-

$$\frac{\sum (\% \text{ of marks obtained in a course} \times \text{No. of credits for the course})}{\sum \text{No. of credits in all the courses studied}}$$

## **9.2 Academic Curriculum for Diploma in Computer Science & Engineering (DCSE)**

The Objective is to impart competency in Computer Science & Engineering with special emphasis on

- a) Good knowledge of the Computer architecture.
- b) Familiarity with various circuit boards and chips used in computers.
- c) Knowledge of system software and programming.
- d) Computer language and applications.

The National Policy on Education 1986 recommends that “Technological and Management Education Programs including education in Polytechnic, will also be on a flexible, modular pattern based on credits with provision for multi-point entry. A strong guidance and counseling service will be provided”. Multi-Point Entry & Credit System (MPECS) is the mode for introducing the desired flexibility in the curriculum of diploma program. Under the World Bank assisted Tech Ed. Project I, II & III, NITTTRs have facilitated successful introduction of MPECS in the diploma programs offered by various States in the country, including most of the states in the North Eastern Region.

**Eligibility for DCSE:** A candidate seeking admission to Diploma in Electronics and Communication Engineering (DECE) must

- a) have passed (in single sitting without any grace mark) in the HSLC Examination (class-X) conducted by BSE, Manipur or any other examination recognized by the Manipur University as equivalent and
- b) be within the age group of 15-22 years on the 1st of July of the year of admission. Upper age limit is relaxable by 3 years for SC/ST/Physically handicapped candidates.

**Admission Test:** The selection for the admission to DECE is mainly on the basis of a written test of objective type based on class-X standard/syllabus in the subjects like Mathematics and Science.

**Course Structure of DCSE:** The course is of 6-semester duration. The odd semesters starts on the 1<sup>st</sup> working day of July and even semesters starts on 1<sup>st</sup> working day of January every year. The medium of instruction is English. Semester wise subject and corresponding paper codes, Marks & Credits are as follows:

SI No	Code	Paper Name	Evaluation Scheme						Total Marks	Credit
			Theory			Practical				
			End Exam	Internal Assessment		End Exam	Internal Assessment			
				Class Test	Assignment		Sessional	Viva-voce		
<b>Semester -I</b>										
1	HU-1-101/CSE	Communication in English-I	70	15	15	0	0	0	100	3
2	HU-1-103/CSE	Applied Mathematics-I	70	15	15	0	0	0	100	3
3	HU-1-105/CSE	Engineering Science - I	70	15	15	25	25	0	150	5
4	ME/CE-1-201/CSE	Engineering Drawing – I	0	0	0	50	50	0	100	3
5	WS-1-203/CSE	Workshop Practice - I	0	0	0	0	25	25	50	2
6	EE-1-205/CSE	Electrical Circuits	70	15	15	0	0	0	100	3
<b>TOTAL</b>			<b>280</b>	<b>60</b>	<b>60</b>	<b>75</b>	<b>100</b>	<b>25</b>	<b>600</b>	<b>19</b>
<b>Semester -II</b>										
1	HU-2-102/CSE	Communication in English – II	70	15	15	0	0	0	100	3
2	HU-2-104/CSE	Applied Mathematics – II	70	15	15	0	0	0	100	3
3	HU-2-106/CSE	Engineering Science – II	70	15	15	25	25	0	150	5
4	ME/CE-2-202/CSE	Engineering Drawing – II	0	0	0	50	50	0	100	3
5	WS-2-204/CSE	Workshop Practice – II	0	0	0	0	25	25	50	2
6	CSE-2-206/CSE	Introduction to Computer Programming & C Programming Laboratory	70	15	15	0	25	25	150	5
<b>TOTAL</b>			<b>280</b>	<b>60</b>	<b>60</b>	<b>75</b>	<b>125</b>	<b>50</b>	<b>650</b>	<b>21</b>
<b>Semester-III</b>										
1	CSE-301	Mathematics-3	70	15	15	0	0	0	100	4
2	CSE-302	Computer Architecture and Organization	70	15	15	0	0	0	100	3
3	CSE-303	Data Structure using C	70	15	15	0	25	25	150	5
4	CSE-304	Microprocessor & Interfacing.	70	15	15	0	25	25	150	4
5	CSE-305	Application of .Net Technology	70	15	15	50	25	25	200	5
<b>TOTAL</b>			<b>350</b>	<b>75</b>	<b>75</b>	<b>50</b>	<b>75</b>	<b>75</b>	<b>700</b>	<b>21</b>

Semester-IV										
1	CSE-401	PC Utilities & Multimedia Lab	70	15	15	0	25	25	150	3
2	CSE-402	System Software	70	15	15	0	0	0	100	4
3	CSE-403	DBMS & Lab	70	15	15	50	25	25	200	5
4	CSE-404	Data Communication and Networking	70	15	15	0	25	25	150	5
5	CSE-405	Operating Systems	70	15	15	0	0	0	100	4
TOTAL			350	75	75	50	75	75	700	21
Semester-V										
1	CSE-501	Internet & Web Technology	70	15	15	0	25	25	150	5
2	CSE-502	Building Web Application Using ASP.Net	70	15	15	50	25	25	200	5
3	CSE-503	System Software, Diagnostics & Debugging Tools	70	15	15	0	25	25	150	4
4	CSE-504	<b><u>Elective- I (one from the following)</u></b>								
	CSE-504.1 CSE-504.2 CSE-504.3	Parallel & Distributed Computing Soft Computing Computer Graphics	70	15	15	0	0	0	100	3
5	CSE-505	Project	0	0	0	50	25	25	100	4
TOTAL			280	60	60	100	100	100	700	21
Semester-VI										
1	CSE-601	Industrial Management	70	15	15	0	0	0	100	3
2	CSE-602	Computer Systems, Peripherals and Troubleshooting	70	15	15	0	25	25	150	5
3	CSE-603	Software Engineering	70	15	15	0	0	0	100	3
4	CSE-604	<b><u>Elective- II (one from the following)</u></b>								
	CSE-604.1 CSE-604.2 CSE-604.3	Introduction to Object Oriented Programming and Visual Basic Object Oriented Programming and C++ Programming in JAVA	70	15	15	50	25	25	200	4
5	CSE-605	Project	0	0	0	100	50	50	200	7
TOTAL			280	60	60	150	100	100	750	22

**Change of Stream for DCSE:** Any student who was registered in the Term-I course may be given the chance to change the trade / stream at either of the following two stages:

- (i) After the last date of admission and just before the beginning of the academic session, provided there is a vacancy in the desired trade.

- (ii) If the student earns credit in all the five (05) courses with end-term examination and has no backlog courses according to the availability of seat (s) in the desired trade / stream and fulfillment of the pre-requisite condition.

No change of trade shall be entertained in any other circumstances.

**Project work:** During the 6<sup>th</sup> semester each DCSE student has to take up a project under the guidance of the faculty members and should build a working prototype as partial fulfillment of the requirement for the award of Diploma.

**Examination, Evaluation and Promotion Rules:**

-Same as DECE- (Please refer page No.23)

**Eligibility for passing & promotion with Backlog Courses:**

-Same as DECE- (Please refer page No.23)

**Grading System of DCSE:** A student would be awarded classes on the basis of CPA (Credit Point Average), computed for the whole diploma program according to MPEC Guidelines as below:

CPA	Class
75% and above	First Class with Distinction
60% and above and less than 75%	First Class
Less than 60%	Second Class

**The method of calculating the CPA of a student is as:**

CPA (%) of a student for diploma program equals to:-

$$\frac{\sum (\% \text{ of marks obtained in a course} \times \text{No. of credits for the course})}{\sum \text{No. of credits in all the courses studied}}$$

### 9.3 Academic Curriculum for Post Graduate Diploma in Computer Application (PGDCA)

The objective of the course is to impart training to the non-IT graduate qualified youths to present overview of IT tools used in day to day use of computers and to provide knowledge on various hardware and software components of computer, operating system, various packages used for different applications, database concept & operations and various issues related to IT and application of IT. The course is of one year duration comprising 2- semesters leading to the Post Graduate Diploma in Computer Application (PGDCA)

**Course Recognition:** This course is designed, prepared and approved by Manipur University. The course is a One Years Degree Course awarded by Manipur University.

**Eligibility for PGDCA:** Any candidate who passed three year degree course in any discipline or any such other equivalent course of Manipur University or from any other University may be admitted to the PGDCA 1<sup>st</sup> Semester as a regular student.

**Admission Test:** The admission test will be of 2-hours duration based on general aptitude test of graduate standard.

**Course Structure:** The total marks of the course shall be 1400, each semester being 600 marks. In each Semester there shall be 6 (Six) theory papers and one practical in 1<sup>st</sup> Semester and one major project in 2<sup>nd</sup> semester. The papers shall be of equal weightage of 100 marks each and practical/project is also of 100 marks each.

1 <sup>st</sup> Semester		
Code	Paper Title	Hours assigned
101	Computer Graphics & Multimedia	35
102	Business Systems	35
103	Computer Organization and System Software	35
104	Programming in C	35
105	System Analysis and Design	35
106	Communication Skill-I	35
107	Practical	150

<b>2<sup>nd</sup> Semester</b>		
108	Data Communication and Networks	35
109	Programming in VB	35
110	RDBMS concepts using SQL Server	35
111	Object Oriented Programming Using C++	35
112	Internet Programming Tools	35
113	Communication Skill-II	35
114	Practical/Project	150

**Examination, Evaluation and Promotion Rules:** Each candidate must attend at least 75 per cent of the tutorial/seminar classes held. A candidate failed to attend the prescribed minimum number of the tutorial/seminar classes shall not be allowed to appear at the respective examination at the end of the course except on the special recommendation from the Head of the Institute.

Each theory paper will be of 100 marks which is divided as below:

<i>Particulars</i>	<i>University Exam</i>	<i>Internal Assessment</i>	<i>Total</i>
Full Mark	75	25	100
Pass Mark	20	10	30
Exam Duration	3 hrs.	-	-

Assessment of Practical Paper of 100 marks will be carried out on the basis – Practical (80%) and Viva Voce (20%)

In order to pass the PGDCA, a candidate must pass the PGDCA 1st/2nd Semester Examinations and he/she must obtain at least 40% marks in the aggregate and at least 30% marks in each paper of the Semester Examination with at least 45% marks of the combined aggregate in the subjects for PGDCA 1st & 2nd Semester examinations.

The results of the successful candidates in the PGDCA 1st & 2nd Semester examinations shall be announced in a single pass list without any class or distinction. The classification of the Final results shall be declared on the combined assessment of all the Semester Examinations.

A student who has prosecuted a regular course of studies for not less than 6 month in first Semester classes may be admitted to the 2nd Semester Examination as a regular candidate, provided that he/she has attended at least 75 per cent of the lectures delivered in each paper.

