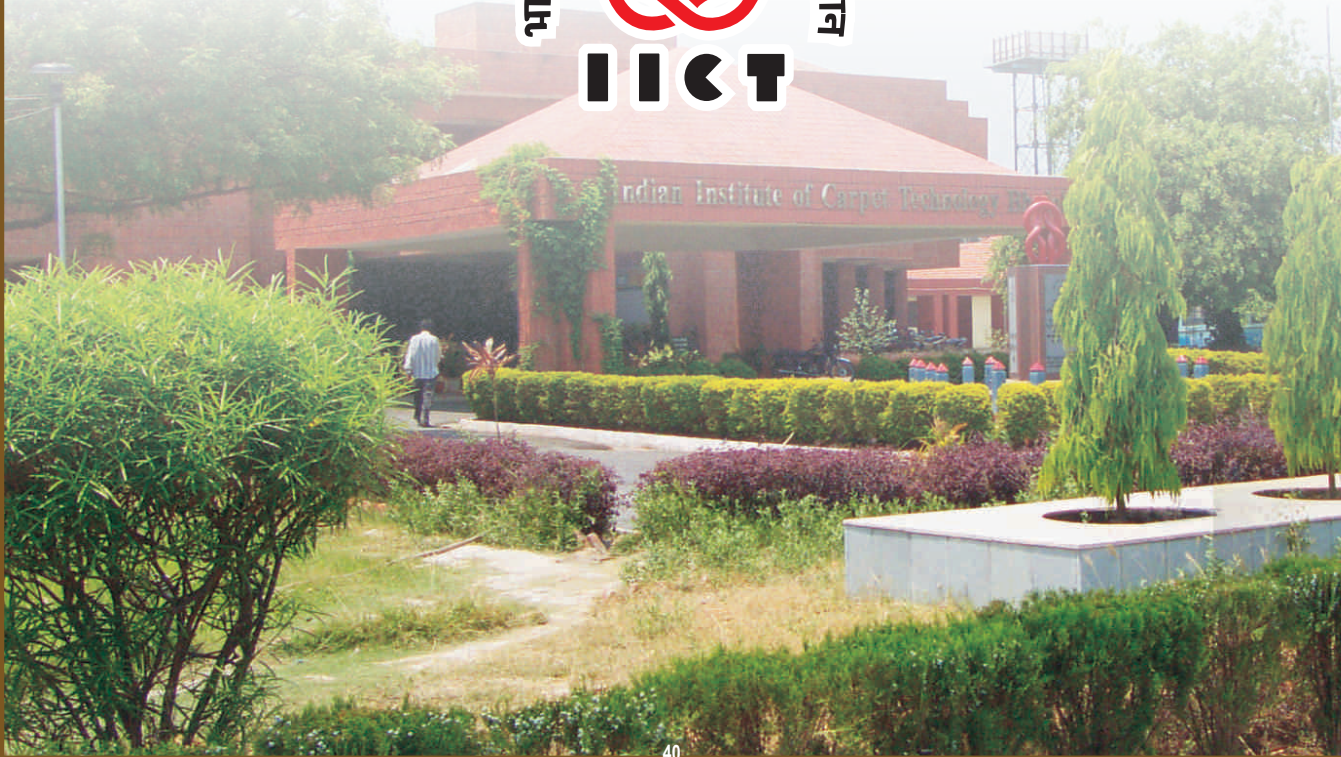


भारतीय
handicrafts
हस्तशिल्प
continuing tradition



CHAIRMAN

शांतमनु, भा.प्र.से.
विकास आयुक्त (हस्तशिल्प)
Shantmanu, I.A.S.
Development Commissioner (Handicrafts)



भारत सरकार
वस्त्र मंत्रालय
पश्चिमी खण्ड-7, रामाकृष्णापुरम,
नई दिल्ली-110 066
Government of India
Ministry of Textiles
West Block-7, R.K. Puram,
New Delhi-110 066

MESSAGE

I am delighted to note the performance and achievement of IICT for the year 2020-21. During this period the efforts put in by the institute has been quite satisfactory.

The institute has undertaken prestigious projects LED based solar light distribution & Loom distribution to the artisans, providing facilities to the trained weavers & artisans of the carpet industry.

The institute has been playing a key role in providing service in all portfolios in authentic reliable manner as evident from continued accreditation of IICT labs from NABL and of B.Tech Course from Textile Institute (Manchester). This has strengthened the academic repute of IICT. Accreditation of B.Tech course by NBA is under process, delayed due to Covid-19 and I wish all success in the endeavors for the accreditation.

It is pertinent to mention that a project for upgradation of testing labs of IICT to international level has been sanctioned. This will certainly benefit the carpet industry as well as its allied industry to a great extent.

As the Chairman of the Institute, I wish all round development of the institute and also extend all support for efforts of IICT team to achieve the set targets.


(Shantmanu)

DC (Handicrafts) & Chairman, IICT

Dated: 30th November, 2021



VICE CHAIRMAN



सोहन कुमार झा (आई.ओ.एफ.एस.)
Sohan Kr. Jha (I.O.F.S.)



वरिष्ठ निदेशक (हस्तशिल्प)
कार्यालय विकास आयुक्त (हस्तशिल्प)
वस्त्र मंत्रालय, भारत सरकार,
पश्चिमी खण्ड-७, रामाकृष्णापुरम,
नई दिल्ली-११० ०६६
Sr. Director (Handicrafts)
Office of the Development Commissioner (Handicrafts)
Ministry of Textiles, Government of India.
West Block-7, R. K. Puram, New Delhi-110 066
Phone : 26178640 Fax No. : 26163085
Website : <http://handicrafts.nic.in>

Date: -29 November, 2021

Message from the Desk of Vice-Chairman, IICT

I am pleased with the satisfactory performance of IICT achieved in all its four portfolios as depicted in the Annual Report for the year 2020-21.

It is also a matter of proud that stakeholders have explored the utilization of its portfolios gainfully.

The IICT has put admirable efforts in conducting quality education and various training programme in the country for the benefit of carpet and its allied industry even in COVID-19 situation. Most of students have been placed in well known companies such as Maral Overseas, Achal Amit & Company, Obettee, Donear Vapi, Kushmgar Vapi, Trident etc. In other portfolios too, IICT is proactive and industry friendly and hence deserves to be congratulated.

I also wish IICT to continue to excel for becoming International Center of Learning.

(Sohan Kumar Jha)
Sr Director (Handicrafts) & Vice-Chairman, IICT

DIRECTOR



निदेशक
भारतीय कालीन प्रौद्योगिकी संस्थान
विकास आयुक्त (हस्तशिल्प),
वस्त्र मंत्रालय भारत सरकार के अधीन
अ.क.प्राविधिक विश्वविद्यालय द्वारा संबद्ध एवं
आभातशिप, भारत सरकार द्वारा अनुमोदित

Director,
Indian Institute of Carpet Technology
Under the aegis of the
Development Commissioner (Handicrafts),
Ministry of Textiles, Govt. of India
Affiliated with A. K. Technical University
& Approved by AICTE, Govt. of India



प्रो० (डा०) आलोक कुमार, निदेशक
Prof. (Dr.) Alok Kumar, Director

Message..... 

from The Desk of Director, IICT

It is a matter of great honour and pleasure to present the annual report of 2020-21 of IICT, Bhadohi. In spite of interruption due to Covid pandemic our institute has made great stride on the road of progress.

The performance of the Institute in all the portfolios like, Human Resource Development (HRD), Design Creation & Development (DCD), Research & Development (R&D) & Technical Support Service to Industry (TSI) remained satisfactory. In spite of Covid pandemic, our institute has been able to keep the record of 100% placement intact. Our students are placed in reputed companies like Trident, Obeettee, Kusumgar, Maral Overseas, Indore, KRM Rugs, Donear etc.

