

**Report on MHRD/TEQIP-III sponsored Future Skill Trainings conducted by
H.B.T.U., Kanpur**

Harcourt Butler Technical University, Kanpur (HBTU, Kanpur) was one of the Institutions covered under World Bank assisted Technical Education Quality Improvement Program (TEQIP-III) project of Government of India, Ministry of Human Resource Development (MHRD) for the period 2017-2020 which was extended up to September 2021 due to COVID pandemic. The University received total grant of Rs. 15.00 Cr. out of which Rs. 4.50 Cr. was earmarked for conducting various academic activities like FDP's, Faculty Training Programs, Staff Training Programs, Workshops, Seminars, Expert Lectures etc.

As per the directives of MHRD, Govt. of India, the regulating body of TEQIP-III, National Project Implementation Unit (NPIU) issued vide letter no. 492/NPIU/TEQIP-III/Acad/2020 dated 04.02.2020, six (06) faculty members of HBTU, Kanpur participated and trained in various Future Skill Training programmes conducted at different IITs with an objective to take further these trainings amongst the students to make them industry ready for the futuristic technologies. The details of faculty members, their training areas, number of students trained by them in their area of training alongwith the duration of students training are given in the following table.

Sr. No.	Name of NPIU Faculty	Areas of Future Skill Training	No. of Students Trained	Duration of the Students Training
1.	Mr. Dharmendra Kumar Singh	Robotics & Automation	60	16 Aug to 30 Sept-2020
2.	Dr. Manish Kumar Singh	Robotics & Automation	80	16 Aug to 30 Sept-2020
3.	Dr. Saurabh Sangal	3-D Printing & Design	72	28 July to 01 Sept-2020
4.	Mrs. Nayanica Srivastava	Internet of Things	82	16 July to 11 Oct-2020
5.	Dr. Raghwendra Singh	Internet of Things	87	18 Aug to 02 Oct-2020
6.	Dr. Shashi Kant	Data Science & Analytics	68	18 Sept to 04 Oct-2020

Sample reports on MHRD/TEQIP-III sponsored Future Skill Trainings conducted by HBTU, Kanpur is given below.

Office of the TEQIP-III,
IIBTU, Kanpur

Ref. No.: 455 /Ext./TEQIP-III/2020

Date: June 16, 2020.

Hon'ble Vice Chancellor
HBTU, Kanpur

This is to bring to your kind notice that the list of 6 NPIU faculty of our University who participated in Future Skill Trainings at different IITs in their respective area is as given below:

Sl. No.	Name of NPIU Faculty	Area
1	✓ Mr. Dharmendra Kumar Singh	Robotics & Automation
2	✓ Dr. Manish Kumar Singh	Robotics & Automation
3	✓ Dr. Shailendra kumar pandey	Data Science & Analytics
4	✓ Mrs. Nayanica Srivastava	Internet of Things
5	✓ Dr. Raghwendra Singh	Internet of Things
6	✓ Dr. Shashi Kant	Data Science & Analytics

In continuation, it has reference to the NPIU circular dated 07-02-2020 (copy attached) regarding the trained faculty to train the students of their institutes to make them industry ready for complying to the future skill requirement of IT-ITes industries.

Further, as per point 8 of the circular an honorarium of Rs. 700/- per hour may be paid to the faculty providing the training from TEQIP-III. Also, an honorarium of Rs. 500/- per month (for three months) may be paid from TEQIP-III to the coordinator appointed for this purpose.

In view of the above, may like to nominate Dr. Raghwendra Singh and Dr. Manish Kumar Singh as Coordinator for "Future Skill Technologies Training". They will coordinate the activity, prepare a complete report/schedule/plan and submit in the TEQIP office urgently.

(Prof. Raghuraj Singh)
Coordinator, TEQIP-III

discuss

17 JUN 2020

कुलपति
भारतीय प्रौद्योगिकी संस्थान
कानपुर

Matter was discussed on 18.6.2020
may be approved.

18.6.2020

NPIU

राष्ट्रीय परियोजना कार्यान्वयन एकक
(तकनीकी शिक्षा में विश्व बैंक सहायक परियोजना के कार्यान्वयन के लिए भारत सरकार, मानव संसाधन विकास मंत्रालय का एकक)

National Project Implementation Unit

(A UNIT OF MINISTRY OF HUMAN RESOURCE DEVELOPMENT, GOVERNMENT OF INDIA FOR IMPLEMENTATION OF WORLD BANK ASSISTED PROJECTS IN TECHNICAL EDUCATION)

NPIU/TEQIP-III/Acad/2020/492

Date: 07-02-2020

CIRCULAR

I offer my sincere thanks to Heads of TEQIP institutions for deputing their faculty for Train-the-Trainer program on IT-ITes future Skill technologies at different IITs/ IIIT. The objective of Train-the-Trainer program is to make student training feasible, easier and cheaper and also to make our faculty certified trainers for future. The passionate faculty who are participating in the training program need appreciation.

In order to enhance employability and improve placement of students, students need to be imparted requisite hands-on-training on technologies like Artificial Intelligence, Data Science, Internet of Things, Cloud Computing, Cyber Security, Robotics, Virtual reality etc. These emerging technology areas have huge employment potential for engineering graduates in coming 2-3 years.