RULES FOR ADMISSION TO UNSUCCESSFUL AND ABSENTEE CANDIDATES:

- (a) A candidate for the PGDCA Semester Examination must pass the 2nd Semester Examination within a period of one year from the date of passing the 1st Semester Examination.
- (b) Notwithstanding anything contained above, a candidate for the PGDCA must pass the 2nd Semester Examination within a period of 2 consecutive years from the date of admission to the PGDCA 1st Semester.

RULES AND REGULATIONS FOR BACK PAPERS AND IMPROVEMENT:

- (a) Candidates who fail in the semester examination in not more than two papers may be given back paper upto a maximum of two failed papers in the next respective semester examination once only.
- (b) Candidates who fail to secure 40% mark in aggregate in a semester examination OR who fail to secure 45% marks in the combined aggregate of semester I and II taken together may be given back paper upto a maximum of two papers of candidate's choice in the next respective examination once only.

**Award of Certificate & Grade System of PGDCA:** A student would be awarded classes on the basis of percentage, computed for the whole PGDCA program: The results of the successful candidate for the PGDCA examination shall be classified as indicated below:

- (a) A candidate obtaining 60% a minimum of 60% of the aggregate marks in all the Semester Examination taken together shall be placed in the First Class.
- (b) A candidate obtaining 45% or above but less than 60% of the aggregate marks in all the Semester Examination taken together shall be placed in the Second Class.



## 9.4 Academic Curriculum for Bachelor of Computer Application (BCA)

The Objective of the course is to impart knowledge and training to the candidates to become an Information Technology Graduate. The BCA graduates are suitable for employment as Programmer, System Analyst and Administrator or Faculty in High and Higher Secondary Schools for Computer subjects. Followings are the job position prospects of the BCA qualifiers:

- Computer Programmer
- System Analyst
- System Programmer/Administrator
- IT Project Manager
- Web Programmer/ developer
- Network Administrator
- Database Designer and Manager, etc.

**Recognition of BCA:** This course is designed, prepared and approved by Manipur University. The course is four Years Degree Course awarded by Manipur University.

**Eligibility for BCA:** A Student who has passed in 10+2 of Council of Higher Secondary Education Manipur (COHSEM) or equivalent examination.

OR

Three year Diploma in a branch of Engineering from a polytechnic duly approved by All India Council for Technical Education and affiliated to a recognized examining body.

**Admission Process of BCA:** Admission test will be based on XII standard comprising standard Mathematics, English and General Aptitude. Test will be held only at Imphal Centre.

**Course Structure of BCA:** The course is 4-years university degree course since academic season 2022-2023. There are eight (8) semesters. Semester wise subjects are placed below:

Semester	Course code	Theory/ Practical	Credit	Paper Titles	Marks		Remarks
					S.A	L.A	
I	BCA101	Theory	4	Fundamentals of information Technology	75	25	
	BCA101 P	Practical	2	-do-	35	15	
	BCA-102	Theory	4	Programming using C	75	25	
	BCA102 P	Practical	2	-do-	35	15	
	BCASE-123A/B/C	Theory and Practical	4	Mathematical Foundation/ Office Automation Tools/PC Hardware and maintenance	75	25	
	AECC1A/B/C	Theory	4	English Communication (EC) / Manipuri (MN) / Hindi (HN)	75	25	
	VAC-1	Theory and Practical	2	NSS / Yoga		50	
	VAC-2	Theory and Practical	2	E-Waste Management /Personality Development		50	
II	BCA203	Theory	4	Programming with Python	75	25	
	BCA203 P	Practical	2	-do-	35	15	
	BCA204	Theory	5	Computer System Architecture	75	25	
	BCA204 T	Tutorial	1	-do-			
	BCASE-224-A/B/C	Theory and Practical	4	Linux Environment/ Object oriented programming using C++/ Digital Electronics	75 35	25 15	
	AECC2-ES	Theory	4	Environmental Science	75	25	
	VAC-3	Theory and Practical	2	Interpersonal Skill Development /Soft Skills /Cyber Security		50	
	VAC-4	Theory and Practical	2	IPR /Women Empowerment		50	
<b>Exit Option with Certificate</b>							

Semester	Course code	Theory/ Practical	Credit	Paper Titles	Marks		Remarks
					S.A	L.A	
III	BCA305	Theory	4	Data Structure using C	75	25	
	BCA305 P	Practical	2	-do-	35	15	
	BCA306	Theory	5	Operating System	75	25	
	BCA306 T	Tutorial	1	-do-			
	BCA307	Theory	5	Discrete Mathematics	75	25	
	BCA307 T	Tutorial	1	-do-			
	BCA101(GEC)	Theory	4	Fundamentals of information Technology	75	25	
	BCA101(GEC)	Practical	2	-do-	35	15	
	VAC-5	Theory and Practical	2	Kabui Dance, Wari Liba, Make-up Artist		50	
IV	BCA408	Theory	5	Probability and Statistics	75	25	
	BCA408	Tutorial	1	-do-			
	BCA409	Theory	4	DBMS	75	25	
	BCA409	Practical	2	-do-	35	15	
	BCA410	Theory	4	Web technologies	75	25	
	BCA410	Practical	2	-do-	35	15	
	BCA102(GEC)	Theory	5	Programming using C	75	25	
	BCA102(GEC)	Practical	1	-do-			
	VAC-6	Theory and Practical	2	Web Designing, Web development, Mobile app Development, Tally Accounting		50	
<b>Exit Option with Diploma</b>							

Semester	Course code	Theory/ Practical	Credit	Paper Titles	Marks		Remarks
					S.A	L.A	
V	BCA511	Theory	5	Computer Networks	75	25	
	BCA511	Tutorial	1	-do-			
	BCA512	Theory	4	Java Programing	75	25	
	BCA512	Practical	2	-do-	35	15	
	BCA519A/B/C	Theory	4/5	.NET/ Network Security/Computer Oriented Numerical Methods/	75	25	
	BCA519A/B/C	Practical/ Tutorial	2/1	. NET / Network Security / Computer Oriented Numerical Methods/	35	15	
	BCA203(GEC)	Theory	5	Programming with Python	75	25	
	BCA203(GEC)	Practical	1	-do-			
	VAC-7	Theory and Practical	2	Office Automation, Basics of Big Data, Introduction to Cloud Computing, IoT(Basics Only)		50	
VI	BCA613	Theory	5	Theory of Computation	75	25	
	BCA613	Tutorial	1	-do-			
	BCA614	Theory	5	Financial Accounting	75	25	
	BCA614	Tutorial	1	Financial Accountancy			
	BCA620A/B/C	Theory	4/5	Internet of Things (IOT) and its applications/ Cloud Computing/Machine learning	75	25	
	BCA620A/B/C	Practical/ Tutorial	2/1	-do-	35	15	
	BCA512(GEC)	Theory	5	Java Programming	75	25	
	BCA512(GEC)	Practical	1	-do-			
	VAC-8	Theory and Practical	2	Painting, First aid in day-to-day life, Basics of Agriculture, Corrective Rehabilitation		50	
<b>Exit option with Bachelor of Computer Applications</b>							

Semester	Course code	Theory/ Practical	Credit	Paper Titles	Marks		Remarks
					S.A	L.A	
VII	BCA715	Theory	4	Design and Analysis of Algorithm	75	25	
	BCA715	Practical	2	-do-	35	15	
	BCA716	Theory	4	Computer Graphics	75	25	
	BCA716	Practical	2	-do-	35	15	
	BCA721A/B/	Theory	4/5	Deep Learning/ Data Analysis and Visualization/ Fundamentals of Data Science	75	25	
	BCA721A/B/	Practical/ Tutorial	2/1	-do-	35	15	
	BCA410(GEC)	Theory	4	Web Technologies	75	25	
	BCA410(GEC)	Practical	2	-do-	35	15	
VIII	BCA817	Theory	4	Artificial Intelligence	75	25	
	BCA817	Practical	2	-do-	35	15	
	BCA818	Theory	5	Software Engineering	75	25	
	BCA818	Tutorial	1	-do-			
	BCA822A/B/C	Theory	4/5	Digital Image Processing/ Data Mining/ Project Work or Dissertation	75	25	
	BCA822A	Practical/ Tutorial	2/1	-do-	35	15	
	BCA825(GEC)	Theory	4	Introduction to Multimedia	75	25	
	BCA825(GEC)	Practical	2	-do-	35	15	
<b>Award of Bachelor of Honours in Computer Applications</b>							

### **Attendance:**

- Attendance will be calculated from the date of commencement of classes or the date of admission, whichever is later.
- A student attending at least 75% of the total number of classes held shall be allowed to appear at the concerned Semester Examinations subject to fulfilment of other conditions laid down in the regulations.

### **Minimum for a Pass in Semester Examination:**

1. For a pass in an end Semester Examination, a candidate shall be required to secure at least 40% marks separately in all theory /practical /tutorial papers covered in that semester.
2. A candidate shall be declared to have passed a Bachelor's program (Certificate /Diploma /Degree /Degree with Honours) if he/she secures at least CGPA of 4.0 ('P' Grade) in the 10-point grading system in all the credit courses over all semesters covered by the programme.

### **Transcript/Grade Certificate:**

After the result of a Semester Examination is published by the University, a grade certificate shall be issued by the Controller of Examination to all the registered students who have appeared in that semester examination. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

### **Award of Certificate/Diploma/Degree/Degree with Honours:**

If a candidate clears all the papers and secures a minimum of CGPA 4.00 in the 1<sup>st</sup> Year/2nd Year/ 3rd Year/ 4th Year Bachelor's programme examinations, as the case may be, he/she shall be declared as obtaining Bachelor's Certificate /Diploma /Degree /Degree with Honours respectively, with his/her CGPA and corresponding Letter Grade (O, A+, A, B+, B, C, P).

### **Eligibility for ranking:**

1. The candidates who pass all the end semester examinations in the first attempts are eligible for ranks provided they secure at least CGPA of 7.00 ('B+' grade).
2. A candidate who passes the end-semester examinations in parts is eligible for only Class, CGPA and Letter Grade but not for ranking.
3. The results of the candidates who have passed the last semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed the Lower Semester Examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.
4. If a candidate fails in a subject, either in theory paper or in practical paper, he/she shall appear for that subject only at any subsequent regular examination, as prescribed for completing the programme.

### **Power to remove Difficulties:**

If any difficulty arises in giving effect to the provisions of these Regulations, the Vice-Chancellor may, by order, may make such provisions, as appears to be necessary or expedient to remove the difficulty.