I am extremely thankful to Ministry of Textile, Govt of India and DC(HC) for allocating fund for upgradation of carpet testing labs in IICT, Bhadohi. Eco-testing lab will be set up in the institute. This will certainly help the carpet exporters in getting testing done of banned Azo-dyes, heavy metals etc.

It is also a matter of great pleasure to inform you that 24x7 supply of electricity has been installed in the institute. Due to this expense due to generator has been reduced.

I also acknowledge the support of DC(HC) & Chairman, IICT Executive Committee, Vice-Chairman, Executive Committee (EC) Members, U.P.Gov. Local Administration, AKT University & AICTE. Co-operation from Carpet Export Promotion Council (CEPC), All India Carpet Manufacturer Association(AICMA), RCMEA-Jaipur, EUPEA-Varanasi, AICEA. Mirzapur, AICYSDA-Bhadohi etc. has also been commendable.

Commitment of IICT Faculty & staff members has also been remarkable and I hope that the same would be continued to maintain the set standards in the field of discipline & performance.

Prof. Dr. Alok Kumar
Director & Member Secretary



Indian Institute of Carpet Technology, popularly known as IICT, has been set up by Ministry of Textiles, Govt. of India in 1998 as a registered Society under the Society Registration Act, 1860. IICT became truly functional in the year 2001

by launching B.Tech. (Carpet & Textile Technology) programme, a unique degree programme of its kind, with 20 intake which has been increased subsequently to 60. IICT was set up by Ministry of Textiles, Govt. of India to provide all possible technical support to the Carpet, Textile & other related sectors in the form of technical experts, Research & Development, etc. for the continual growth & to make the industry competitive at the world level. Institute has been constantly trying to fulfill long time pending demand of the sector for technical experts through its B.Tech. technocrats. Industry has also come forward and placed these technocrats suitably in various organizations. IICT is providing world class quality education to its students by targeting to meet the anticipated requirements of the stake holders through formal or informal feedbacks from the various organizations time to time. In addition to B.Tech. other trainees of the institute in various courses have also been doing well and holding good positions in the organizations. The laboratories of Institute are **NABL** (National Accreditation Board for Testing and Calibration Laboratories) accredited which makes its testing reports given to the exporters, valid in many countries of the world. B. Tech. programme of the institute is approved by AICTE, New Delhi & affiliated to Dr. A.P.J. Abdul Kalam Technical University, Lucknow.

Campus & Facilities

IICT is situated in Bhadohi which is famous in the world as Carpet belt of India. The stake holders of Bhadohi and adjoining districts can take maximum locational advantage as the institute has been set up at Bhadohi. Bhadohi is about 45 Kms away from holy city Varanasi and about 75 Kms from Prayag City, Allahabad & 30 Km from Mirzapur. The campus of IICT is 4 Kms from Bhadohi Railway Station and situated on Main Road known as Chauri Road on the outskirts of Bhadohi town. The campus is free from all sorts of pollution, providing a peaceful atmosphere for studies and research which is spread over 10 acres of land, that comprises of state of the art Administrative building consisting of Classrooms, Laboratories, Conference Hall, Library, Design Studio, Museum and Workshops. The campus has quality facilities like separate Hostels for Boys & Girls, residential accommodation for employees, open Air Theater for performing cultural activities, open space for Games, 24 hour electricity supply backed by generator and water supply system having deep bore well. Institute has also obtained 16.5 Acres land from Govt. of Uttar Pradesh at Pipris in Bhadohi, and few infrastructure facilities like Workshop shed, training centre with dormitory and staff quarter have been created.

VISION

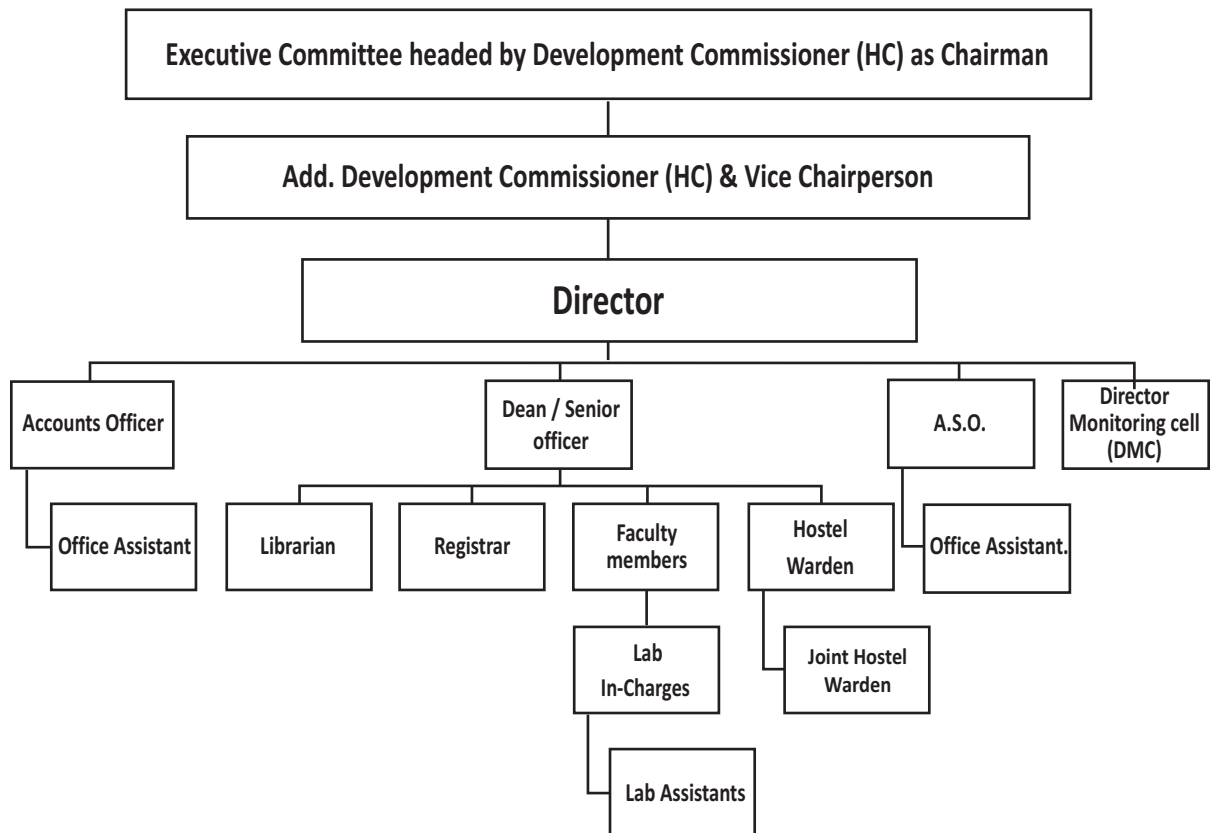
- To be a Centre of Excellence in Carpet, Textiles and relevant areas of technical education by promoting, aiding and fostering the development of the sector.

MISSION

- To create human resources having strong foundation of knowledge in carpet, textiles and relevant areas of technical education and competence in technical communications.
- To promote research & development activities in the area of carpet, textiles and related areas of science and technical education.
- To provide technical support to carpet and allied industries for design creation and laboratory testing.
- To develop entrepreneurs in the field of carpet and allied sectors.