While the faculty training is already completed at few IITs and also Diagnostic Test of majority students completed through Sector Skill Council NASSCOM, it is a high time to schedule the student training program at each institute level. As a next step, the trained faculty is required to further train the students of their institutes to make them industry ready for complying to the future skill requirements of IT-ITes industries. The diagnostic test has helped the institute as well as an individual student to identify his/ her inclination for requisite technology area and is made available through the score cards issued.

The guidelines for the conduction of student training at all TEQIP institutes (1.1 & 1.3) shall be as follows:

1. The training of students may be conducted during March – May 2020.
2. The training shall be conducted for the designated number of hours (approx. 150- 200 hrs) at the institute by the faculty trained in IITs.
3. The training curriculum shall have both components of Theory and Lab in 50:50 proportion.
4. Minimum Batch Size for commencement of training in a particular skill is 30.
5. Industry experts may also be invited for completing lab work on per day honorarium basis (Guidelines available on TEQIP website).
6. The training schedule shall be finalized by the institute with intimation to NPIU.
7. The requisite training is based on the willingness of student for the respective technology area and not compulsory for the student.
- * 8. The training by the faculty trainers may be over and above their regular academic activities and hence may be paid extra remuneration (Max. Rs. 700/- per hour), through TEQIP, based on hours of training. ✓
- * 9. The Institute coordinator for Future Skill (FS) trainings may be nominated by Head of the institute and may be paid Max. Rs. 500/- per month as honorarium (for three months) through TEQIP for facilitating training in all skills. ✓
10. Post training assessment and certification shall be conducted through SSC NASSCOM for the students participating in the training and every institution may target for at least 25% of trained students attaining certification.
11. The implementation status shall be requested shortly on a Google Drive through SPIU.

TEQIP Coordinators are kindly requested to initiate the process of students training as per the above guidelines. In case of any query you may contact Mr. Laxmikant Nagar at lnagar.teqip@gmail.com or 8827749689.

With Regards,

Sheshant

P. M. K. K.

Prof. (Dr.) P. M. K. K.
Central Project Advisor

To:

1. All Institutions (1.1 & 1.3)

Copy to:

1. All SPIUs

कोपिया कॉर्पोरेट सुइट्स, तृतीय तल
301-302, प्लॉट नं. 9, जसोला विहार, नई दिल्ली-110025
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वेब साईट / Web site : www.npiu.nic.in
ई-मेल / E-mail : npiu-mhrd@gov.in

Online Future Skill Training on "Robotics & Automation" Lecture Delivery Plan (LDP)

49

27.	<p>Simpler laboratory version of robotic arm</p> <ul style="list-style-type: none"> Arm movement of robots perform on rob analyser and seen rotational matrix chagement. 	Hardware/ software Experiments/labs (6 Hrs.)	11/09/2020	6pm-9pm	3	-	3
28.	<p>Actuators: Pneumatic</p> <ul style="list-style-type: none"> Pneumatic actuators are mechanical devices that use compressed air acting on a piston inside a cylinder to move a load along a linear path. ... There are many styles of pneumatic actuators, including diaphragm cylinders, rodless cylinders, telescoping cylinders and through-rod cylinders 	IV: Robot Actuation Systems (10 Hrs.)	12/09/2020	5pm-9pm	4	4	-
29.	<p>Transmission: Gears, Timing Belts and Bearings</p> <ul style="list-style-type: none"> Belt drives are particularly useful in applications where layout flexibility is important. They enable the designer to place components in more advantageous locations at larger distances without paying a price penalty. 		13/09/2020	6pm-9pm	3	3	-
30.	<p>Parameters for selection of actuators</p> <ul style="list-style-type: none"> Power source availability, control access, valve size, frequency of operation, and required torque are all factors to consider when choosing between pneumatic or electric actuators 		14/09/2020	6pm-9pm	3	3	-
31.	<p>Industrial Robot programming using VAL II or equivalent / simpler laboratory version of robotic arm.</p>	Hardware/ software Experiments/labs (9 Hrs.)	15/09/2020	6pm-9pm	3	-	3
32.	<p>DH parameters</p> <ul style="list-style-type: none"> In mechanical engineering, the Denavit-Hartenberg parameters (also called DH parameters) are the four parameters associated with a particular convention for attaching reference frames to the links of a spatial kinematic chain, or robot manipulator. 		16/09/2020	6pm-9pm	3	-	3

Online Future Skill Training on "Robotics & Automation" Lecture Delivery Plan (LDP)