## 9.5 Academic Curriculum for Master of Science in Information Technology (MSc. IT)

The overall design logic/objective of the **Master of Science in Information Technology (MSc. IT)** syllabus is to capture and to encompass the following targeted aspects:

- (i) Providing a balanced and cohesive environment of theory and practical. Every semester has a practical paper covering selected theory papers in the semester.
- (ii) Offering a career oriented platform in software development. The course has subjects to prosper skill and creativity in the field of software development specially web, android and Java applications.
- (iii) Setting the main foundation on core Computer Science subjects.
- (iv) Incorporating advanced and emerging trends in Computer Science and Technology, such as Artificial Neural Network, Machine Learning, Pattern Recognition, Cryptography and Network Security.
- (v) Thriving MSc.IT as a brother of none of the degrees of similar characters. The syllabus attempts to provide a special flavor of its own.

**Recognition:** This course is affiliated to Manipur University. The course is a Two Years (4-semesters) Master Degree Course awarded by Manipur University.

**Eligibility for MSc.IT:** A candidate who has qualified any one of the following degree (i, ii) with at least 50% marks (45% for reserved) of this University or any other university recognized as equivalent thereto shall be admitted to the first year of M.Sc.(Information Technology) Course.

OR

Bachelor's degree in any discipline from a recognized university with Mathematics/Computer Science/Statistics as one of the subjects at 10+2 level or graduation.

OR

BCA or BSc in IT / Computer Science / Physics / Mathematics/ Electronics Physics / or any relevant Computer related recognized subject as one of the subject



**Admission Process of MSc. IT:** The admission test will be of 2-hours duration and based on Mathematics of XII standard and general aptitude of graduate standard.

**Course Structure of MSc. IT:** There are 21 modules and 01 Project to be covered in 02 years (04 Semesters). Semester-wise papers are listed below

Code No.	Paper	Internal Assessment Mark	University Exam	Total
<b>Semester-I</b>				
MSCIT-101	Discrete Structure	25	75	100
MSCIT-102	Programming and Problem Solving in C	25	75	100
MSCIT-103	Digital Electronics	25	75	100
MSCIT-104	Principles of Management	25	75	100
MSCIT-105	Introduction to Unix	25	75	100
MSCIT-106	Programming Lab-1	50	50	100
<b>Total of Semester-I</b>		<b>195</b>	<b>425</b>	<b>600</b>
<b>Semester-II</b>				
MSCIT-201	Database Management System	25	75	100
MSCIT-202	Computer Organization and Architecture	25	75	100
MSCIT-203	Web Technology and Applications	25	75	100
MSCIT-204	Data Structure Using C	25	75	100
MSCIT-205	Computer Network	25	75	100
MSCIT-206	Programming Lab-2	50	50	100
<b>Total of Semester-II</b>		<b>195</b>	<b>425</b>	<b>600</b>
<b>Semester-III</b>				
MSCIT-301	Operating Systems	25	75	100
MSCIT-302	Software Engineering	25	75	100
MSCIT-303	Design and Analysis of Computer Algorithms	25	75	100
MSCIT-304	Artificial Intelligence	25	75	100
<b>MSCIT-305 (CBCS1)</b> MSCIT-305:E1.1 MSCIT-305:E1.2	<b>Elective-I (one from the following)</b> Java and Android Programming C# and .Net	25	75	100
MSCIT-306	Programming Lab-3	50	50	100
<b>Total of Semester-III</b>		<b>195</b>	<b>425</b>	<b>600</b>
<b>Semester-IV</b>				
MSCIT-401	Data Warehousing and Data Mining	25	75	100
<b>MSCIT-402</b> MSCIT-402:E2.1 MSCIT-402:E2.2 MSCIT-402:E2.3	<b>Elective II (one from the following)</b> Artificial Neural Networks Computer Graphics Fuzzy Set Theory and Applications	25	75	100
<b>MSCIT-403 (CBCS2)</b> MSCIT-403:E3.1 MSCIT-403:E3.2 MSCIT-403:E3.3	<b>Elective II (one from the following)</b> Machine Learning Cryptography and Network Security Pattern Recognition	25	75	100
MSCIT-404	Project	100	200	300
<b>Total of Semester-IV</b>		<b>175</b>	<b>425</b>	<b>600</b>

### **Mode of Examination of MSc. IT Course as per Manipur University Rules:**

- (i) Each theory paper in the Semester Examination shall be of three hours duration and shall carry 75 marks.
- (ii) Each practical paper in the Semester Examination shall be of four hours duration to be performed in one day and shall carry 75 marks.
- (iii) Internal assessment of each paper (both theory and practical) shall be based on such works as assignments / practical / seminars / unit tests / minor projects, etc.
- (iv) Regarding major project in the Fourth Semester, each candidate shall be assigned by the Head of Department to an organization for project work for a period to be specified (not less than 5 months) in advance as may be necessary in each case under the supervision (internal) of a teacher of the Department. The organization will also assign a supervision (external) who will guide the candidate in carrying out the project. The candidate shall be required to maintain his project diary of work in the organization.
- (v) Internal assessment marks awarded should be submitted by the course-in-charge to the University before commencement of the Semester Examination.

### **Minimum pass marks and classification of Successful Candidates for MSc. IT course:**

Pass marks for the internal assessment in case of theory paper shall be 40%. If a candidate fails to pass in the internal assessment he/she will not be permitted to appear at the Semester Examination (University Exam) of that paper and he/she will be considered to have scored zero marks in the paper. If a candidate fails to pass in the internal assessment, he/she will be required to complete all the requirements of the internal assessment again, and secure not less than 40% in the internal assessment so as to become eligible to appear in the corresponding Semester Examination.

The same procedure shall be followed in the case of practical papers except that the pass marks for the internal assessment in case of practical will be 50%.

### Passing of First Year:

- 1(a) The minimum marks for passing the First Year (First and Second Semesters taken together) shall be 40% in each theory paper and 50% in each practical paper and 50% marks in aggregate of all papers prescribed in the First and Second Semesters in addition to the passing criteria prescribed in the previous para.
- 1(b) If a candidate has passed in all the papers of the First Year but fails to secure 50% in aggregate of all the papers in the First Year, such a candidate shall be required to reappear in some of the papers of the First Year in the corresponding Semester Examination so that he may improve the First Year aggregate marks to 50% or more.
- 1(c) A candidate may be provisionally promoted to Second Year (Third Semester) if he has passed in at least eight (8) out of 12 papers prescribed in the First Year and provided that he has secured at least 50% marks in aggregate of all the papers of the First Year (including the marks in the failed papers). Such a candidate shall be required to pass the failed papers of the First Year in the corresponding Semester Examination.
- 1(d) A candidate who fails to satisfy the criteria in 1(a), 1(b) and 1(c) for promotion to the Second Year shall be required to rejoin the course in the First Year, if otherwise eligible in accordance with the University regulations laid down in this regard.

### Passing of Second Year:

- 2(a) The minimum marks for passing the Second Year (Third and Fourth Semesters taken together) shall be 40% in each theory paper and 50% in each practical paper and 50% marks in the aggregate of all the papers prescribed in the Third and the Fourth Semesters in addition to the passing criteria prescribed in 16.5.

### **Award of Certificate & Grade System:**

- 3(a) No candidate shall be deemed to have satisfied the examination requirements for the award of MSc.IT degree

unless he fulfills the criteria for passing the First Year and the Second Year

- 3(b) Candidate eligible for the award of MSc.IT degree shall be classified on the basis of the marks obtained in the First, the Second, the Third, the Fourth and System Project of the Fourth Semester taken together as follows:
- 3(c) First division with distinction: 75% or more marks in the aggregate (provided that the candidate has passed all the papers and all the examination in the first attempt).
- 3(d) First division: 60% or more marks but fails to satisfy the criteria for being classified as first division with distinction as laid down in 3(c).
- 3(e) Second division: All, other than those included in 3(c) and 3(d) above.
- 3(f) No rank shall be awarded to a candidate who has taken more than one attempt in clearing a course.

Notwithstanding anything contained above, a candidate for the MSc.IT degree must pass the final examination within a period of four consecutive academic years from the session of his/her admission to the First Semester of the Course.

**Employment Opportunities:**

The MSc.IT post graduates are suitable for employment as

- ✓ System Analyst/Administrator
- ✓ Software Engineer
- ✓ R & D Scientist
- ✓ EDP Manager
- ✓ Teaching Faculty for Computer Science etc.

## 9.6 Academic Curriculum for Master of Computer Application (MCA)

**1. Objective:** The Objective of the course is to impart knowledge and training to the candidates to become a Master degree holder in Computer Application in the general area of Information Technology. The MCA degree holders are suitable for employment as Programmer, System Analyst and Administrator or Faculty in colleges for Computer & IT subjects.

**2. Recognition:** This course is affiliated to Manipur University. The course is a **Two Years** (4-semester) Master Degree Course awarded by Manipur University.

**3 Minimum Duration:** The programme shall be a full time programme extended over a period of two academic year duration divided into four semesters and each semester shall be of 16 weeks duration.

**4 Maximum duration:** A student shall be allowed a maximum duration of 4 years from the first semester of admission to become eligible for the award of the degree, failing which he/she may discontinue the program or register once again as a fresh student to semester I.

**5 Prescribed Number of Credits for the Programme:** The number of credits to be completed for the award of degree shall be 100.

### 6 Definition of Credits:

01 hour Lecture (L) per week per semester = 1 Credit

01 hour Tutorial (T) per week per semester = 1 Credit

02 hour Practical (P) per week per semester = 1 Credit

Four credit Courses are designed for 50 hours Teaching - Learning process.

Two credit Courses are designed for 30 hours Teaching - Learning process

### 7 Eligibility for MCA:

Passed BCA/ Bachelor Degree in Computer Science, Engineering or equivalent Degree.

OR

Passed B.Sc./B.Com./B.A. with Mathematics at 10+2 level. Obtained at least 50% marks in the Degree Examination.

**8 Admission Process:** The students will be selected based on the Entrance Test/Counselling conducted by the Institution/ Common University Entrance Test-PG (CUET) conducted by the National Testing Agency (NTA). Admission Test conducted by the Institution is based on Mathematics of XII standard and general aptitude of graduate standard.

**9 Course Structure:** The curriculum of the programme shall be any combination of following types of courses:

- i. **Core Courses (CC)** – the core course is to be compulsorily studied by a student and is mandatory to complete the requirements of a programme in a said discipline of study.
- ii. **Elective Courses (EC)** – these are the courses, which can be chosen from the pool of papers relevant to the chosen specialization. It shall be an exposure to some other discipline/domain/nurturing student skills. A student shall exercise his/her option in respect of the electives and register for the same before the beginning of the concerned semester.
- iii. **Choice Based Credit System (CBCS)** – the papers offered by the department has to be taken by the students from other departments. The students of MCA Course must not take any Computer Science paper offered as CBCS paper by other Departments.
- iv. **Bridge Course (BC)** – Graduates, not having graduation in Computer Science / Information Technology / Computer Applications or equivalent Degree, need to complete the three (3) bridge courses (Computer organization & Architecture, Introduction to Unix, C Programming and Data Structures) in the first year of MCA. Bridge Course papers are non-credit papers and for the promotion to Third (3) semester, a student need to pass all the Bridge Courses.
- v. **Major Project** – The student shall exercise his/her option in carrying out the major project work in 4th semester, either at any Organization or at the Department/Institute.