QUALITY POLICY

- To provide qualitative education to our students which targets to meet their anticipated requirements of stakeholders.
 - To render timely and satisfactory services in all portfolios to the Industry and all other stakeholders.
 - To improve Quality Management System on continual basis through complying with the requirements of standards
-





Executive Committee

Members of the Committee as on 31st March 2021

1. Shri Shantmanu, IAS, Development Commissioner (Handicrafts) & Chairman, IICT, Office of the Development Commissioner (H), West Block No. 7, R. K. Puram, New Delhi– 110066.
2. Vice-Chairman, IICT, Office of the Development Commissioner (Handicrafts), West Block No. 7, R. K. Puram, New Delhi – 110066.
3. Ex-officio-Secretary, Small Scale Industries & Export Promotion, Govt. of U. P., 4th Floor, Sachivalaya, Lal Bahadur Shastri Bhawan (Annexe), Lucknow – 226001 or his nominee.
4. Director (Finance), Min. of Textiles, Govt. of India, Udyog Bhawan, New Delhi or his nominee.
5. Divisional Commissioner, Vindhyachal Mandal, Mirzapur, Uttar Pradesh
6. District Magistrate and Collector, Bhadohi, Sant Ravidas Nagar, Uttar Pradesh
7. Chairman/Executive Director, Carpet Export Promotion Council, Rajiv Gandhi Handicrafts Bhawan, Baba Kharak Singh Marg, Connaught Place, New Delhi-110 001
8. President, All India Carpet Manufacturers Association, Maryadpatti, Bhadohi.
9. ED, National Centre for Design (NDC) (Set up by Ministry of Textiles, GOI), Hall No.1 (3rd Floor), Rajiv Gandhi Handicrafts Bhawan, Baba Kharak Singh Marg, Connaught Place, New Delhi-110 001.
10. Head of the Department, Dept. of Textile Technology, Indian Institute of Technology, Hauz Khas, New Delhi Prof. S.P.Borkar, Dean (Administration), Textile Manufactures Department, VJTI, Matunga, Mumbai (MH).
11. Dr. RAJESH KUMAR, Professor, Structural Engineering Division, Department of Civil Engineering, Indian Institute of Technology (Banaras Hindu University), Varanasi- 221005, U.P., INDIA
12. Mr. Y.K.Roy, M/s Kaka Overseas Ltd, Hariaon, Gyanpur Road, Bhadohi-221 401,
13. Chairman, AICTE, New Delhi or his nominee
14. Vice Chancellor, Dr. APJ AKTU, Lucknow or his nominee
15. Sr. AD/AD, O/o Development Commissioner (Handicrafts), West Block No. 7, R. K. Puram, New Delhi.
16. Sr. Faculty/Dean/Registrar, IICT- Director's Nominee.
17. Prof. Alok Kumar, Director, IICT, Bhadohi-Member Secretary

Executive Committee Meeting & Annual General Meeting held during the year

ECM	AGM
64 th EC meeting dated 02.12.2020 at New Delhi	19 th AGM dated 02.12.2020 at New Delhi

Overall Strength as on 31st March 2021

SL.No.	Name of the Employees	Designation	Qualification
1.	Prof.(Dr.) Alok Kumar	Professor, Director	B.Tech. (IIT Delhi), M.Tech. (IIT Delhi), Ph. D. (IIT Delhi)
Faculty members			
2.	Prof.(Dr.) Sanat Kr. Pal	Professor	B.Tech., M.Tech. & Ph. D.(MSU - Baroda - Vadodara)
3.	Dr. R. Karmakar	Associate Professor	B.F.A., MA (Painting), Ph. D. (Pu. University Jaunpur))
4.	Dr. R.K.Malik	Associate Professor	B.Tech., M.Tech. (IIT Delhi),Ph. D. (APJAKTU Lucknow)
5.	Dr. S.K. Pandey	Associate Professor	M.C.A, M.Tech (CS), MBA, Ph. D. (APSU -Rewa)
6.	Dr. Betty Dasgupta	Assistant Professor	B.Sc.(Tech.), Ph. D. (IIT BHU)
7.	Dr. Anu Mishra	Assistant Professor	B.Tech., M.Tech. (IIT Delhi), Ph. D. (IIT Delhi)
8.	Dr. Shraavan Kr. Gupta	Assistant Professor	B.Tech., M.Tech., Ph. D. (APJAKTU Lucknow)
9.	Dr. Moumita Bera	Assistant Professor	B.Tech., M.Tech. (IIT Delhi), Ph. D. (IIT Delhi)
10.	Dr. Atanu Manna	Assistant Professor	Ph. D. (IIT Kharagpur)
11.	Dr. H. S. Mohapatra	Assistant Professor	B.Tech., M.Tech., Ph. D. (NIT Jalandhar)
12.	Shri Jayant Deshpande	Librarian	M. Com, M. Lib. PGDCSC
Unit In Charges			
13.	Er. B.C. Ray	Workshop I/c	M.Tech (Textile Engg.), MHRM, MA (Public Admn), MIE.
14.	Shri C.S.Bajpeyee	Design Lab I/c	B.F.A., M.F.A. (Textile Design) FVA-B.H.U.
15.	Shri Dipankar.Jana	Chemical Lab I/c	M.Tech. (Textile Engg.) IKJPTU-Punjab
16.	Shri Anupam Agrawal	Physical Lab I/c	M.Tech. (Textile Engg.) IKJPTU-Punja
Lab Assistants			
17.	Shri Jaihind Chauhan	Lab Assistant	Diploma in Textile Processing Technology
18.	Shri Amitabh Chatterjee	Lab Assistant	Diploma in Mechanical Engg.
19.	Mrs. Preeti Chaurasia	Lab Assistant	Diploma in Handloom Technology
20.	Shri Govind Yadav	Lab Assistant	B. Tech.
21.	Shri Darpan Singh	Comp. Lab Assistant	M.C.A., M. Tech. (CSE)
Administrative Staff			
22.	Shri Siddhartha Shukla	Admin. Cum S. Officer	B. Tech. (Civil Engg),
23.	Sh. Durgesh Kumar Tripathi	Accounts Officer	M. Com.
24.	Shri Umakant Srivastava	Admin Assistant	MBA (HRM)
25.	Mohd. Waseem Ansari	Library Assistant	MBA (HRM)
Other Staffs			
26.	Shri Jagdish	Unskilled Worker	Intermediate
27.	Shri. Vijay Kumar Gupta	Electric Technician	ITI (Electrical)
28.	Shri Naresh Kumar	Driver	–

1. Dr. Alok Kumar, Director

Research Paper :

- ◆ Influence of Needle-punching Parameters for the Preparation of Polypyrrole-coated Non-woven Composites for Heat Generation. This work deals with the preparation and characterization of electrically conductive needle-punched non-woven composites for heat generation. This work has been published under following citation “Subhankar Maity, Shivangi Panday, Alok Kumar, *Tekstilec*, 64(2):172-183, 2021.”
- ◆ Nano-on-micro approach for fabricating ternary metal oxy-hydroxide based flexible super capacitors, *Journal of Industrial textiles*, Pragati Bajpai, Alok Srivastava, Alok Kumar, Accepted for publication.

2. Suresh Kumar Pandey, Associate Professor

Journal Publication :

Vindhay Bharti, Awadhesh Pratap Singh University Rewa ISSN 0976-9986 No. Vol. I-II, 2020-21. “ Covid - Impact and challenges in Indian Carpet Industry.

3. Jayant Deshpandey, Librarian

Attended various E-Workshops like “Awareness Programme on National , Digital Library of India”, “Intellectual Property Rights In Digital Era and seminar (web) on “Ancient Indian Education System, successfully.