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33.	<p>DH parameters</p> <ul style="list-style-type: none"> In this convention, coordinate frames are attached to the joints between two links such that one <u>transformation</u> is associated with the joint, [Z], and the second is associated with the link [X]. The coordinate transformations along a serial robot consisting of n links form the kinematics equations of the robot 		17/09/2020	6pm-9pm	3	-	3
34.	<p>Basics of control: open loop- closed loop Transfer functions</p> <ul style="list-style-type: none"> Basic controlling system of robotics explained and understands impact of open and closed loop transfer function. 	V: Robot Control (7 Hrs.)	18/09/2020	5pm-9pm	4	4	-
35.	<p>Control laws: P, PD, PID Linear and Non-linear controls</p> <ul style="list-style-type: none"> Use of : P, PD, PID controllers inside robotics arm movement explained 		19/09/2020	6pm-9pm	3	3	-
36.	<p>Microcontroller lab – programming (free software /open source)</p> <ul style="list-style-type: none"> Application of PIC microcontroller inside robotics explained. 	Hardware/ software Experiments/labs (10 Hrs.)	20/09/2020	5pm-9pm	4	-	4
37.	Actuators: Electric, Hydraulic		21/09/2020	6pm-9pm	3	-	3
38.	Research related experiment in AI e.g. multi agent system, unmanned systems control using ROS, etc.		22/09/2020	6pm-9pm	3	-	3
39.	<p>Embedded systems: Microcontroller Architecture and integration with sensors actuators, components programming</p>	VI: Control Hardware and Interfacing (6 Hrs.)	23/09/2020	6pm-9pm	3	3	-
40.	Applications for Industrial robot - programming in – VAL II		24/09/2020	6pm-9pm	3	3	-
41.	Integration of assorted sensors (IR, Potentiometer, strain gauges etc.), micro controllers and ROS (Robot Operating System) in a robotic system. (Free software, Matlab)	Hardware/ software Experiments/labs (3 Hrs.)	25/09/2020	6pm-9pm	3	-	3
42.	Applications in unmanned systems, Defense, medical, industries, etc.	VII: AI in Robotics, Industrial robotics & safety (9 Hrs.)	26/09/2020	6pm-9pm	3	3	-
43.	Robotics and Automation for Industry 4.0.		27/09/2020	6pm-9pm	3	3	-

[Signature]

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Online Future Skill Training on "Robotics & Automation" Lecture Delivery Plan (LDP)

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44.	Robot safety and social robotics		28/09/2020	6pm-9pm	3	3	-
45.	Control experiment using available hardware or software. (Open source or Matlab). Use of open source computer vision programming tool/ Matlab, open CV	Hardware/ software Experiments/labs (6 Hrs.)	29/09/2020	6pm-9pm	3	-	3
46.	Small group project work relevant to Industrial automation.		30/09/2020	6pm-9pm	3	-	3
Total					142	71	71
##TEQIP FINAL ASSESMENT (Conducted by SSC NASSCOM on dt.19/12/2020 from 02:00pm- to-04:00pm)							

[Handwritten Signature]

[Handwritten Signature]
Signature of Faculty/Trainer
(Dharmendra Kumar Singh)

71 HRS
71 HRS
142 HRS x 700 = 99,400 = ₹

Passed for Payment of ₹ = 99,400 = ₹
(Ninty nine thousand four hundred only)

[Handwritten Signature]
Coordinator, TEQIP-II
₹

Online Future Skill Training on "Robotics & Automation" ATTENDENCE SHEET

100

Date: 16/08/2020 ✓

Time: 3 hours (6pm - 9pm)

Batch: 2

Day 1: 16 Aug 2020

Timestamp	Name	Roll no	Branch	Date
8/16/2020 18:04:28	Dhananjay Chauhan	190205008	Electronics Engineering	16/8/2020
8/16/2020 18:10:18	Piyush Rajput	190106030	ET	16/8/2020
8/16/2020 18:17:04	Aman Kumar	180107007	Food Technology	16/8/2020
8/16/2020 18:33:24	Utkarsh Azad	190103060	Chemical Engineering	16/8/2020
8/16/2020 18:35:33	Abhinandan mishra	170107001	Final btech food technology	16/8/2020
8/16/2020 18:38:54	Piyush Rajput	190106030	ET	16/8/2020
8/16/2020 18:42:56	Deepika Juneja	180110028	Computer Science and Engineering	16/8/2020
8/16/2020 18:52:42	hrithik seth	190103026	CHE	16/8/2020
8/16/2020 19:15:19	Tarun Singh	190108037	Information Technology	16/8/2020
8/16/2020 19:22:10	Krishna Katiyar	170107014	Food Technology	16/8/2020
8/16/2020 19:40:58	Jatin Gupta	180103019	Chemical Engineering	16/8/2020
8/16/2020 19:45:54	Prabha kumari	190205012	ET	16/8/2020
8/16/2020 19:51:43	Yash, Kumar Singh	170109018	Leather Technology	16/8/2020
8/16/2020 20:12:23	JYOTI	190105019	Electrical engineering	16/8/2020
8/16/2020 20:15:13	Srishti gupta	190205015	Electronic and communication	16/8/2020

Online Future Skill Training on "Robotics & Automation" ATTENDANCE SHEET

99

Date: 16/08/2020

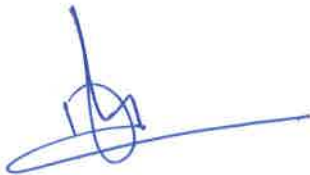
Time: 3 hours (6PM-9PM)