## 10 Semester-wise papers (as per Manipur University):

Course Code	Title	L-T-P H/W	Total Credit	Full Marks	
				Internal	External
<b>Semester I</b>					
MCABR1	Computer Organization & Architecture (Bridge Course 1)	3-1-0	0		

MCABR2	Introduction to UNIX & C Programming (Bridge Course 2)	3-1-0	0		
MCA-101C	Object Oriented Programming using JAVA	3-1-0	4	25	75
MCA-102C	Mathematical Foundation for Computer Applications	3-1-0	4	25	75
MCA-103C	Problem Solving with Python	3-1-0	4	25	75
MCA-104C	Operating System	3-1-0	4	25	75
MCA-105C	Advanced Web Technology	3-1-0	4	25	75
MCA-106CL	Java programming + Web Tech	0-1-6	2	10	40
MCA-107CL	Python + UNIX/Shell Programming Lab	0-1-6	2	10	40
<b>Semester Total</b>			<b>24</b>	<b>600</b>	
<b>Semester II</b>					
MCABR3	Data Structure (Bridge Course 3)	3-1-0	0		
MCA-201C	Probability and Statistics	3-1-0	4	25	75
MCA-202C	Computer Networks	3-1-0	4	25	75
MCA-203C	Database Management Systems	3-1-0	4	25	75
MCA-204C	Formal Language and Automata Theory	3-1-0	4	25	75
MCA-205C	Software Engineering	3-1-0	4	25	75
MCA-206C	Elective 1	3-1-0	4	25	75
MCA-207CL	Data Structure Lab	0-1-6	2	10	40
MCA-208CL	DBMS Lab	0-1-6	2	10	40
<b>Semester Total</b>			<b>28</b>	<b>700</b>	
<b>Semester III</b>					
MCA-301C	Artificial Intelligence	3-1-0	4	25	75
MCA-302C	Design and Analysis of Algorithm	3-1-0	4	25	75
MCA-303C	Computer Graphics	3-1-0	4	25	75
CBCS1	IT Tools and Applications	3-1-0	4	25	75
MCA-304C	Elective 2	3-1-0	4	25	75
MCA-305C	Elective 3	3-1-0	4	25	75
MCA-306CP1	Minor Project	0-1-6	4	25	75
<b>Semester Total</b>			<b>28</b>	<b>700</b>	
<b>Semester IV</b>					

CBCS2	Web Technology/Data Analysis using Python Programming	3-1-0	4	25	75
MCA-401CP2	Major Project	0-1-6	12	300	
MCA-401IV	Industrial Visit		4		
<b>Semester Total</b>			<b>20</b>	<b>400</b>	
<b>Semester II Elective - 1</b>					
MCA-206C E1.1	Combinatorics and Graph Theory	3-1-0	4	25	75
MCA-206C E1.2	Digital Image Processing	3-1-0	4	25	75
MCA-206C E1.3	Machine Learning	3-1-0	4	25	75
MCA-206C E1.4	Data Visualization	3-1-0	4	25	75
MCA-206C E1.5	Neural Network	3-1-0	4	25	75
<b>Semester III Elective - 2</b>					
MCA-304C E2.1	Natural Language Processing (NLP)	3-1-0	4	25	75
MCA-304C E2.2	Computer and Network Security	3-1-0	4	25	75
MCA-304C E2.3	Data Analytics	3-1-0	4	25	75
MCA-304C E2.4	Blockchain	3-1-0	4	25	75
MCA-304C E2.5	Data Mining	3-1-0	4	25	75
MCA-304C E2.6	DevOps	3-1-0	4	25	75
MCA-304C E2.7	Text Mining and Analytics	3-1-0	4	25	75
<b>Semester III Elective - 3</b>					
MCA-305C E3.1	Internet-of-Things	3-1-0	4	25	75
MCA-305C E3.2	Deep Learning	3-1-0	4	25	75
MCA-305C E3.3	Cloud Computing	3-1-0	4	25	75
MCA-305C E3.4	Computer Vision	3-1-0	4	25	75
MCA-305C E3.5	Big Data Analytics	3-1-0	4	25	75
MCA-305C E3.6	Wireless Sensor Network/ Mobile Adhoc Network	3-1-0	4	25	75
MCA-305C E3.7	High Performance Parallel Programming	3-1-0	4	25	75



## **11 Scheme of Examination and Evaluation (as per Manipur University rules):**

- i. A student has to attend 75% of lectures delivered including tutorials and practical.
- ii. A student has to obtain a minimum of 40% i.e. 10 marks out of 25 in the internal assessment which is to be awarded by the course-in-charge and 30 marks out of 75 marks from the end semester examination. Only students who have passed in the internal assessment can appear in the end semester examination of the paper.

For courses with credit 2, the internal mark will be 10 marks and its pass mark is 4 i.e. 40% and 40 marks from the end semester exam and the pass mark is 16 marks i.e. 40%.

## **12 Criteria for award of Class (as per Manipur University rules):**

- i. To pass the MCA examination, the student has to secure 50% or above marks in the aggregate.
- ii. A student who has passed all the papers in all the semesters and secured 50% or above marks but less than 60% marks in the aggregate shall be declared to have passed the MCA examination in the Second Class.
- iii. A student who has passed all the papers in all the semesters and secured 60% or less than 75% marks in the aggregate shall be declared to have passed the MCA examination in the First Class.
- iv. A student who has passed all the papers in all the semesters and secured 75% or above marks in the aggregate (provided that the candidate has passed all the papers and all the examinations in the first attempt) shall be declared to have passed the MCA examination in the First Class with Distinction.
- v. A student who has passed in all the papers but secured less than 50% marks in the aggregate can give improvement only in those papers which he/she secured less than 50% within the prescribed **Maximum duration**.

- vi. A student of MCA course should complete (including the examinations) within a maximum period of **FOUR (4)** consecutive academic years

### **13 Award of Degree and Certificate**

- i. A student who has passed the MCA Examination by satisfying all the criteria listed above shall be awarded the degree of MCA in the year in which he/she passes the last examination/paper.
- ii. A student who has passed the MCA Examination by satisfying all the criteria listed above by giving improvement in any of the MCA papers will not be entered in the merit list.

## **10. ACADEMIC CURRICULUM FOR NIELIT NON-FORMAL COURSES**

### **10.1 Academic Curriculum for NIELIT 'O'-level IT Course**

The objective of the course is to equip a student with necessary skills as per following job role.

- i. User Interface (UI) Designer
- ii. Web Designer
- iii. Web Publication Assistant
- iv. Office Automation Assistant
- v. IoT Application Integrator

**Course Recognition:** The 'O' Level Certificate is recognized as equivalent to Foundation Level Course by the Government of India for the purpose of employment vide Notification No. 43 & 49 dated 1st March, 1995 and 10th April, 1996 respectively issued by the Ministry of HRD, Government of India.

**Eligibility:** Must have passed 10+2 or ITI certificate (one year) after matric or successfully completed the second year of a Government recognized polytechnic engineering diploma course after class 10.

**Admission Test:** The selection for admission to these courses is mainly on the basis of a general aptitude written test of XII standard.

**Course Structure:** There will be 04 (four) theory papers and 01(one) practical paper to be completed in 6 months for the students who opt 6 months after graduation and 1 year for the students after 10+2 and 01 (one) project work.

<i>Module No</i>	<i>Course Title</i>	<i>Lecture Hrs.</i>	<i>Practical Hrs.</i>
M1-R5	Information Technology Tools & Basics of Network	48	72
M2-R5	Web Designing & Publishing	48	72
M3-R5	Programming and Problem Solving through Python	48	72
M4-R5	Internet of Things & its Applications	48	72
M5-R5	Practical based on M1-R5, M2- R5 , M3-R5 and M3-R5	-	-
M6-R5	Project Work	-	40

**Examination:** Examinations are conducted by NIELIT twice in a year with the following datelines. Details are available in the <https://student.nielit.gov.in>. Each theory module examination will be of three-hour duration and the full marks will be 100 marks. The practical examination based on M1, M2, M3 & M4 papers will have 100 marks (80 for Practical and 20 for Viva Voce). Completion of project work is mandatory for award of pass certificate after passing all theory and practical papers.

**Result of Examinations:** Results of 'O' and 'A' Levels are available in [www.nielit.gov.in](http://www.nielit.gov.in). Results are sent as grades to the candidates. Gradation is as follows:

Grade system:

<i>Marks</i>	<i>Grade</i>
Below 50%	F (Failed)
50 – 54%	D
55 – 64%	C
65 – 74%	B
75 – 84%	A
85 and above	S

**Award of Certificates:** The students would be eligible for the award of 'O' Level Certificate on successfully qualifying the Theory Examinations of all modules, Practical Examination and the Project.

## 10.2 Computer Hardware Maintenance-Technician (CHM-T O-Level)

The objective of the Diploma in Computer Hardware Maintenance (CHM-O Level) Course is to train 10+2 qualifiers to acquire basic knowledge in Computer Hardware & Peripherals for installation, troubleshooting & maintenance including system software management and its back up and to undertake disaster prevention, diagnosis and rectification of faults besides personality development and communication skills.

After the successful completion of course the candidate may be employed as Technicians (PC), Assistant System Administrators, Lab Demonstrators, troubleshooters etc.

**Course Recognition:** Diploma in CHM-O level is recognized by NIELIT and all the coordination and certifications are provided by NIELIT Aurangabad (Nodal Agency).

**Eligibility:** 10+2 Passed (any stream) or ITI (One year after 10 passed) in Electrical/Electronics/Computers/Instrumentation Engineering.

**Admission Process:** The selection for admission to these courses is mainly on the basis of a general aptitude written test of XII standard or based on the X and XII standard marks.

**Course Structure:** There will be 06 (four) modules to be completed in 6 months. Practical for all the modules will be conducted along with the theory papers.