4. Dr Atanu Manna, Assistant Professor

1. Award:

Young Scientist Award (2020) from VDGGOOD Professional Association

2. Research Publication:

A. Manna, New Hardy-type integral inequalities, *Acta Sci. Math. (Szeged)*, 86 (3-4), 467-491, 2020.

3. Seminar/Conferences/Symposium attended:

- (i) International Conference of Young Mathematicians, Institute of Mathematics, NAS Ukraine, June 3-5, 2021 Title of the talk: Walker’s approach to some Hardy-type integral inequalities;
- (ii) Faculty Development Programme, UGC-HRDC, BHU, February 26 – March 25, 2021, Title of the talk: Mathematics of Vedic Era - History and Applications

4. Workshop attended:

- (i) Advanced Functional Analysis and Applications, IIT Hyderabad and NISER Bhubaneswar, December 16-24, 2020
- (ii) Matrix Analysis and its Applications, NIT Jalandhar, September 23-27, 2020
- (iii) NBA Accreditation & Outcome Based Education, UPID, AKTU Noida campus, January 29-30, 2020.

5. PG-thesis evaluated:

M.Sc. Mathematics dissertations (1 no.), Ramkrishna Mission Vidyamandira, Belur, 2021

IICT is functioning through its four portfolios namely :-

1. HRD (Human resource development)
2. DCD (Design creation & development)
3. R&D (Research & development)
4. TSI (Technical support to industry)

1. HRD (Human Resource development) **IICT PORTFOLIO**

B.Tech. course in Carpet and Textile Technology (CTT):

Started in the year 2001. Thereafter, specializations in Advances in Carpet Technology (ACT)/Home Textile Technology (HTT) /Textile Design Technology (TDT) have also been integrated with the due approval of A.K. Technical University, Lucknow. Accreditation to Textile Institute, Manchester, U.K. IICT has been awarded twice Star performing institute of the University.

700 Students have graduated till date from institute and placed all over India & abroad in carpet & textile industry. Many students have opted for higher studies in institute like IITs, NITIE, ISM, IIM & NIFT.

Quality education is imparted to B. Tech. students. Many students have been awarded with gold, silver & bronze medals for their academic excellence. Their academic performance are evident from below table :-

University topper in Textile Group

Year of Passing	Name of Student Gold Medal	Name of Student Silver Medal	Name of Student Bronze Medal
2010	Ankit Kumar Bhagat	.....	.....
2011	Nisha Kumari	Patanjal Kumar	Anupam Agrawal
2014	.....	.....	Sadiya maqsood
2015	Amreen Fatima	Govind Yadav	.....
2018	Priya Singh	.....	Shivangi Shukla
2019	.....	.....	Gaurav Suneja
2020	.....	.....	Pallavi priya

Examination Result and Performance

During Financial year 2020 - 21, 45 students of 16th batch (2016-20) passed B.Tech exam & placed successfully, and during financial year 2020-21, 45 students of 17th Batch (2017-21) passed B.Tech exam & placed successfully, and

In 7th Sem. 45 students appeared in exam.

In 5th Sem. 35 students promoted to fourth year (6th sem.)

In 3rd Sem. 57 students promoted to third year (4th sem.)

and 62 students are freshly admitted in 1st year

Admission to B. Tech. 1st year

Intake in B. Tech. programme is 66. (+extra 03 seat EWS & 03 seat TFW) For this, admission is done through JoSAA / CSAB/ UPSEE. Out of which 62 candidates had taken admission from the said allotment.

Tuition Fee

The Fee structure is Approved by SGM, which is as below :-

B. Tech. Fee structure

Newly admitted B. Tech. 1 st year & 2nd year Lateral Entry			2nd year, 3rd year, 4th year		
Fee Head	Amount (Rs.)		Fee Head	Amount (Rs.)	
	Hosteller	Non-Hosteller		Hosteller	Non-Hosteller
Tuition Fees	55,000/-	55,000/-	Tuition Fees	40,000/-	40,000/-
Hostel Fees	15,000/-	.....	Hostel Fees	8,725/-	.....
Caution Money	5,000/-*	5,000/-*	Caution Money	-----	-----
AKTU Fee	8,200/-	8,200/-	AKTU Fee	8,200/-	8,200/-
Development charge	10,000/-	10,000/-	Dev. charge	5,000/-	5,000/-
Other Charges	15,000/-	15,000/-	Other Charges	15,000/-	15,000/-
Alumni Registration fees	1000/-*	1000/-*	Alumni Reg. fees	-----	-----
Mess Charges	30000/-	-----	Mess Charges	30000/-	-----
Total	1,39,200/-	94,200/-	Total	1,06,925/-	68,200/-

*This fees is paid once at the time of new admission .

Commencement of the Session :

The new session commenced from 04 August, 2020 for the B. Tech. V & VII- Semester classes and B. Tech I & III Semester classes started from 24th Nov. 2020.

Short Term Courses:

Besides B. Tech programme, IICT conducts various employment oriented courses that to serve the society as a whole. In the coordination of the above endeavor, 1138 candidates have been trained through ISDS and 3500 artisans have been trained through CHCDS scheme.

Modular Employable Skill (MES) based skill development program in Application of Computer and IT in Carpet Manufacturing, Carpet and Textile design using CAD, Yarn dyeing, Carpet weaving, Spinning of woolen yarn, Washing & Finishing of Carpet are being run by the institute. More than 7000 artisans have been trained so far to mitigate the skill gap.

2. DCD (Design Creation & Development)



IICT PORTFOLIO

Design Bank Created- More than 15000 designs are in place out of which around 3500 designs have been utilized by industry for commercial purpose. 114 designs have been created under design bank .

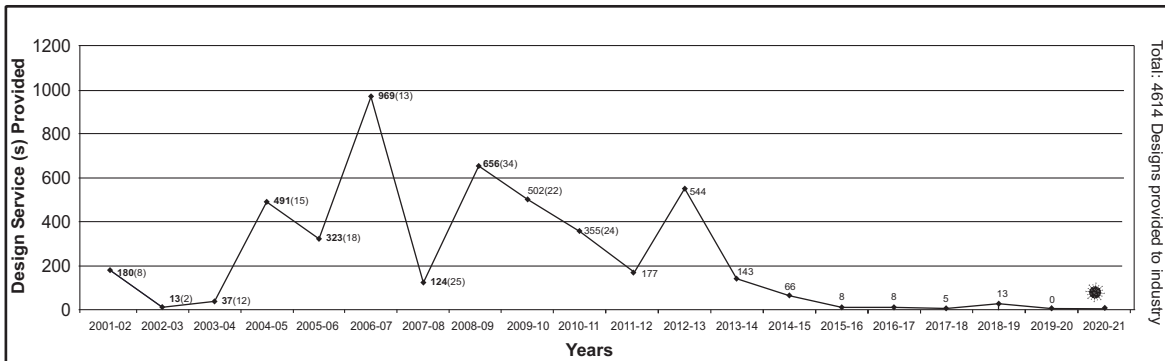
The Design Bank includes Traditional INDIAN Motifs (Like : Harappa, Ajanta, Mughal, Rangoli, Jaipuri, Fulhari, Kantha, Paithani, Kalamkari, Banarasi, Jamewar etc.), modern motifs etc. as per trend.

Kibby Carpet Sampling Machine is also used by the industry to develop prototype samples of size 18"x18"

Industry at large has come forward and taken advice and benefitted from design bank, creativity and development of global value at local cost.