Batch: 2

Continue :-

8/16/2020 20:17:02	Devanshi Tiwari	190103021	Chemical engineering	16/8/2020
8/16/2020 20:24:47	Upagyya Dixit	180106047	3rd ET	16/8/2020
8/16/2020 20:31:18	Monali Chakraborty	190106027	Electronics	16/8/2020
8/16/2020 20:33:53	UTKARSH PAL	180110057	MECHANICAL ENGINEERING	16/8/2020
8/16/2020 20:35:31	Km. Sneha	180110036	Mechanical engineering	16/8/2020
8/16/2020 20:45:22	Priyanshi Omer	180106026	Electronics Engineering	16/8/2020
8/16/2020 20:50:52	Richa Singh	180106029	ET	16/8/2020
8/16/2020 20:52:58	Utkarsh Azad	190103060	Chemical Engineering	16/8/2020
8/16/2020 20:54:41	aparna pandey	190205005	ec	16/8/2020

24



Online Future Skill Training on "Robotics & Automation"

ATTENDANCE SHEET

(98)

Date: 17/08/2020

Time: 3 hours (6pm-9pm)

Batch: 2

Day 2: 17 Aug 2020

Timestamp	Name	Roll no	Branch	Date
8/17/2020 18:08:02	Yash Kumar Singh	170109018	Leather Technology	17/8/2020
8/17/2020 18:15:13	Krishna Katiyar	170107014	Food Technology	17/8/2020
8/17/2020 18:19:33	Rajarshi Tiwari	190106033	ET	17/8/2020
8/17/2020 18:36:51	Tarun Singh	190108037	Information Technology	17/8/2020
8/17/2020 18:37:20	Jatin Gupta	180103019	Chemical Engineering	17/8/2020
8/17/2020 18:45:37	Piyush rajput	190106030	ET	17/8/2020
8/17/2020 18:51:56	Piyush Rajput	190106030	ET	17/8/2020
8/17/2020 19:03:12	Aman Kumar	180107007	Food Technology	17/8/2020
8/17/2020 19:10:21	Monali Chakraborty	190106027	Electronics	17/8/2020
8/17/2020 19:15:35	Deepika Juneja	180110028	Computer Science and Engineering	17/8/2020
8/17/2020 19:21:49	HRITHIK SETH	190103026	CHE	17/8/2020
8/17/2020 19:27:11	Devanshi Tiwari	190103021	Chemical engineering	17/8/2020
8/17/2020 19:33:32	Upagyya Dixit	180106047	3rd ET	17/8/2020
8/17/2020 19:40:53	Km. Sneha	180110036	Mechanical engineering	17/8/2020
8/17/2020 19:47:09	Richa Singh	180106029	ET	17/8/2020
8/17/2020 19:54:19	JYOTI	190105019	Electrical engineering	17/8/2020
8/17/2020 19:59:39	Km. Sneha	180110036	Mechanical engineering	17/8/2020
8/17/2020 20:17:53	Abhinandan mishra	170107001	Final btech food technology	17/8/2020
8/17/2020 20:20:17	Utkarsh Azad	190103060	Chemical Engineering	17/8/2020
8/17/2020 20:27:25	srishti gupta	190205015	Electronic and communication	17/8/2020
8/17/2020 20:38:38	aparna pandey	190205005	ec	17/8/2020
8/17/2020 20:45:01	srishti gupta	190205015	electronic and communication	17/8/2020
8/17/2020 20:52:41	Priyanshi Omer	180106026	Electronics	17/8/2020

Online Future Skill Training on "Robotics & Automation" ATTENDANCE SHEET

97

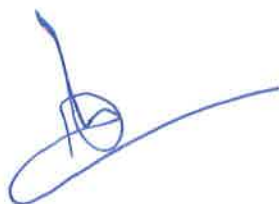
Date: 17/08/2020

Time: 3 hours (6PM-9PM)

Batch: 2

8/17/2020 20:57:16	Apurva yadav	170101004	BE	17/8/2020
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24



Online Future Skill Training on "Robotics & Automation" ATTENDANCE SHEET

(96)

Date: 18/08/2020

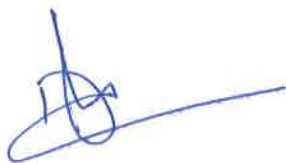
Time: 3 hours (6PM-9PM)

Batch: 2

Day 3 : 18 Aug 2020

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8/18/2020 18:12:03	Upagyya Dixit	180106047	3rd et	18/8/2020
8/18/2020 18:14:08	Tarun Singh	190108037	Information Technology	18/8/2020
8/18/2020 18:17:21	Yash Kumar Singh	170109018	Leather Technology	18/8/2020
8/18/2020 18:22:07	Aman Kumar	180107007	Food Technology	18/8/2020
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8/18/2020 18:40:20	Piyush Rajput	190106030	Et	18/8/2020
8/18/2020 18:46:33	Devanshi Tiwari	190103021	Chemical engineering	18/8/2020
8/18/2020 18:51:49	Jyoti	190105019	Electrical engineering	18/8/2020
8/18/2020 18:59:12	Jatin Gupta	180103019	Chemical Engineering	18/8/2020
8/18/2020 19:05:31	Km. Sneha	180110036	Mechanical engineering e	18/8/2020
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8/18/2020 19:44:44	Priyanshi Omer	180106026	electronics	18/8/2020
8/18/2020 19:57:23	aparna pandey	190205005	ec	18/8/2020
8/18/2020 20:42:01	Apurva yadav	170101004	BE	18/8/2020
8/18/2020 20:47:42	srishti gupta	190205015	electronic and communication	18/8/2020
8/18/2020 20:53:09	Utkarsh Azad	190103060	Chemical Engineering	18/8/2020