<i>Module No.</i>	<i>Course Title</i>	<i>Theory Hrs.</i>	<i>Practical Hrs.</i>
CHM-H1	PC Hardware components	30	30
CHM-H2	PC Architecture	30	20
CHM-H3	Advanced Networks and Networking Peripherals	40	40
CHM-H4	Operating System, Software and Tools	40	40
CHM-H5	Personality Development	34	16
CHM-H6	Devices and Applications	40	40

**Examination Pattern:** There will be online exam for theory and offline exam for practical. All the exam will be conducted at the institute only. The theory exam would be of 100 marks & the practical exam would be of 50 marks. To pass the course, 50% marks are required in both theory and practical component in all the six modules. The theory examination for each module would be for duration of 1 ½ hours. Dates for the various activities connected with examinations

will be announced on website, well in advance of the examinations. The marks are translated into grades, while communicating results to the candidates as given below:

Grade system:

Marks	Grade
Below 50%	F (Failed)
50 – 54%	D
55 – 64%	C
65 – 74%	B
75 – 84%	A
85 and above	S

**Award of certificate and grade systems:** When the candidate will pass in all the examinations (including theory and practical), a digital course completion certificate with grade will be provided by the NIELIT which will be issued by NIELIT Aurangabad.

## 11. ACADEMIC CURRICULUM FOR DIGITAL LITERACY COURSES

### 11.1 Awareness Computer Course (ACC)

**Objective of ACC:** By undergoing the Awareness in Computer Concepts (ACC), one should be able to acquire basic knowledge on computer & its usage by understanding the following skills:

- How to operate the elements of a computer
- Perform basic operations on the computer
- Create, edit and format documents using a word processor
- Access the Internet and finding information of interest
- Register for a web-based e-mail account and using it, Opening of e-mail attachments
- Understanding Financial Literacy
- Digital Literacy to understand the concept of Online Banking
- Understanding the available e-Governance Services

The module on financial literacy will enable the individuals to understand the various financial services and be aware of the various schemes of Government of India

**Eligibility:** No minimum qualification is required for applying and appearing for the examination in course on Awareness of Computer Concepts (ACC).

**Duration:** 20 Hours - (Theory: 9 hrs + Practical: 11 hrs)

**Examination:** NIL

## 11.2 Basic Computer Course (BCC)

**Objective of BCC:** In step with effort to achieve the objective of achieving computer literacy in an inclusive manner, NIELIT has launched a new programme, “Basic Computer Course (BCC)”. The objective of the course is to impart basic level computer appreciation programme with more emphasis on hands on training. Initially, the course was conceived as to boost the concept of introducing a course on computer fundamentals, especially for students, studying vocational courses at ITIs/ITCs. However, the course has gained popularity amongst many more categories. The BCC was launched in year 2011. The programme can equip a person to use the computers in day-to-day life for professional and personal use. After completing the course the incumbent will be computer literate and will be able to:

- Acquire confidence in using computer techniques available to users;
- Recognize the basic components of computers and terminology;
- Understand data, information and file management;
- Create documents using Word processor, Spreadsheet & Presentation Software;
- Understand computer networks, Internet;
- Browse the internet, content search, email and collaborate with peers;
- Use e-Governance applications;
- Use computer to improve existing skills and learn new skills.

**Eligibility:** No specific educational qualifications;

**Duration:** The total duration of the course is 36 hours, consisting theory, tutorials & Practical.

**Examination:** Examination for the BCC is conducted by the NIELIT online 1<sup>st</sup> Saturday of every month (except January). There are many online Examination centres throughout the country. In Manipur State, Examination Centres are at NIELIT Imphal and its Extension Centres at Churachandpur & Senapati.

### 11.3 Course on Computer Concepts (CCC)

This course is designed to aim at imparting a basic level IT Literacy programme for the common man. This programme has essentially been conceived with an idea of giving an opportunity to the common man to attain computer literacy thereby contributing to increased and speedy PC penetration in different walks of life. After completing the course the incumbent should be able to use the computer for basic purposes of preparing his personnel/business letters, viewing information on internet (the web), receiving and sending mails, preparing his business presentations, preparing small databases etc. This helps the small business communities, housewives, etc. to maintain their small accounts using the computers and enjoy in the world of Information Technology. This course is, therefore, designed to be more practical oriented.

**Eligibility:** No specific educational qualifications;

**Duration:** The total duration of the course is 80 hours, consisting theory, tutorials & Practical

**Examination:** Examination for the CCC is conducted by the NIELIT online 1<sup>st</sup> Saturday of every month (except January). There are many online Examination centres throughout the country. In Manipur State, Examination Centres are at NIELIT Imphal and its Extension Centres at Churachandpur & Senapati.

#### **Course structure:**

<b>Sl No.</b>	<b>Chapter</b>	<b>Theory Hours</b>	<b>Tutorial Hours</b>	<b>Practical Hour</b>
1	Introduction to computer	2	1	4
2	Introduction to GUI Based Operating System	3	-	8
3	Elements of Word Processing	3.5	2	9
4	Spreadsheets	3.5	2	10
5	Introduction to Internet, WWW and web browsers	6	-	8
6	Communication and Collaboration	2	-	2
7	Application of presentations	4	-	8
8	Application of Digital Financial Services	1	-	1
<b>Total:</b>		<b>25</b>	<b>5</b>	<b>50</b>

## 12. ACADEMIC CURRICULUM FOR JOB ORIENTED NSQF ALIGNED SKILL DEVELOPMENT COURSES

### 12.1 Solar PV Installer (Suryamitra)

**Course Duration:** 300 hours

**Eligibility:** 10th pass + ITI / Diploma

**NSQF Level:** 4

**Syllabus Outline:** Site Survey for Solar PV system , Assess the customer's PV system requirement , Procure Solar PV system Components ,Install Civil and Mechanical parts of Solar PV System, Install Electrical components of Solar PV system Test and Commission Solar PV system. , Maintain Solar Photovoltaic System , Maintain Personal health & safety at project site, Customer Orientation for Solar PV system.

**Certification and Examination:** The assessment for the Theory part will be Offline based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** Sales Manager / Sales Engineer / Marketing Engineer / Industrial sales/ Corporate Sales

### 12.2 Goods Services Tax (GST) Accounts Assistant

**Course Duration:** 100 hours

**Eligibility:** Graduation in Commerce/allied subjects or Diploma in commercial Practice

**NSQF Level:** 4

**Syllabus Outline:** Basic Accounting principles, Accounting concepts and techniques for recording transactions, Financial concepts such as calculation of interest, Concept of GST ,How



different taxes will subsume under GST, Applicability of GST, Invoice and particulars thereof, Accounting processes and procedures to record, the details of invoice, The difference between invoice and other supported documents (like Purchase order, delivery challan, etc.).

**Certification and Examination:** Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center. To pass the Qualification Pack, every trainee should score a minimum of 50% in every NOS.

**Job Opportunities:** Entry level Accountant

### 12.3 DAS Set-top Box Installer and Service Technician

**Course Duration:** 200 hours

**Eligibility:** 8<sup>th</sup> or 9<sup>th</sup> pass with 2-years' experience or 10<sup>th</sup> pass with no experience.

**NSQF Level:** 4

**Syllabus Outline:** Install Set Top Box and check RF signal strength, check Digital Signal Strength and quality, align distribution amplifier, connect set top box with TV, connect home theatre System with TV / STB via HDMI, Audio / Video / Video / SPDIF etc. Servicing and resolving, check the AC Mains output with the help of Multimeter and check the external power supply (Adaptor DC Output), Importance of 5S on Productivity & Management, Interaction with Superior, Company Policies and Safety Procedures, Basic Communication Skills, Interact with Supervisor, Coordination with Colleagues, Digital Literacy: A Recap, Money Matters, Preparing for Employment & Self-Employment, Understanding Entrepreneurship, Preparing to be an Entrepreneur.

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** DAS STB Installer & Service Technician, Test & Repair Technician/ Engineer.

## 12.4 LED Light Repair Technician

**Course Duration:** 200 hours

**Eligibility:** ITI/Diploma (Electrical/Electronics)

**NSQF Level:** 4

**Syllabus Outline:** Basic of Electronic Components and Electricity, Basics of Electricity , Manual Soldering ,LED Basics Basic Parameters of LED, LED Power Sources, Thermal Management of LEDs , LED Configuration ,LED Luminary Assembly , Selection of LED Drivers , Diagnosing and Repairing LED Light,, Electro Static Discharge (ESD) , Safety Standards , Importance of 5S on Productivity & Management ,Interaction with Superior, Company Policies and Safety Procedures , Basic Communication Skills, Interact with Supervisor, Coordination with Colleagues ,Digital Literacy: A Recap, Money Matters, Preparing for Employment & Self-Employment, Understanding Entrepreneurship, Preparing to be an Entrepreneur.

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** LED Light Repair Technician

## 12.5 CCTV Installation Technician

**Course Duration:** 200 hours

**Eligibility:** 12<sup>th</sup> Pass

**NSQF Level:** 4

**Syllabus Outline:** Basics of electricity, Basics of electronics, Connectors and Cables, Basics of Networking Tools and Equipment, Objective of the Module, Introduction to Electronics Surveillance Introducing CCTV,CCTV Technology, Objective of the Module, Pre-Installation Activities Customer Requirements and Site Analysis,

Selection of Components Objective of the Module, Planning for CCTV Camera Installation, Checking the Camera Functions, Objective of the Module ,Connecting Camera and DVR with System, Configuring Network Settings ,Checking the Functioning of the System, Basic Communication Skills, Interact with Supervisor, Coordination with Colleagues ,Digital Literacy: A Recap, Money Matters, Preparing for Employment & Self-Employment, Understanding Entrepreneurship, Preparing to be an Entrepreneur.

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** CCTV Installation Technician, Access Controls Installation Technician

## **12.6 DTH STB Installer & Service Technician**

**Course Duration:** 200 hours

**Eligibility:** 8<sup>th</sup>-9<sup>th</sup> pass with 2-years' experience or 10<sup>th</sup> pass with no experience

**NSQF Level:** 4

**Syllabus Outline:** Introduction to DTH History, Introduction to DTH Terminologies, Introduction to Components of a Satellite, Understand DTH vs. Other Service, Understand DTH Government Regulation, Market and Future, Understand Piracy in DTH Business, Tool Familiarization, Know your Tools, Understand about Antenna Assembly Components, Consumables Used for DTH Installation, Steps in Installation of a Dish Antenna, Discussion of Potential Mounting Sites, Finding Right Location for Dish, To Dos for Ideal DTH Site Selection, Finding Right Orientation of Mast or Pole, How to Mount Bracket and Mast Assembly, How to Assemble Antenna Assembly How to do Correct Dish Positioning, How to do Correct Cable Routing, How to do Correct Connection, Digital Literacy: A Recap, Money Matters, Preparing for Employment & Self-Employment, Understanding Entrepreneurship, Preparing to be an Entrepreneur.