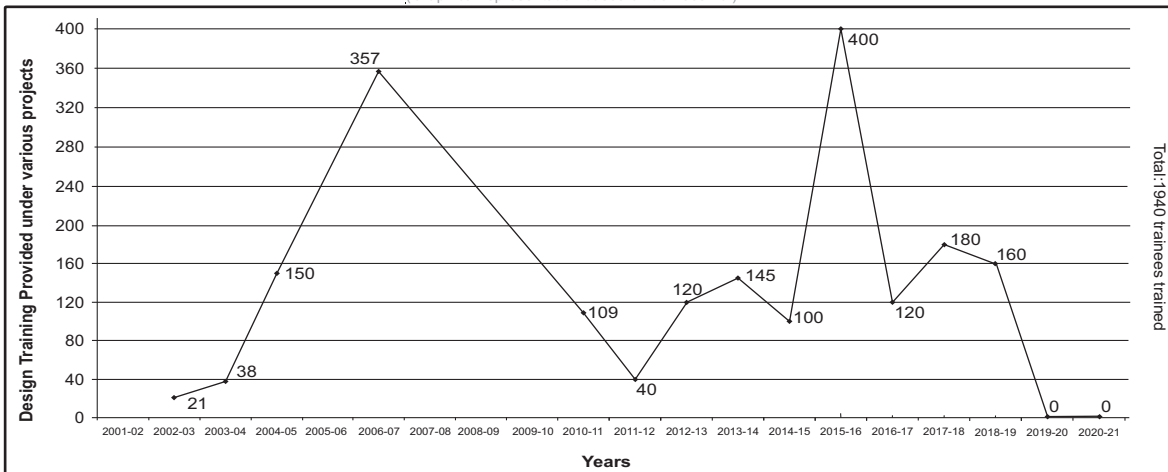
Design Lab Services

(Graphical representation based on sold designs)



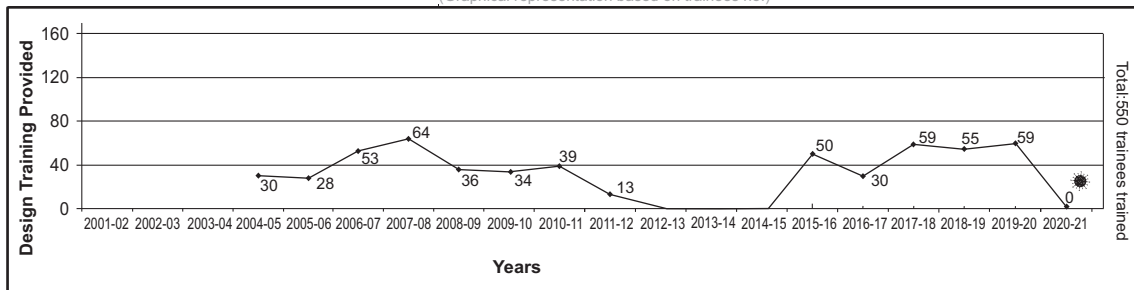
Trainees trained under various projects through Design Lab

(Graphical representation based on trainees no.)



Trainees trained by Design Lab

(Graphical representation based on trainees no.)



NOVEL APPROACH TOWARDS ENERGY STORING SMART GARMENTS

All the sensors, drives, and other electronic components on smart textiles need to have the power to perform. But the traditional power structures are rigid and have great limitations. To solve the problem, it is necessary to develop a flexible, lightweight, portable storage device. Super capacitor is an emerging energy storage device with high power density, short charging time, excellent reversibility and long life cycle, energy conservation and so on. The present study aims to evolve fiber Based super capacitors and fabricate an energy storage system with flexibility while maintaining outstanding performance. This can further used in wearable electronics.

Objectives/Aims	Identified Objectives/Aims Achieved
1) To fabricate Carbon fibre based Supercapacitor device by using Multiple Metal Oxides(MOs)	Novel Combination of various Metal Oxides has been studied for electrode preparation.
2) To activate surface by using different approaches.	Nano Architecture developed and surface was activated by directly growing it on fibres surface through hydrothermal deposition and also by coating the hydrothermally grown material by slurry preparation.
3) Characterization of samples	Various characterizations such as Morphological and electrochemical behaviour have been carried out.

Future Outlook/Advantages

The future of electronic devices is expected to include wearable electronics with stretchable circuitries, implantable sensors, and smart skins. For example, a smart skin could offer on-body sensing to monitor healthcare data and physiological signals in human bodies to support people in various activities and situations. As above-mentioned, Supercapacitors (SC) are energy storage devices for such systems. For wearable devices, fiber like capacitors are particularly suitable.

Wearable electronics are thought to have great potential in areas including communication and healthcare, Soldiers, emergency personnel, energy harvesting etc.

Common supercapacitors and batteries are sealed inside rigid metallic and/or plastic housing for safety reasons. Thus, they are usually large in size, heavy in weight, and mechanically inflexible. In contrast, textiles are manufactured by spinning short and flexible natural or synthetic fibers into long 1D yarns, and yarns are further weaved or knitted into 2D/3D textiles. Most of the textiles are highly flexible and can easily recover after bending or crumpling also weight is comparatively lesser.

A: Product Development:

Quite a few product development activities have been completed at institutional level and or in collaboration which includes:

- Coir Based Carpet
- Silk Carpet
- Eri silk Carpet
- Modacrylic based carpet
- Handmade Astroturf type Carpet
- Natural fiber based carpet
- Natural dyeing
- Substitute to polyester shaggy
- Bujbun Utilization
- Vertical Blind

- **Coir Paper and Coir Silk**

Another revolutionary research supported by CCRI Alleppey, Kerala of Coir Board, Kochi is continuing for coir silk. Commercial Stage trials with reputed Rayon Manufacturing co. (Grasim & Century Rayon) are being undertaken. The value addition will benefit coconut growers and shall support industrialization for coir paper & coir silk Production in coconut production intensive states like Kerala, Tamilnadu. - A proprietary move on supplement to Make in India Mission - Industry to come forward and explore

- **PPE Coverall (Body Suit and Shoe Cover)**

PPE Coverall (Body Suit and Shoe Cover) developed in two categories- disposable (280gm) and reusable (300 gm) . It has been developed in partnership with Techno- chem Industries. A special coating is done on nonwoven fabric in case of disposable and on polyester in reusable PPE Coverall. PPE suits developed so far are not breathable. Hence they are not comfortable. The newly developed product is breathable and light weight, hence comfortable. It meets the stringent requirement of MoHFW and there fore, recommended for doctors, nurses and other para medical staffs.



Disposable



Reusable

- **Recycling & Reusing of Fibrous Waste of Carpet Industry**

Waste from carpet industry includes fibres like Wool, Jute, Polyester, Nylon etc. Mostly the waste fibres are disposed to landfills, which enhances soil pollution. These waste fibres can be recycled and reused to develop many technical fibrous structures.



In search of innovative product with carpet waste, composite materials were prepared by hand layup technique with carpet waste and unsaturated polyester resin. Ratio of fibre and matrix were changed to meet various end use requirements. IICT developed two products. When the matrix percentage was kept high in the composite, then the product was used as replacement of wood. Similarly, when the fibre percentage was kept high in the composite, the product was used as acoustic material.

- **Fabrication and Evaluation of Heating Pad from Waste Carpet**

Waste woolen hand knotted and hand tufted carpets, all made of 100% wool fibers were made electrically conductive by in situ chemical polymerization of pyrrole. Before polymerization reaction takes place, hydrolysis of handmade and hand tufted carpets were done for better deposition of polypyrrole on the material. The average surface resistivities were found to be 1013.08 and 1234.12 Ωm , respectively, for Hand knotted and Hand tufted carpets. It can be used as heating pad for the people suffering from back pain.



● Application of Jute materials in hand made carpets

In this research, a study has been done on the application of jute pile yarns in Persian hand knotted carpet and tufted carpet. Three types of commercial yarns (wool, untreated jute and woollenized jute) as well as three types of chemical treated jute yarns (hydrogen peroxide bleached, softened bleached and woollenized yarns) have been applied as pile yarns in hand made carpets. Cost benefit analysis of handmade carpets shows that material contribution of total cost decreases when jute yarns are used as pile.