18







Office of the TEQIP-III,
HBTU, Kanpur

Ref. No.: 455 /Ext./TEQIP-III/2020

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Hon'ble Vice Chancellor
HBTU, Kanpur

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(Prof. Raghuraj Singh)
Coordinator, TEQIP-III

discuss
17 JUN 2020

17 JUN 2020

कुलपति
वि.के.ए. कैंपस प्रशासक, वि.के.ए. कैंपस
कानपुर-208002

Matter was discussed on 18.6.2020
may be approved.

18.6.2020



40
Annex-1
13

राष्ट्रीय परियोजना कार्यान्वयन एकक
(तकनीकी शिक्षा में विश्व बैंक सहायक परियोजना के कार्यान्वयन के लिए भारत सरकार, मानव संसाधन विकास मंत्रालय का एकक)

National Project Implementation Unit

(A UNIT OF MINISTRY OF HUMAN RESOURCE DEVELOPMENT, GOVERNMENT OF INDIA FOR IMPLEMENTATION OF WORLD BANK ASSISTED PROJECTS IN TECHNICAL EDUCATION)

NPIU/TEQIP-III/Acad/2020/492

Date: 07-02-2020

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With Regards,

Shekhawat

P. M. Khodke

Prof. (Dr.) P. M. Khodke
Central Project Advisor

To:

1. All Institutions (1.1 & 1.3)

Copy to:

1. All SPIUs

कोपिया कॉर्पोरेट सुइट्स, तृतीय तल
301-302, प्लॉट नं. 9, जसोला विहार, नई दिल्ली-110025
Copia Corporate Suites, 3rd Floor
301-302, Plot No. 9, Jasola Vihar, New Delhi-110025

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फैक्स / Fax : +91-11-26941012, 26941014
वेब साईट / Web site : www.npiu.nic.in
ई-मेल / E-mail : npiu-mhrd@gov.in

Lecture Plan (Tentative)

No. of Session = 40

(Two hours/session)

S.No.	Module	Topics	Number of hours (each session are of 2 hours)
1	Introduction to 3D printing (2 sessions)	Session 1- Basics of 3D printing and additive Manufacturing. Why Use the Term Additive Manufacturing, 3D Printing Session 2: Rapid Prototyping, The Benefits of AM, Distinction Between AM and CNC Machining, Reverse Engineering Technology.	2 x 2 = 4 hours
2	Development of Additive Manufacturing Technology (3 sessions)	Session 3 - Development of Additive Manufacturing Technology. Computer-Aided Design Technology, Session 4 - Printing Technologies. The Use of Layers, Classification of AM Processes Milestones in AM Development Session 5 - The Future? Rapid Prototyping Develops into Direct Digital Manufacturing	3 x 2 = 06 hours
3	Generalized Additive Manufacturing Process Chain (6 sessions)	Session 6 - Introduction, The Eight Steps in Additive Manufacture Session 7 - Photopolymer-Based Systems. Powder-Based Systems, Molten Material System, Session 8 - Maintenance of Equipment Solid Sheets, Session 9- Materials Handling Issues, Session 10- Design for AM, Application Areas That Don't Involve Conventional CAD Modeling Session 11 - Exercises	6 x 2 = 12 hours
4	Photo polymerization Processes (6 sessions)	Session 12- Introduction, Photo polymerization Materials Session 13- Reaction Rates, Vector Scan SL, SL Resin Curing Process SL Scan Patterns Session 14- STAR-WEAVE, Vector Scan Microstereolithography. Session 15- Mask Projection, Photo polymerization Session 16- Technologies and Processes, Two-Photon SL Session 17- Exercises	6 x 2 = 12 hours
5	Powder Bed Fusion Processes (8 sessions)	Session 18- Introduction Powder Fusion Mechanisms	8 x 2 = 16 hours