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** DTH STB Installer & Service Technician, Test & Repair Technician/ Engineer

### **12.7 Field Technician – Air-conditioner**

**Course Duration:** 200 hours

**Eligibility:** 8<sup>th</sup> Pass with 2 years' experience as Field Technician or 10<sup>th</sup> Pass/ higher qualification with no experience

**NSQF Level:** 4

**Syllabus Outline:** basic electronics, Servicing and resolving faults, check the AC Mains and external power supply , Safety precautions while servicing Air-conditioner carry out basic tests such as power supply inspection, volt ampere test and earthing test power supply, compressor, motors, PCB, condenser, Basic Communication Skills, Interact with Supervisor, Coordination with Colleagues ,Digital Literacy: A Recap, Money Matters, Preparing for Employment & Self-Employment, Understanding Entrepreneurship, Preparing to be an Entrepreneur.

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** Field Technician – Air- Conditioner, Service Supervisor, Field Engineer

### **12.8 Field Technician – UPS and Inverter**

**Course Duration:** 240 hours

**Eligibility:** Class 8<sup>th</sup> passed, ITI/Diploma (Electrical/Electronics)

**NSQF Level:** 4

**Syllabus Outline:** basic electronics, Basic introduction of Inverter, basic electronics, Using tools and machines for servicing and repairing of Inverter and UPS. Difference between Inverter and Generator, PCB Components ,and parts PCB assembling and wiring, Use of component ,mounting inverter fitting, Inverter wiring theory PCB Soldering ,Transformer relay and soldering Inverter wiring testing-theory, Inverter fault- theory , Introduction to Battery and basic components , Classification of Battery , Construction and working of Battery-theory , Repairing and servicing of UPS and Inverter- theory ,Safety precautions while servicing Inverter and UPS carry out basic tests such as power supply inspection, volt ampere test and earthing test power supply, compressor, motors, PCB, condenser.

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** Site Support Er (control panel), Safety officer – Support (control panel), Site Manger - Support (control panel)

## **12.9 Field Technician – Other Home Appliances**

**Course Duration:** 300 hours

**Eligibility:** Class 8th passed, ITI/Diploma (Electrical/Electronics)

**NSQF Level:** 4

**Syllabus Outline:** Understand the symptoms in the water purifier and identify the fault , Replace dysfunctional part in the water purifier unit Confirm functionality of the repaired unit , Achieve productivity and quality as per company's norms ,Understand the symptoms in the appliance and identify the fault ,Replace dysfunctional part of the small appliance , Confirm functionality of the repaired unit ,Achieve productivity and quality as per company's norms Understand the symptoms in the microwave and identify the fault, Replace dysfunctional part in the microwave , Confirm functionality of the repaired unit , Achieve productivity and quality as per company's norms

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** Field Technician – Other Home Appliances, Service Supervisor, Trainers, Area Service In-charge.

## **12.10 Smartphone Repair Technician**

**Course Duration:** 200 hours

**Eligibility:** 10<sup>th</sup> pass with one year experience

**NSQF Level:** 4

**Syllabus Outline:** Types of Mobile Phones and related technologies, Latest Trends in the telephonic technology, Handling of Mobile repair Equipment's, Software and Hardware Components, Diagnosing and Repairing Mobile Phone Faults (Trouble Shooting), Potential risks associated with mobile phone repair. Knowledge on Mobile Based Apps and updating the mobile software's Rules of Mobile Communication. Tools and instruments used in mobile phone repairing. Use of Tools/ Equipment and Various components used in mobile phones. , Assembling Parts of mobile phones (mike, speaker, buzzer, LCD, antenna, etc.), Use of Multimeter and use of, Battery Booster. Basic Circuit Board/Motherboard fault checking, Assembling & disassembling of different mobile phones. , Soldering & DE soldering Components Using Different Soldering Tools. , Change of different ICs. Work of Different ICs., Fault finding & troubleshooting. , Jumpering Techniques. Troubleshooting through circuit diagrams, Repairing procedure for repairing different hardware faults, Maintaining Safety and clean working environment

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** Smartphone Repair Technician, Test & Repair Technician/Engineer, Facilities Management Engineer, Managed Services Engineer, Zonal & Regional Service Head, Service Head

### **12.11 Solar Panel Installation Technician**

**Course Duration:** 200 hours

**Eligibility:** 10th Pass

**NSQF Level:** 4

**Syllabus Outline:** Basics of Electricity and Power Generation System, Renewable Energy & Solar Energy System, Solar Cells, Photovoltaic Solar Panels, Electrical Power System, Components for Solar PV System, Solar PV Modules, Batteries in a PV System, Charge Controllers, Inverters, Mounting Structures, Responsibilities of a Solar Panel Installation Technician, Prerequisites for Solar Panel Installation, Site Analysis, Installation & Maintenance of Solar Panel, Work Ethics, Workplace Safety, Soft Skills, Personal Strengths & Value Systems, Digital Literacy, A Recap, Money Matters, Preparing for Employment & Self-Employment, Understanding Entrepreneurship, Preparing to be an Entrepreneur

**Certification and Examination:** The assessment for the Theory part will be Online based on knowledge bank of questions created by the SSC. Practical and Viva will be conducted by Third Party Assessor. Every trainee should score a minimum of 70% in every assessment for passing.

**Job Opportunities:** Installation Engineer

## 13. PLACEMENT PROFILE

### PLACEMENT PROFILE OF EX-STUDENTS OF NIELIT IMPHAL (formerly DOEACC)

1	ABB India Ltd.,Faridabad	59	Indian Railways,Calcutta
2	Acadamy of Computer & Electronics Centre, Mizoram	60	Irrigation & Flood Control Department (IFCD), Govt. of Manipur
3	ADCO,Calcutta	61	ITC Infotech India Limited, Pune
4	Avery India Ltd.,Faridabad , Guwahati	62	Johnson & Johnson,Calcutta
5	Advance Training Institute (EPI), Dehradun	63	J.K. Telecom, Guwahati
6	Airport Authority of India	64	KLA Electronics Pvt. Ltd. New Delhi
7	Airtel	65	Manipur Police Wireless, Imphal
8	All India Radio, Imphal	66	Metro Railways, Delhi
9	AMARAANTA, SOFTEK, Bangalore	67	MIT, Manipur
10	BARC, Trombay	68	National Airport Authority, Agartala
11	BARCO ELECTRONIC SYSTEMS (P) Ltd.,New Delhi	69	National Airport Authority, Guwahati
12	BEE Canon,Calcutta	70	National Airport Authority, Dimapur
13	Bharatiya reserve Bank Note Mudram Ltd.,West Bengal	71	Natinal Informatic Centre, Itanagar
14	BhartiAirtel Ltd.	72	Neotoric Informatic Pvt. Ltd.
15	Boarder Security Force,New Delhi	73	NIELIT Shilong
16	Boarder Road (GREF),Shillong	74	NIELIT Imphal
17	Business Advanced Control System, New Delhi	75	NIELIT Senapati
18	Bihar Electricity Board,Bihar	76	NIELIT Churhandpur
19	BSNL, Darbhanga	77	NIC Shilong
20	BSNL, Imphal	78	NIC Imphal
21	BSF	79	NIC Arunachal
22	CLOUDZACK Pvt. Ltd	80	Nokia Siemens Network
23	Continental Device India Ltd.New Delhi	81	Nortel Networks Pvt. Ltd., Gurgaon
24	Copper Connection,New Delhi	82	NRHM Data Block Manager
25	Calcom India Ltd. New Delhi	83	Professor (Tejpur University)
26	CMC Ltd.,New Delhi	84	Public Health Engineering Department (PHED), Govt. of Manipur



27	Cognizant Technologies Solution P	85	Ranbaxy
28	Cubeten, Pvt Ltd., Manipur	86	Reliance, Imphal
29	DDK, Dhiphu	87	Reliance, Shillong
30	DDK, Imphal	88	Reliance Infocom Ltd., Patna
31	DECON Infotech Ltd., Kolkata	89	Satcon Ltd., Patna
32	Department of Minor Irrigation, Govt. of Manipur	90	Secretariat, Govt. of Manipur
33	DCM Computers	91	Siemens Ltd., Kolkata
34	DIPLAST, Noida	92	Siemens Network Pvt. Ltd., Bangalore
35	Directorate of Health Services, Govt. of Manipur	93	SI Manipur Police
36	Dr. Shrof Charitable Eye Hospital, Delhi	94	SRM University, Ahmedabad
37	DRDA Imphal East	95	ST Micro Electronics
38	Eastern Railways	96	TANDEM Machines, Mumbai
39	Export House, Faridabad	97	TATA Tele Services Ltd., Vishakhapatnam
40	Elnova Ltd. New Delhi	98	TATA Consultancy
41	Election Office	99	Telco, Tatanagar
42	Election Department, Govt. of Manipur	100	Tech. Officer Family Welfare
43	EMERSON, Chandigarh	101	Service, Noida
44	Ericsson India Ltd. New Delhi	102	Senior Software Developer, Globiz Web Solution Pvt. Ltd.
45	Ericsson Suden Pvt. Ltd., Sudan	103	USHA India Ltd. Faridabad
46	FCI, Shilong	104	UB India Ltd. New Delhi.
47	General Administration Department (GAD), Manipur Secretariat, Govt. of Manipur	105	Uniline, Delhi
48	Godrej & Boyce Mfg. Co. Ltd	106	United Networks, Sudan
49	HCL, Calcutta	107	Uniword Telecom Limited, Noida
50	Idea	108	VSNL
51	India SATCON Ltd, Patna	109	Zenith Computer Ltd
52	Indian Railway, Baroda	110	Microtech Software Private Limited
53	Indian Navy	111	COFFEEDAY BEVERAGES
54	India Airforce	112	Classic Group Of Hotels
55	India Post	113	JCRE
56	India Documents Soln Ltd, Delhi	114	Likla
57	Intel Corporation Pvt. Ltd. New Delhi	115	MGT Motors
58	INFOSYS, Bangalore	116	Religare Health Insurance

## 14. HOSTEL FACILITIES

### 14.1 Facilities:

Separate Hostels are available for Boys and Girls. Boys' hostel can accommodate about 60 students and 60 in Girl's hostel. The seats are allocated on the basis of necessity. Hostel mess is managed by a contractor. The monthly mess bill works out to about Rs 3,000/. The Institute provides medical facilities to the students and residents in the campus by employing a resident doctor in the campus who is assisted by a trained nurse from time to time. Common medicines are provided free of cost. The Govt. Primary Health Centre is located just 500 meters away from the NIELIT campus at Akampat. In case of emergency, the institute arranges hospitalization of the patient and informs his guardian /parents.

Two more hostels for SC/ST boys and Girls of capacity 100 students each are being constructed with funding from North Eastern Council.