B: Technology Up gradation

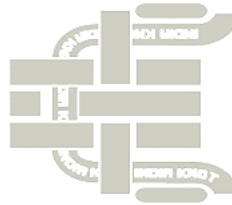
Commendable efforts have made by IICT to up grade the technology being used in the carpet industries. These are :-

- Concept of Ergonomic and Flexible Tufting Frame
- Cross Bar Horizontal Loom CBHL (Wooden or Metallic) for Hand knotted and Tibetan, Shaggy, Soumak etc.



Weavers enjoying the comfort while working in CBHL

- **India Knot:** A proprietary one of IICT which permits semi knotting in loom, a supplement to Make in India Mission - Industry to come forward & Explore



- **Snehabha Carpet Backing System:** Polymer Backing Technology, Light weight, Washable Reported it's features & feasibility in publications like carpet e world



■ Carpcost Software

A Piracy proof software has been developed and ready for use on CD for cost calculation of hand knotted carpet . from Rs. 25000/- to support the industry.



Continuous Tufting Frame

Suitable for Tufted Carpet

It is a manual tufting process using a hand operated or electric tufting Gun for continuous design repeats for large length of carpet.

It has features such as

- Comfortable working environment with ergonomic design of frame.
- Primary Backing Cloth is supplied Continuously from a roller.
- Spike chain for guiding backing cloth with width expanding device.
- Lengthwise stretching of backing cloth by turning cloth roller through hand wheel.
- Simultaneous design printing using tracing paper or alternate use of block printing.
- simultaneous Latex backing with secondary net.
- Hot air solar inverter drying system (optional).
- Carpet winding roller with capacity up to 200 feet length.
- Superior quality of carpet production at nearly 200 sq inch per hour per weavers.



MECHANISED DHURRIE LOOM

Suitable for Floral Design Dhurrie Weaving

Features of the machines

It is an improved design of vertical dhurrie loom for Hand made carpet weaving.

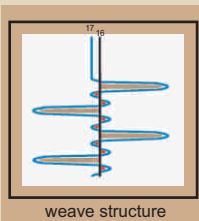
- Arrangement for winding bobbins from hank
- Arrangement for warping larger length within a comfortable room environment.
- Weaving width in multiple of tree feet with Mechanical jacquard for designing.
- Uniform end spacing and accurate width adjustment
- full width panja for uniform beat up
- larger winding capacity on carpet roller.
- Ergonomic design relieving weavers from fatigue.



LENO CARPET LOOM

Suitable for Pile Carpet

It is a broad loom producing pile carpet with leno structure for better tuft withdrawal force. vertical colour stripes, horizontal row of cuts or loops, embossing or printing after weaving produce designs on leno carpets. The technique is for hand made carpet and aims to revive the hand made carpet sector in India.



JACQUARD CARPET LOOM

Suitable for Pile Carpet

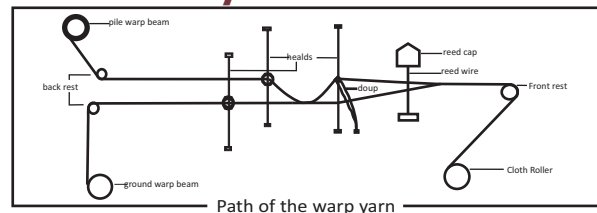


Features

- It is a development of hand loom for floral pile carpet designs.
- Suitable for 2,3,4 or 5 colour designed pile carpets on loop/cut structure .
- Piles are formed by insertion wires in pile warp shed controlled by a mechanical jacquard.
- 200 Creel capacity for each colour pile yarn.
- Cotton warp from beam are controlled by heald shaft.
- Foot pedals operated Shedding for jacquard and heald shaft.
- Hand operated shuttle picking for weft insertion.
- Designed for 36 inch width for 6 piles per inch across carpet, suitable for 3-4 Nm woolen pile yarn.
- Manual card cutting using cutting plate produce endless designs.
- Various thickness wires ranging from 1/4 - 3/4 inch produce pile for different quality of woven carpet.
- The technique is handicraft in nature meant for small weavers in remote villages.

Development of woven carpet sturcture

Terry Leno Pile Structure

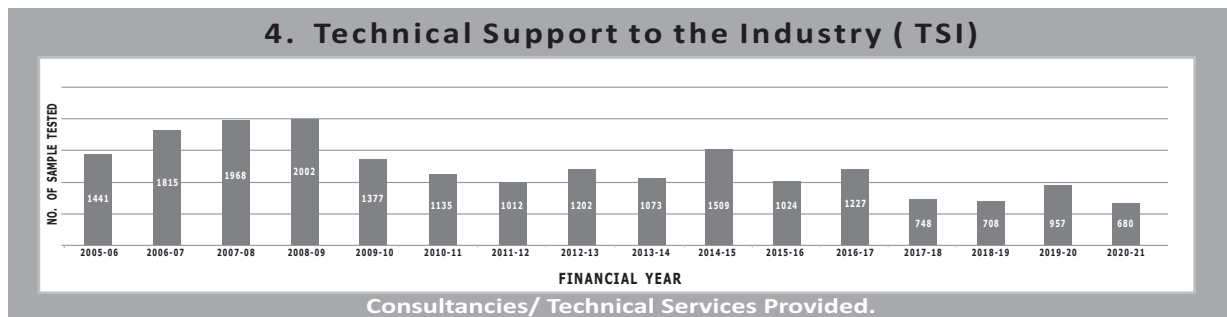


Features

- Carpet prepared on handloom.
- This special handloom has both technology of terry and leno.
- The carpet produced with terry-leno technology has high tuft withdrawal force.
- Cut pile and loop pile both type of carpets can be prepared.

IICT Laboratory

Institute has been providing continuous technical services to the industry through its laboratory sample testing facilities in the disciplines of mechanical and chemical. It helps to fulfill the needs of carpet exporters to compete with the global market. These laboratories are NABL accredited, hence test reports are acceptable internationally. Carpet Industry has utilized the available testing facilities to confirm the quality requirements of international and national buyers. A total of **680** samples have been tested by IICT laboratory, Generating a total revenue of Rs. **5,35,200/-** during the financial year 2020-21, Industry can hire IICT for consultation to enhance their business performance.



List of Kaleen Bandhu Members (as on date 31.03.2021)

1. M/s. Bholanath International, Varanasi
2. M/s. Sahara Kasturi Handicraft Ltd., Lko
3. M/s. Jaya Shree Textiles, Rishra
4. M/s. TAG BROS, New Delhi
5. M/s. ABC Industries, Mirzapur
6. M/s. Peerless Carpet Palace, Bhadohi
7. M/s. GSL Textile India Pvt. Ltd., Ludhiana
8. M/s. Concept Creations, Panipat
9. M/s. Gloster Jute Mills Ltd., Kolkata
10. M/s. Jaipur Rugs Co. Pvt. Ltd., Jaipur
11. M/s. Patodia Exports, Bhadohi
12. M/s. Antique Art Export (P) Ltd. Noida
13. M/s. Samara Carpets Pvt Ltd.
14. M/s. Velocity Yarn Pvt. Ltd.
15. M/s. Champo Carpets. Bhadohi
16. M/s. Colourtech Industries Pvt. Ltd.
17. M/s. Kkaka Carpets, Bhadohi

Note: 1 to 13 & 15 are life members.

- ❖ "KALEEN BANDHU"- a forum created to invite eligible & interested organizations /individuals to become a member of IICT. One can become a Life member or Associate Member on payment of Rs. 50000/- or Rs.4000/- respectively.

Others

- ◆ Floor Covering using Natural fibre
- ◆ Application of Natural Dyes.
- ◆ Product/ Process diversification

Party Interested may contact for further details.