approved

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Coordinator TEQIP-III

Harcourt Butler Technical University
Kannur-206002

for

[Signature]
कुलपति

हार्कर्ट बटलर प्राविधिक विश्वविद्यालय
कानपुर-2

[Signature]
STAFF

		<p>Session 19- Solid-state Sintering Chemically-induced Sintering. Liquid-phase Sintering and Partial Melting</p> <p>Session 20- Powder Handling Systems.</p> <p>Session 21- Variants of Powder Bed Fusion Processes</p> <p>Session 22- Process Parameters Applied Energy Correlations and Scan Patterns</p> <p>Session 23- Typical Materials and Applications</p> <p>Session 24- Approaches to Metal and Ceramic Part Creation</p> <p>Session 25- Capabilities and Limitations</p>	
6	Printing Processes (6 sessions)	<p>Session 26- Evolution of Printing as an Additive Manufacturing Process</p> <p>Session 27- Research Achievements in Printing, Deposition, Technical Challenges of Printing</p> <p>Session 28- Printing Process, Modeling Material Modification Methods</p> <p>Session 29- Three-Dimensional Printing</p> <p>Session 30- Advantages of Binder Printing</p> <p>Session 31- Exercises</p>	6 x 2 = 12 hours
7	Design for Additive Manufacturing (Laboratory sessions) (9 sessions)	<p>Session 32- Design for Manufacturing and Assembly</p> <p>Session 33- Core DFAM Concepts and Objectives.</p> <p>Session 34- Exploring Design Freedoms. Design Tools for AM,</p> <p>Session 35- Software Issues for Additive Manufacturing</p> <p>Session 36- Preparation of CAD Models – the STL File, Problems with STL Files, STL File Manipulation</p> <p>Session 37- Additional Software to Assist AM.</p> <p>Session 38- AM Unique Capabilities</p> <p>Session 39- Identification of a product for Additive Manufacturing and its AM process plan, Printing of identified product on an available AM machine</p> <p>Session 40- Post-processing of additively manufactured product , Inspection and defect analysis of the additively manufactured product</p>	9 x 2 = 18 hours
Total			80 hours

approved 
 Coordinator TEQIP-III
 Harcourt Butler Technical University
 Kanpur-208002

for

कुलकर्णी
 रकोट बटलर प्राविधिक विश्वविद्यालय
 कानपुर-2


 15/11/21

Future skill training of students on “3D Printing and Design”

28th July 2021-1st September 2021

ACHIEVEMENT REPORT

The course was designed to impart knowledge and skills related to 3D printing technologies, Selection of material and equipment, and develop a product using this technique in Industry Environment. The training was successfully conducted through online mode. The total 79 students participated in the training program of Mechanical engineering, HBTU Kanpur.

The latest technologies and future scope of 3D printing and design was explained to students in depth. The application of 3D printing and design in area of engineering as well as in medical components have been explained and demonstrated. The session of demonstration of various 3D printing machine and products made by the process have been conducted in the incubation hub, Mechanical engineering department.

The latest softwares related to design and 3D modelling i.e. Auto Cad, SolidWorks and ANSYS 19.0 have been discussed and practical session was conducted during the course. After the completion of this course the students are now able to perform 3D modelling and 3D printing efficiently in Industry.

Faculty Mentor

Mr. Saarabh Sangal

Assistant Profeseor (NPIU)

HBTU Kanpur-U.P.-208002

Verified & countersign by
V. Dixit
Nodal Officer Engineering TEQIP-III
Harcourt Butler Technical University
Kanpur-208002