### 14.2 Hostel Fee

Hostellers have to deposit the following fees:

#### A. Fees at the time of admission

Sl.	Particulars	Amount
1	Room rent and hostel maintenance fee	₹ 5,000/-
2	Hostel caution money (Refundable)	₹ 1,500/-
	Total	₹ 6,500/-

#### B. Fees for subsequent semester

₹ 5,000/- against Room rent and hostel maintenance fee per semester.

## 15. WORKING HOURS AND HOLIDAY

NIELIT Imphal and its Extension Centre follow five working days in a week from Monday to Friday. In addition, the Institute follows the Schedule of holidays as per the rules of the Government of India and Central Government Employees Welfare Coordination Committee (CGEWCC), Manipur. The working hour is from 9:00 a.m to 5:30 p.m. However, the classes are held between 7.00 am and 5.30 pm with special arrangements.

## 16. EXTRACURRICULAR ACTIVITIES

The students of the Centre participate in the various types of sports. Out of them Cricket, Volleyball, Badminton, Carom and Chess are quite popular. The students of the Centre also participate in Inter College Sports events under Manipur University as well as All India Inter university Sports events representing M.U. Many of the students of this Centre also bagged medals in these State Level as well as National Level Sports events. The Centre also organized Inter College Sports Tournaments in its Campus under the aegis of M.U.



Annual sports meet event



Swachh Bharat

Not only in sports events, students of this Centre also participated in much other State Level competition like IT Talent Search, Debating Competition, Essay Writing Competition, etc. and bagged prizes. In fact, students of this Centre are showing excellent performance in many other fields also.

In addition to these, cultural programs, Swachh Bharat

Abhiyans are performed jointly by the students and staff on a regular basis.

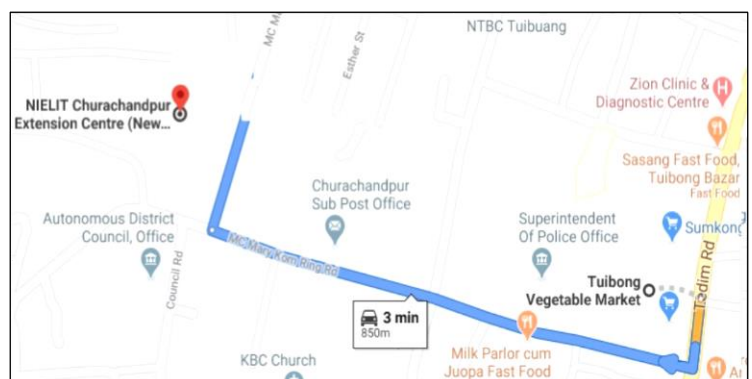
## 17. NIELIT CHURACHANDPUR EXT. CENTRE

Churachandpur Extension Centre of NIELIT Imphal was setup under the project “Development of North-Eastern Region by enhancing the Training/Education capacity in the IECT area”. The Centre was formally inaugurated by Secretary, Ministry of Communications & Information Technology, Govt. of India on 19th August, 2013 through video conferencing in presence of Deputy Commissioner, Churachandpur District. The Centre became operational since January, 2013. Till date the Centre has trained 9022 students.



### Location and Connectivity

The Centre was previously located at the temporary location at Hill Town and since December 2019 it has been shifted to the permanent campus which is of 4.13 acres of land provided by Govt. of Manipur and is located at Tuibong, M.C. Mary Kom ring road, Churachandpur about 800 m from the National Highway and 1.5 Km from district main bus stand.



The campus is surrounded by the Govt. offices like Post Office, Fire Department, District Court, Deputy Commissioner's office, District magistrate etc.

## Infrastructure & Facilities

The Institute have the infrastructure like Academic Block, Administrative Block, Girl's Hostel-cum-resident Faculty Quarter, Cafeteria, Car Parking, Playground etc.



*Institute Campus*

At present the Centre has the following facilities:

**(i)** Five (5) Computer Labs which has a total of 100 branded computers. All the labs are well-furnished and equipped with Projection System, whiteboard and furniture. The Computers are connected to LAN through a server and they are regularly upgraded to the latest software.



**(ii)** One Computer hardware-cum-electronics lab equipped with latest electronics devices like Spectrum analyzer, digital power supply, clamp meter, advanced digital multi meter etc. and has got a dedicated soldering station.

**(iii)** Two (2) Classroom of capacity 50 and 30 students and well equipped with whiteboard and projector.

**(iv)** The Institute has 24/7 uninterrupted power supply through 3 phase connection and has Backup facility with DG Sets of capacity 160 KVA & 63 KVA and UPS. Apart from these facilities, the Institute has proper indoor and outdoor lighting. All these equipment and facilities are supported by proper electrification works and safety mechanisms.

**(v)** The Centre is connected to Internet through two ISPs (100 Mbps from BSNL and 10 Mbps from a private ISP) and these Internet facility is extended to all the students of the institute.

**(vi)** Well-furnished Library with computerized library management systems. Various books on Electronics, Computers and allied field are available. Library is automated by using KOHA library software. Internet facility is also available.

**(vii)** The Institute is monitored 24/7 by CCTV surveillance cameras.

**(viii)** The Institute has Video conference facility.

**(ix)** The Institute has a dedicated server to control the network of the Institute.

### **Faculties & Staff**

NIELIT Churachandpur has well experienced and qualified teaching faculty. The faculties undergo trainings from time to time to update their knowledge in various advancements of technologies. Overall administration of the institute is supervised and monitored by the Executive Director. In addition, there are separate Officers-in-charge to oversee the academic section and administrative section.

### **Courses Offered & Eligibility**

At present, the institute offers various long term and short-term courses in the field of IT & related discipline.

<b>Formal University Affiliated Courses</b>			
SL	<i>Name of the Course</i>	<i>Course Duration</i>	<i>Certificate awardedby</i>
1	Post Graduate Diploma in Computer Applications (PGDCA)	01 year (2 Semesters)	Manipur University

<b>LONG TERM COURSE:</b>				
<i>SL</i>	<i>Name of the Course</i>	<i>Eligibility</i>	<i>Duration</i>	<i>NSQF Level</i>
1	One year Foundation Course in Information Technology (NIELIT “O” Level IT”)	ITI Certificate passed (1 year after class X)	1 Year	4
<b>SHORT TERM CERTIFICATE COURSES:</b>				
<i>SL</i>	<i>Name of the Course</i>	<i>Eligibility</i>	<i>Duration</i>	<i>NSQF Level</i>
1	Course on Computer Concepts (CCC)	Knowledge of reading and writing in English.	80 Hrs	3
2	Certified Data Entry and Office Assistant (Upskilling)	12 <sup>th</sup> pass with Min 50 % Marks	210 Hrs	4
3	Certified Computer Application Accounting and Publishing Assistant	12 <sup>th</sup> pass with knowledge of Basic Computer and Internet Concepts.	360 Hrs	4
4	Computer Applications Associate	12 <sup>th</sup> pass	450 Hrs	4
5	Certificate Course in ITES- BPO, Soft Skills & Communicative English	Graduate/ Post Graduate with good communication Skills	250 hrs	3
<b>PMKVY COURSES:</b>				
1	Solar PV Installer - Electrical	10 <sup>th</sup> pass + ITI / Diploma (Electrical, Electronics)	240 Hrs	4
2	Field Technician – Computing and Peripherals	12 <sup>th</sup> Standard passed	455 Hrs	4
3	Field Technician – Networking and Storage	12 <sup>th</sup> Standard passed	450 Hrs	4
4	Editor	Graduate	280 Hrs	5
5	Handset Repair Engineer (Level II)	12 <sup>th</sup> Standard passed	340 Hrs	4

## 18. NIELIT SENAPATI EXT. CENTRE

NIELIT Senapati an Extension Centre of NIELIT Imphal. It was setup under the project “Development of North-Eastern Region by enhancing the Training/Education capacity in the IECT area”. The Centre was formally inaugurated on 10<sup>th</sup> July, 2013 by Deputy Commissioner, Senapati District. The Centre became operational since July, 2013. Till date the Centre has trained more than 5675 students.



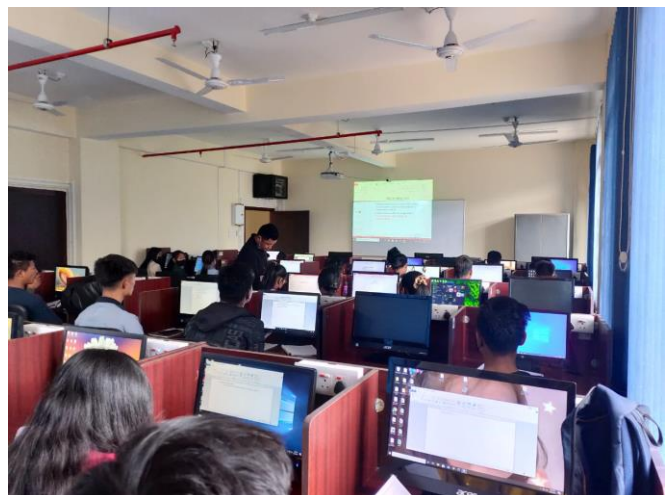
### Location and Connectivity

The Centre was previously located at Broadway Complex in Senapati Bazaar and since October 2019 it has been shifted to the permanent campus which is of 3.60 acres of land provided by Govt. of Manipur and is located at Old District Hospital campus of Senapati district. The permanent campus have administrative block, three (3) well-furnished computer Labs with a total capacity of 100 Computers, Electronics Lab, Hardware Lab, library and Servicing Lab. The Girl’s hostel in the campus is also under construction.

### Infrastructure

At present the Centre has the following facilities:

(i) Three (3) Computer Labs which has a total of 50 branded computers. All the labs are well-furnished and equipped with Projection System, Whiteboard and modern furniture. The Computers are connected





under LAN through a high end server and they are regularly upgraded with the latest software.

(ii) One (1) hardware lab with the latest and high end Electronics equipment like Spectrum analyzer, digital power supply, clamp meter, advanced digital multi meter, True RMS Multi-meter, Digital DC power supply, etc.

(iii) The institute has 24/7 uninterrupted power supply through 3 phase connection DG Sets and UPS Backup facility. All these equipment and facilities are supported by proper electrification works and safety mechanisms.

(iv) The Centre is connected to Internet through two ISPs (10 Mbps from Kangla Enterprises and 5 Mbps from NIC) and these internet facilities is extended to all the students of the institute.

(v) Well-furnished Library with computerized library management systems. Various books on Electronics, Computers and allied field are available.

(vi) The Institute is monitored 24/7 by CCTV surveillance cameras.

(vii) The Institute has Video conference facility.

### Faculty & Staff

NIELIT Senapati has well experienced and qualified teaching faculty. The faculties undergo trainings from time to time to update their knowledge in various advancements of technologies. Overall administration of the institute is supervised and monitored by the Executive Director. In addition, there are separate Officers-in-charge to oversee the academic section and administrative section.