IICT is also involved in various projects under HRD, DCD, R&D, marketing and technology developments schemes, sponsored by O/o DC (HC), New Delhi. The following projects are running in financial year 2020- 21.

Details of Projects at IICT (Govt. Sponsored)

Sr. No.	Name of the Project	Reference and date of sanction/ Project cost in Rs. Lakhs / coordinated by	Scheme/ Fund Status	
IICT-1	One Handicraft Technical Training Programme at Bikaner (East) Carpet Belt.	I-15011/9(1)/NR/HTP/ST/HRD/2018-19, dt. 18.05.2018, Rs. 10.11 Lakhs, Dr. S.K.Pandey,	50% received grant has been refunded to O/o DC (HC) due non completion of project under various project	
IICT-2	One Handicraft Technical Training Programme at Bikaner Carpet Belt. (Sri Kotayet)	I-15011/9(2)/NR/HTP/ST/HRD/2018-19, dt. 18.05.2018, Rs. 10.11 Lakhs, Dr. S.K.Pandey,		
IICT-3	One Handicraft Technical Training Programme at Bikaner, Carpet Belt, (Loon Karansar)	I-15011/9(3)/NR/HTP/ST/HRD/2018-19, dt. 18.05.2018, Rs. 10.11 Lakhs, Dr. S.K.Pandey,		
IICT-4	One Handicraft Technical Training Programme at Bikaner, Carpet Belt, (Nokha)	I-15011/9(4)/NR/HTP/ST/HRD/2018-19, dt. 18.05.2018, Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-5	One Handicraft Technical Training Programme at Bikaner, Carpet Belt, (Khajuwala)	I-15011/9(5)/NR/HTP/ST/HRD/2018-19, dt. 18.05.2018, Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-6	One Handicraft Technical Training Programme at Bikaner (West), Carpet Belt,	I-15011/9(7)/NR/HTP/ST/HRD/2018-19, dt. 18.05.2018, Rs. 10.11 Lakhs, Dr. S.K.Pandey,		
IICT-7	One Handicraft Technical Training Programme at Bikaner Carpet Belt. (Bhinasar)	I-15011/9(6)/NR/HTP/ST/HRD/2018-19/1554 dt. 15.11.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-8	One Handicraft Technical Training Programme at Bikaner Carpet Belt, (Gangashahar)	I-15011/9(8)/NR/HTP/ST/HRD/2018-19/1543 dt. 15.11.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey,		
IICT-9	One Handicraft Technical Training Programme at Bikaner Carpet Belt. (Banglanagar)	I-15011/9(9)/NR/HTP/ST/HRD/2018-19/1575 dt. 15.11.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-10	One Handicraft Technical Training Programme at Bikaner Carpet Belt, (Karnisar)	I-15011/9(10)/NR/HTP/ST/HRD/2018-19/1565 dt.15.11.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-11	One Handicraft Technical Training Programme at PachkhedawaBalrampur (ST Artisans)	I-15011/9(12)/CR/ST/HTP/HRD/2018-19 dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	HRD/50% fund received	
IICT-12	One Handicraft Technical Training Programme at Pachkhedawa Balrampur (ST Artisans)	I-15011/9(12)/CR/ST/HTP/HRD/2018-19-I dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	HRD/50% fund received	
IICT-13	One Handicraft Technical Training Programme at Tulasipur Balrampur (ST Artisans)	I-15011/9(12)/CR/ST/HTP/HRD/2018-19-II dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey,	HRD/50% fund received	
IICT-14	One Handicraft Technical Training Programme at Tulasipur Balrampur (ST Artisans)	I-15011/9(12)/CR/ST/HTP/HRD/2018-19-III dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey,	HRD/50% fund received	
IICT-15	One Handicraft Technical Training Programme at Shrawasti Balrampur (ST Artisans)	I-15011/9(12)/CR/ST/HTP/HRD/2018-19-IV dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	HRD/50% fund received	
IICT-16	One Handicraft Technical Training Programme at ShrawastiBalrampur (ST Artisans)	I-15011/9(12)/CR/ST/HTP/HRD/2018-19-V dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	HRD/50% fund received	
IICT-18	One Handicraft Technical Training Programme at Rohtak Haryana (SC Artisans)	I-15011/9(16)/NR/SC/HTP/HRD/2018-19 dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	HRD/50% fund received	
IICT-14	One Handicraft Technical Training Programme at Jind Haryana (SC Artisans)	I-15011/9(16)/NR/SC/HTP/HRD/2018-19 dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey,	HRD/50% fund received	
IICT-19	One Handicraft Technical Training Programme at Bhiwani, Haryana (SC Artisans)	I-15011/9(16)/NR/SC/HTP/HRD/2018-19-VI, dt. 03.12.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	HRD/50% fund received	
IICT-20	One Handicraft Technical Training Programme at Meham,Jind, Haryana (SC Artisans)	I-15011/9(21)/NR/SC/HTP/HRD/2018-19, dt. 22.02.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	HRD/50% fund received	
IICT-21	One Handicraft Technical Training Programme at Julan,Bhiwani, Haryana (SC Artisans)	I-15011/9(22)/NR/SC/HTP/HRD/2018-19, dt. 22.02.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey,	HRD/50% fund received	
IICT-22	One Handicraft Technical Training Programme at Mindal,Rohtak, Haryana (SC Artisans)	I-15011/9(23)/NR/SC/HTP/HRD/2018-19, dt. 22.02.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey,	HRD/50% fund received	
IICT-23	One Handicraft Technical Training Programme at Padari ,Mirzapur (ST Artisans)	I-15011/9(18)/CR/ST/HTP/HRD/2018-19, dt. 01.03.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey	50% received grant has been refunded to O/o DC (HC) due non completion of project under various project	
IICT-24	One Handicraft Technical Training Programme at Usarahwa, Mirzapur (ST Artisans)	I-15011/9(19)/CR/ST/HTP/HRD/2018-19, dt. 01.03.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-25	One Handicraft Technical Training Programme at Obra, Sonbhadra (ST Artisans)	I-15011/9(20)/CR/ST/HTP/HRD/2018-19, dt. 01.03.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-26	One Handicraft Technical Training Programme at Jangiqani, Bhadohi (ST Artisans)	I-15011/9(21)/CR/ST/HTP/HRD/2018-19, dt. 01.03.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-27	One Handicraft Technical Training Programme at Khamaria, Bhadohi (ST Artisans)	I-15011/9(22)/CR/ST/HTP/HRD/2018-19, dt. 01.03.2018 Rs. 10.11 Lakhs,Dr. S.K.Pandey		
IICT-28	One Handicraft Technical Training Programme at Chopan, Sonbhadra (ST Artisans)	I-15011/9(23)/CR/ST/HTP/HRD/2018-19, dt. 01.03.2018 Rs. 10.11 Lakhs, Dr. S.K.Pandey		
IICT-29	Setting up of Design and Craft School (Audio, Visual Modern Language Lab)	C-11011/27/DCS/IICT(UP)/2018-19/ Infra dt. 25.03.2018 Rs. 14.90 Lakhs, Dr. S.K.Pandey		Infrastructure & Tech. Support
IICT-30	Setting up of Design Bank at IICT, Bhadohi	C-11011/28/DB/IICT(UP)/2018-19/ Infra dt. 25.03.2018 Rs. 14.90 Lakhs, Dr. S.K.Pandey		Infrastructure & Tech. Support

Placement drives is an integral part of our institute as it endows the opportunities to the students to get employment in the well-known and esteemed organizations. The institute started its recruitment process for the year in 2020-21 in the month of September. On campus recruiters includes Welspun Mumbai, OBEETEE Gopiganj, Achal amit & Co., Agra, Dodhiya Synthetics, Vapi , Trident Budhani, MP Maral Overseas etc.