7-9 PM

Theory & Labs - Online
Session - S-F

Attendance-Future Skill Training "3D Printing and design"-28th July 2021

S.No.	Timestamp	Email Address	Name	Roll No.	Branch	Gender	Mobile No.	DOB
1	7/28/2021 19:17:03	190110034@hbtu.ac.in	Kanika Chaudhary	190110034	Mechanical Engineering	Female	7983878599	5/3/2001
2	7/28/2021 19:17:05	190110009@HBTU.AC.IN	Aryan Pandey	190110009	Mechanical Engineering	Male	9336043494	8/22/2001
3	7/28/2021 19:17:05	180110046@hbtu.ac.in	Prateek Shrivastava	180110046	Mechanical Engineering	Male	+917905514261	11/26/1999
4	7/28/2021 19:17:22	kumarj2611@gmail.com	Ashish Kumar	180110021	Mechanical Engineering	Male	06397575958	9/6/2000
5	7/28/2021 19:17:23	190110060@hbtu.ac.in	Shubham Rana	190110060	Mechanical Engineering	Male	6392099300	5/28/2001
6	7/28/2021 19:17:23	190110053@hbtu.ac.in	Shakti Yadav	190110053	Mechanical Engineering	Male	9369258045	8/6/2000
7	7/28/2021 19:17:25	190112012@hbtu.ac.in	Geetanjali Prakash	190112012	Mechanical Engineering	Female	9519441112	12/17/2001
8	7/28/2021 19:17:28	190110010@gmail.com	Aryan Verma	190110010	Mechanical Engineering	Male	8318623462	6/1/2000
9	7/28/2021 19:17:28	180110061@hbtu.ac.in	Abhishhek Singh	180110061	Mechanical Engineering	Male	6392430338	5/8/2000
10	7/28/2021 19:17:30	190110028@HBTU.AC.IN	Himanshu	190110028	Mechanical Engineering	Male	8650306750	
11	7/28/2021 19:17:35	190110003@gmail.com	Akash kumar	190110003	Mechanical Engineering	Male	7985601037	9/3/2001
12	7/28/2021 19:17:46	190110071@hbtu.ac.in	VARUN ARORA	190110071	Mechanical Engineering	Male	9628956655	12/30/2001
13	7/28/2021 19:17:49	ralayush991230@gmail.com	Ayush Rai	190110019	Mechanical Engineering	Male	6387611363	4/13/2001
14	7/28/2021 19:17:52	190110056@hbtu.ac.in	Shikher Tiwedi	190110056	Mechanical Engineering	Male	8081315195	12/11/2021
15	7/28/2021 19:17:53	190110076@hbtu.ac.in	VISHWAS BADAL	190110076	Mechanical Engineering	Male	98111767479	12/27/2001
16	7/28/2021 19:17:55	190110068@hbtu.ac.in	UTKARSH AWASTHI	190110068	Mechanical Engineering	Male	8957302310	3/5/2000
17	7/28/2021 19:17:58	190110046@hbtu.ac.in	Omjee Sengar	190110046	Mechanical Engineering	Male	9450912820	7/1/8/2001
18	7/28/2021 19:18:00	190110020@hbtu.ac.in	Ayush Tiwari	190110020	Mechanical Engineering	Male	7983632115	6/5/2000
19	7/28/2021 19:18:00	190110040@hbtu.ac.in	Mohammad Aqib	190110040	Mechanical Engineering	Male	9026405159	10/24/2000
20	7/28/2021 19:18:03	190110070@hbtu.ac.in	VAIBHAV SHUKLA	190110070	Mechanical Engineering	Female	6387211270	2/4/2000
21	7/28/2021 19:18:04	190110037@hbtu.ac.in	Kriti Singh	190110037	Mechanical Engineering	Female	9170601908	9/14/2001
22	7/28/2021 19:18:05	190110025@hbtu.ac.in	Diyanshu Patel	190110025	Mechanical Engineering	Male	8439922790	4/28/2001
23	7/28/2021 19:18:08	180110036@hbtu.ac.in	Km. Sneha	180110036	Mechanical Engineering	Female	7355495097	6/11/1999
24	7/28/2021 19:18:09	190110006@hbtu.ac.in	Archana Devi	190110006	Mechanical Engineering	Female	6397254994	11/23/2000
25	7/28/2021 19:18:10	180110037@hbtu.ac.in	Mayank Chaudhary	180110037	Mechanical Engineering	Male	7505520190	11/1/2002
26	7/28/2021 19:18:12	divyanshasathana123@gmail.com	Diyansh ashtana	190110023	Mechanical Engineering	Male	9936856647	3/30/2000
27	7/28/2021 19:18:13	190110052@HBTU.AC.IN	SATYENDRA SRIVASTAVA	190110052	Mechanical Engineering	Male	9305904879	8/20/2000
28	7/28/2021 19:18:17	190110058@hbtu.ac.in	SHUBHAM KATTIYAR	190110058	Mechanical Engineering	Male	8112620769	1/8/2000
29	7/28/2021 19:18:27	190110031@hbtu.ac.in	Hrithik Bhadauria	190110031	Mechanical Engineering	Male	6396293679	10/17/2000
30	7/28/2021 19:18:35	190110013@hbtu.ac.in	Atray Mishra	190110013	Mechanical Engineering	Male	9984732600	6/22/2000
31	7/28/2021 19:18:39	190110033@hbtu.ac.in	ISHA SINGH	190110033	Mechanical Engineering	Female	8756514405	9/18/2000
32	7/28/2021 19:18:40	190110036@hbtu.ac.in	Karitik dixit	190110036	Mechanical Engineering	Male	8115384712	12/6/2000
33	7/28/2021 19:18:42	190110005@hbtu.ac.in	ANJU SAHU	190110005	Mechanical Engineering	Male	7347703525	1/12/1999
34	7/28/2021 19:18:44	190110061@hbtu.ac.in	Sonu Gupta	190110061	Mechanical Engineering	Male		