### Projects developed:

NIELIT SENAPATI EXTENSION CENTRE has developed a web enabled software titled “Students Information Management System” for computerization of student’s related records and works in Schools and Colleges.

The software will automate Admission process, Admitted students details, Fee payment, Exam Form fill up, Exam result, Promotion Placement record and other related information for a particular student.

This software will minimize manpower, time and paper works.

This is an initiative taken by the NIELIT Senapati under Digital India.

The software is free for use by the govt. recognized Schools and Colleges in Manipur. A very nominal fee would be charged towards installation and annual maintenance fee if required.

### Extra Co-curricular activities :

NIELIT SENAPATI EXTENSION CENTRE participated in the Swachhta Pakhwada Cleanliness drive Senapati and also participated in 4 years of Citizen Centric Governance organized by District Administration Senapati.



### Courses Offered & Eligibility

<b>FORMAL COURSE:</b>			
<i>Sl.</i>	<i>Name of the Course</i>	<i>Course Duration</i>	<i>Certificate awarded by</i>
1	Post Graduate Diploma in Computer Applications (PGDCA)	01 year (2 Semesters)	Manipur University
<b>LONG TERM COURSE:</b>			
<i>SL</i>	<i>Name of the Course</i>	<i>Eligibility</i>	<i>Duration</i>

1	NIELIT-IT “O” Level”	ITI Certificate passed (1 year after class X)	1 Year
<b>SHORT TERM CERTIFICATE COURSES:</b>			
1	Advanced Diploma in Computer Application, Accounting & Publishing	10+2 pass	200 hrs
2	Certification Course in Data Entry and Office Automation	10+2 pass	135 hrs
3	Course on Computer Concepts (CCC)	Knowledge of reading and writing in English.	2 Months
4	Certificate Course in ITES BPO, Soft Skills & Communicative English	Graduate/ Post Graduate with good communication Skills	200 hrs
5	Financial accounting using TALLY ERP 9.0	10+2 pass with basic knowledge of computer	2 Months
6	Programming in C++	10 pass	45 hrs
7	Programming in Python for Beginners	10 pass	45 hrs
8	CCTV Installation Technician	10+2 pass	200 hrs
<b>PMKVY COURSES:</b>			
1	Editor	10+2 pass	240 hrs
2	Field Technician- Networking & Storage	Diploma/ITI/ 10+2 pass	400 hrs
3	Field Technician- Computing and Peripherals	10+2 pass	400 hrs
4	Certified Multimedia Developer	10+2 pass or ITI or Diploma or Diploma under going	200 hrs

## 19. HOW TO APPLY FOR ADMISSION

Interested students can apply for admission through any of the following URL links:

- i) <https://nielit.gov.in/imphal/content/admission-new>
- ii) <http://14.139.207.252:8080>

The scanned copies of the following documents in jpeg/jpg format are required at the time of submission of online Application Form:

- a) Passport Photograph (*Size Limit : 10 KB TO 30 KB*)
- b) Signature (*Size Limit : 10 KB TO 30 KB*)
- c) Left Thumb Impression (*Size Limit : 10 KB TO 30 KB*)
- d) Right Thumb Impression (*Size Limit : 10 KB TO 30 KB*)
- e) Aadhaar Card (*Size Limit : 50 KB TO 150 KB*)
- f) Age Proof Certificate(Preferably class 10 Mark sheet) (*Size Limit : 50 KB TO 150 KB*)
- g) Category/Caste Certificate (if applicable)(*Size Limit : 50 KB TO 150 KB*)
- h) Qualifying Examination Mark sheet(s) (*Size Limit : 50 KB TO 150 KB*)
- i) Others Certificate (if necessary) (*Size Limit : 50 KB TO 150 KB*)

Interested students can also visit the following NIELIT Centres for online application form submission along with Original Certificates & documents as stated above.

1. NIELIT Imphal, Akampat, Imphal East, Manipur - 795001
2. NIELIT Churachandpur Ext. Centre, MC Marry Kom Ring Road, Tuibong, Churachandpur - 795128
3. NIELIT Senapati Ext. Centre, Near Old District Hospital, Senapati - 795106

## 20. NIELIT Achievers

### List of students who scored more than 80% in May 2020 Examinations:

NAME	COURSE/SEMESTER	%	FATHERS NAME	ADDRESS
YUMNAM JETLY SINGH	BCA 2	82.5	YUMNAM BIMOL SINGH	KHURAI KONGPAL SAJOR LEIKAI
POTSHANGBAM KIRANKUMAR SINGH	BCA 2	86	POTSHANGBAM SHANTI SINGH	KHONGJOM BAZAAR MANING TENGOL LEIKAI
SALAM VIVEK	BCA 6	89.75	SALAM NONGTHON SINGH	SINGJAMEI MAYENGBAM LEIKAI
GANGMEI GAIGANGMEILIU	DECE VI	84.5	MUSIN GANGMEI	LANGTHABAL KHOUPUM
MUTUM ROBERTSON SINGH	DECE VI	87.2	MUTUM RAMO SINGH	THOUBAL NINGOMBAM THONGJU LEIKAI
BARUL LAIRENJAM	DECE VI	84.4	LAIRENJAM IBOMCHA SINGH	KAKYAI MAKHA LEIKAI, NAMBOL
NONGTHONGBAM PRIYOBALA CHANU	DECE VI	82.7	NONGTHOMBAM PRIYOKUMAR MEITEI	IRILBUNG MACHAHAL
SANEILEN MANGTE	DECE VI	84.8	NGAMKHONEH MANGTE	SINAMKOM VILLAGE,P.O PANGEI
MEINGANDAI KAMEI	DECE VI	86.5	KAGUILUNGPOU KAMEI	SANGAKPHAM, POUMEI COLONY
MOIRANGTHEM HENARY SINGH	DECE -IV	93.25	M. HEMANTA SINGH	KAKCHING LAMKHAI
YUMNAM JETU	DECE -IV	86	L.YUMNAM KHELENDRO SINGH	TOP AWANG LEIKAI
UNGSOCHON SHANGLAI	DECE -IV	84	PHANITPHANG SHANGLAI	KHAMLANG VILLAGE KAMJONG DIST.
NAOREM NONGTHON SINGH	DECE -IV	86.25	NAOREM INAOMACHA SINGH	PATSOI PART-1

OKRAM AISHWORIYA DEVI	DECE -IV	89.87	OKRAM KULAJIT SINGH	THOUBAL OKRAM MANING LEIKAI
MAIBAM ARVIN SINGH	DECE -IV	90.13	MAIBAM ROBINDRO SINGH	YAISKUL CHINGAKHAM LEIRAK
PRIYA NINGOMBAM	DECE -IV	89.75	NINGOMBAM BHOROT SINGH	SINGJAMEI OKRAM LEIKAI
YEITE RILOSING KOIRING	DCSE -IV	83.5	YEITE KHUPSOREL KOIRENG	THANGMEIBAND HIJAM DEWAN LEIKAI
WAIROKPAM LEILEN CHENGLEI	MCA JUNE 2020 PASS OUT (1ST TO 6TH SEM)	4TH POSITION (81.3% )IN MANIPUR UNIVERSITY EXAMINATON	WAIROKPAM DEVABRATA MEITEI	WANGKHEI THANGAPAT MAPAL, IMPHAL EAST, MANIPUR
SAGOLSEM SURJABALA	MCA 3RD YEAR (JULY 2019-JUNE 2020)	80%	SAGOLSEM SHYAMCHANDRA	MONGJAM MAYAI LEIKAI MANTRIPUKHRI, IMPHAL EAST, MANIPUR
SALAM DEBEN	MCA 2ND YEAR (JULY 2019-JUNE 2020)	80%	SALAM YAIMA SINGH	THANGA SALAM LEIKAI, MANIPUR
KONGBRAILATPAM GEETCHANDRA SHARMA	MCA 1ST YEAR (JULY 2019-JUNE 2020)	85.42%	KONGBRAILATPA M RAMANANDA SHARMA	KEISHAMPAT AHEIBAM LEIKAI IMPHAL WEST, MANIPUR
BISHAL GAUTAM	MCA 1ST YEAR (JULY 2019-JUNE 2020)	82.17%	MADAN GAUTAM	MARAM KAVANAM VILLAGE SENAPATI, MANIPUR
KHAIDEM BEMBEM DEVI	MSCIT 2ND YEAR (JULY 2019-JUNE 2020)	86% (1ST POSITION IN MANIPUR UNIVERSITY EXAMINATON)	KHAIDEM NONGYAI SINGH	MOIBUNG KHUNO, IMPHAL WEST, MANIPUR
NAOREM HEMANTAKUMAR SINGH	MSCIT 2ND YEAR (JULY 2019-JUNE 2020)	81.25% (2ND POSITION MANIPUR UNIVERSITY EXAMINATION )	NAOREM DEBEN SINGH	HAOBAM MARAAK IROM LEIKAI IMPHAL WEST, MANIPUR
NONGTHOMBAM CHINGKHEINGANBI CHANU	MSCIT 2ND YEAR (JULY 2019-JUNE 2020)	81% (3RD POSITON IN MANIPUR	NONGTHOMBAM INDRAKUMAR LUWANG	WANGJING SOROKHAIBAM LEIKAI, MANIPUR

		UNIVERSITY EXAMINATION		
RAJKUMARI DOSITA DEVI	MSCIT 2ND YEAR (JULY 2019-JUNE 2020)	80.16%	RAJKUMAR DINESH SINGH	BAMOL LEIKAI THANGJAM LEIRAK IMPHAL EAST, MANIPUR
KHUNDRAKPAM RAJESH	MSCIT 1ST YEAR (JULY 2019-JUNE 2020)	87.42%	KHUNDRAKPAM MOHENDRA SINGH	HEININGMAKHON G ARAPTI AWANG LEIKAI, IMPHAL EAST, PO- LILONG PIN- 795130
MUTUM THOILEMBA MEETEI	MSCIT 1ST YEAR (JULY 2019-JUNE 2020)	85.67%	MUTUM NABAKESHO MEETEI	KHURAI NANDEIBAM LEIKAI, IMPHAL EAST, MANIPUR
SANDHYARANI LEISHUNGBAM	MSCIT 1ST YEAR (JULY 2019-JUNE 2020)	81.83%	LEISHUNGBAM NAGESHWOR SINGH	ANDRO KHUMAN LEIKAI, IMPHAL EAST, MANIPUR
PUKHRAMBAM PRAMESHWORMAN I SINGH	MSCIT 1ST YEAR (JULY 2019-JUNE 2020)	80.92%	PUKHRAMBAM MANIHAR SINGH	LANGTHABAL LEP MAYAI LEIKAI, IRABOT ROAD, MANIPUR