46 offers came for 43 students this year. 4 students got multiple jobs & opportunities.

Placement updates of IICT outgoing students in the academic year 2020-2021

A. Industry placement Name of Industry/ No. of Students	B. Higher Education/Self Employment
Total no. of students eligible for placement : 43 placed till date : 43 (Job & Higher studies)	
WELSPUN HYDERABAD 1 OBEETEE Pvt Ltd 9 KUSUMGAR VAPI 1 MARAL OVERSEAS INDORE 2 Achal Amit & Company,Agra 12 KRM RUGS VARANASI 1 DONEAR VAPI 1 TRIDENT BUDHNI,MP 4 DODHIYA SYNTHETICS VAPI 8 AHMED RUGS 1 CHAMPO CARPETS BHADOHI 1 JAY CHEMICALS AHMEDABAD 1 RSWM BHILWARA 1	IIT DELHI 2 NIT DURGAPUR 1 SELF EMPLOYED 1

Institute Day

IICT-Bhadohi's 'Institute Day' concludes

The 20th 'Institute Day' of IICT-Bhadohi has been celebrated on 01/11/2020 through remote medium. Shri Shantmanu, the chief guest of the function, The O/o Development Commissioner (Handicrafts) and Chairman IICT while addressing said that after the recent agreement with NIFT, IICT will work for "Design Incubation and Development" of carpet in near future. Also soon for development of carpet testing facilities Financial assistance will be given by the Development Commissioner (Handicrafts). Addressing as the special guest of the program, Shri SiddhNath Singh, Chairman CEPC) said that the contribution made by the institute in the field of carpet industry in the last years is commendable. The proximity is a sign of the development of a brighter India. Participating in the function, Mr. Malay Majumdar, Senior President, OBT Pvt Ltd. informed that the students of the institute are performing very effectively in the whole world. Among the alumni, Mr. Harshit Nigam, Mr. Nishant Verma, Mr. Mukesh Kumar and Ms. Amreen Fatima, also participated through distance. Director of the institute, Dr. Alok Kumar highlighted the achievements of the institute in the last years. In addition to the cultural program of students Shashank Shekhar and Shikha Mishra, about 100 students participated. The program was coordinated by Dr. Betty Dasgupta, Dr. Anu Mishra, Dr. Shравan Gupta, Dr. HS Mohapatra, Mr. Jayant Deshpande, Dr. Atanu Manna, and Daparn Singh etc, The program was Conducted by Dr. Moumita Bera. and Vote of thanks was delivered by Dr. R.K.Malik. Shri Ravi Pataudia, Shri Omkar Nath Mishra, Shri Mahesh Dubey etc. were mainly present in the program of the institute.



The practice of Sudarshan Kriya is necessary to keep the body and mind healthy.

International Yoga Day

The creature starts breathing as soon as it is born. Sudarshan Kriya is a rhythmic breathing technique, by which a smooth harmony can be established between body, mind and emotions, Sudarshan Kriya removes stress, fatigue, It gives us energy by removing negative emotions like anger, despair, depression etc., these thoughts were expressed during the four-day induction program organized for the newly admitted students at IICT, Bhadohi. Development Commissioner (Handicrafts), Ministry of Textiles, Government of India and Chairman of IICT, Bhadohi Shri Shant Manu, said that regular practice of Sudarshan Kriya not only makes our body healthy, keeps the mind healthy and happy, In addition to this, even when we accept a particular situation or a particular person without any prejudice, there is a continuity



Development Commissioner, Handicrafts Shri Shantmanu and Smt. Arunima Sinha Explaining the importance of Sudarshan Kriya through a distance medium/online programme.

of happiness and peace in our life. Senior Trainer affiliated with Art of Living Smt. Arunima Sinha, New Delhi described, the students were given in-depth the information about this special form of Sudarshan Kriya. Smt. Arunima Sinha told that we should be ready to take more and more responsibilities keeping our needs low, only then we are helpful in the development of human society. It may be known that a Memorandum of Under Standing (MoU) of IICT, Bhadohi was held with the Art of Living International Center Bangalore two years ago, under this MoU, about 80 students and staff of IICT signed the letter of consent. Director Dr. Alok Kumar. participated in this program together and the program was coordinated by Dr. Himanshu Mohapatra .



Director, Dr. Alok Kumar performing Sudarshan Kriya with the students and staf of IICT

Shaheed Divas celebration in IICT

Shaheed Divas

tribute was paid to the martyrs on Martyrs' Day at the Indian Institute of Carpet Technology, Bhadohi. On this occasion, the Director of the institute, Shri Alok Kumar while garlanding the picture of Bhagat Singh, Rajguru, & Sukhdev said that we are free only because of the sacrifice of these martyrs. The great revolutionaries became immortal in history by making sacrifices at them young age. He said that the purpose of them life was to liberate India and to establish self-made rule, to get people out of poverty, from hunger and slavery. should not be tall but should be big" and these revolutionaries also proved this by making sacrifices at a young age, they became immortal in the history. On this occasion. Paying homage, Professor Anu Mishra said that we had paid a great price for the independence of the country, in such a situation we need to understand its importance, today there is a need to take inspiration from the lives of these revolutionaries. A large number of students present on the occasion paid their respects and bow to the pictures of these revolutionaries. A large number of students, including Deepak, Om Prakash, Abhishek, Alok Rajesh, Suman Mahi, expressed their views.



Many eminent personalities visited the institute during 2020-21. and enlightened the faculty, staff members and students.

Date	Name & Address of visitor	Comment
6/8/2020	Nelson Solomon Noida BEJO	Visited IICT and this has been an extremely educative trip. Extremely supportive. -- Team and shared various information for the enhancement of the industry. Nelson
6/30/2020	Amitava Choudhury NIFT, Raebareilly	Very good infrastructure & seems serene atmosphere would definitely be beneficial to the students studying here to attain their fullest potential. Amitava
6/30/2020	Dr. Bharat Sah Director NIFT RBL.	Visited the entire campus well equipped lab & class room. Excellent atmosphere & very well planned. Good interaction with Director and faculty team. Overall impressive.
8/2/2021	Naveen Swane Nabar Home Bikaner NAVKAR	Thanks for this wonderful lab visit. Today this Institute has to become a govt for the industry by providing skill worker. The Btech persons have been a great support of the growth of the industry.
29/7/21	Neeraj Kumar Anya DFO Bhadohi	IICT is doing very good job for encouraging waiver. All the best for future. Neeraj
30.7.21	Aryake Acharyy DM, Bhadohi	It is a matter of great pride that Bhadohi boasts of its own institute of carpet technology. Amazed to see the intricacies & technology behind carpet manufacturing. My best wishes for all future endeavors of IICT. Aryake

Date	Name & Address of visitor	Comment
18/9/21	भानु प्रताप सिंह वर्मा Minister of State, MSME Gov. of India.	I.I.C.T. अपने आप में एक क्रांतिकारी संस्थान है जो Job creation को समर्थित उद्योगों का संस्थान है/संस्थान के सभी सुधिमरिपों, D.O. जेफरट्ट लकी जेफरट्ट को अनुभवनाएँ डि के इसी प्रकार रोजगार के अवसर डिजाइन व लक्ष्मी उन्नयन के साथ करव रहेंगे। <i>(Signature)</i> 18.9.2021
18.08.21	PRABHAKAR TRIPATHY DIG, CRPP -AMETHI	Visited Indian Institute of Carpet-technology today. It's an state of art- institution working very efficiently under the able guidance of Sh. ALOK Kumar, Director. Faculties are very knowledgeable. I wish them my best wishes. <i>(Signature)</i> 18/08/21