C. Saurabh
Faculty Member
Sangolli

Faculty

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Kanpur-208002

Attendance-Future Skill Training "3D Printing and design"-28th July 2021

S.No.	Timestamp	Email Address	Name	Roll No.	Branch	Gender	Mobile No.	DOB
35	7/28/2021 19:18:46	180110031@hbtu.ac.in	Diyarsh Pandey	180110031	Mechanical Engineering	Male	6306138755	7/25/2000
36	7/28/2021 19:19:01	190110077@hbtu.ac.in	Vvek Chaurasia	190110077	Mechanical Engineering	Female	8564087293	1/25/2001
37	7/28/2021 19:19:31	190110012@hbtu.ac.in	Ashutosh Kumar	190110012	Mechanical Engineering	Male	9565626060	7/7/1999
38	7/28/2021 19:19:33	190110008@hbtu.ac.in	Apriit Yadav	190110008	Mechanical Engineering	Male	6397987585	10/16/2001
39	7/28/2021 19:19:39	190110030@hbtu.ac.in	HIMANSHU GUPTA	190110030	Mechanical Engineering	Male	+918933094536	5/22/2000
40	7/28/2021 19:20:08	190110049@hbtu.ac.in	RIYA VERMA	190110049	Mechanical Engineering	Female	9129932470	6/27/2001
41	7/28/2021 19:22:13	190110035@hbtu.ac.in	Kartik Chauhan	190110035	Mechanical Engineering	Male	7037755563	1/21/2002
42	7/28/2021 19:22:14	190110024@hbtu.ac.in	Divyansh Singh	190110024	Mechanical Engineering	Male	7080509155	12/15/2000
43	7/28/2021 19:23:00	180110015@hbtu.ac.in	Anand Kumar Anuragi	180110015	Mechanical Engineering	Male	6390276914	11/16/2000
44	7/28/2021 19:24:11	190110002@hbtu.ac.in	Akanksha Gupta	190110002	Mechanical Engineering	Female	9565626060	1/26/2002
45	7/28/2021 19:24:18	190110012@hbtu.ac.in	Ashutosh Kumar	190110012	Mechanical Engineering	Male	9565626060	7/31/1999
46	7/28/2021 19:28:20	190110054@hbtu.ac.in	SHASHANK TIWARI	190110054	Mechanical Engineering	Male	9793533767	6/16/2002
47	7/28/2021 19:38:23	190110051@hbtu.ac.in	Sambhav Jain	190110051	Mechanical Engineering	Male	8858008019	9/6/2001
48	7/28/2021 19:41:38	180110056@hbtu.ac.in	Swapnil Tiwari	180110056	Mechanical Engineering	Male	8840398815	1/22/2000
49	7/28/2021 19:44:14	190110002@hbtu.ac.in	Akanksha Gupta	190110002	Mechanical Engineering	Female	6390276914	1/26/2002
50	7/28/2021 19:46:54	190110066@hbtu.ac.in	Tapish Garg	190110066	Mechanical Engineering	Male	8218868766	1/25/2000
51	7/28/2021 19:47:21	190110062@hbtu.ac.in	Sudhanshu Tiwari	190110062	Mechanical Engineering	Male	8175057261	4/9/2002
52	7/28/2021 19:47:41	190110027@hbtu.ac.in	Harsh verma	190110027	Mechanical Engineering	Male	77500268244	6/16/2000
53	7/28/2021 19:47:51	ralayush991230@gmail.com	Ayush Rai	190110019	Mechanical Engineering	Male	9628956655	12/30/2001
54	7/28/2021 19:48:11	180110061@hbtu.ac.in	Abhishek Singh	180110061	Mechanical Engineering	Male	8318623462	6/1/2000
55	7/28/2021 19:48:13	nikhilsingh724289@gmail.com	sunil Kumar	180110055	Mechanical Engineering	Male	7897851812	7/10/2000
56	7/28/2021 19:48:40	190110045@hbtu.ac.in	Nitesh Singh	190110045	Mechanical Engineering	Male	6387419698	9/1/1999
57	7/28/2021 19:48:41	190110026@hbtu.ac.in	Harsh Raj Anand	190110026	Mechanical Engineering	Male	9694664576	5/17/2003
58	7/28/2021 19:48:57	190110027@hbtu.ac.in	Harsh verma	190110027	Mechanical Engineering	Male	7500268244	6/16/2000
59	7/28/2021 19:49:02	190110043@hbtu.ac.in	Nandani	190110043	Mechanical Engineering	Female	6389701107	8/10/2001
60	7/28/2021 19:49:48	190110007@hbtu.ac.in	ARPIT AGRAWAL	190110007	Mechanical Engineering	Male	7007791523	2/13/1999
61	7/28/2021 20:17:15	avishkar.chandel14@gmail.com	AVISHKAR CHANDEL	180110025	Mechanical Engineering	Male	6307046234	9/14/1999
62	7/28/2021 20:34:46	180110056@hbtu.ac.in	Swapnil Tiwari	180110056	Mechanical Engineering	Male	8840398815	1/22/2000
63	7/28/2021 20:35:19	170110059@hbtu.ac.in	Tanish Kherotia	170110059	Mechanical Engineering	Male	7376991104	3/4/1998
64	7/28/2021 20:37:01	190110075@hbtu.ac.in	Vishal Kumar	190110075	Mechanical Engineering	Male	6386965028	5/21/2001
65	7/28/2021 20:38:37	190110015@hbtu.ac.in	Ayvant Kumar Ayva	190110015	Mechanical Engineering	Male	8419809877	10/5/2000
66	7/28/2021 20:38:53	190110075@hbtu.ac.in	Vishal Kumar	190110075	Mechanical Engineering	Male	6386965028	7/21/2001
67	7/28/2021 20:38:56	surbhigond20@gmail.com	Surbhi gond	190110065	Mechanical Engineering	Female	6392569802	6/3/2001
68	7/28/2021 20:40:47	190110011@hbtu.ac.in	Ashish singh	190110011	Mechanical Engineering	Male	8954565744	7/7/2002

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7/19/21

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Kanpur-208002

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Attendance-Future Skill Training "3D Printing and design"-28th July 2021

S.No.	Timestamp	Email Address	Name	Roll No.	Branch	Gender	Mobile No.	DOB
69	7/28/2021 20:40:54	190110060@hbtu.ac.in	Shubham Rana	190110060	Mechanical Engineering	Male	06397575958	9/6/2000
70	7/28/2021 20:45:11	180110049@hbtu.ac.in	Rahul maurya	80110049@hbtu.ac.in	Mechanical Engineering	Male	8052967988	5/7/2000
71	7/28/2021 20:50:37	190110073@hbtu.ac.in	Vipul kumar pandey	190110073	Mechanical Engineering	Male	8955271384	1/11/2001
72	7/28/2021 20:56:15	190110041@hbtu.ac.in	Mridul Kumar	190110041	Mechanical Engineering	Male	8303006200	10/28/2001

M
7/28/21

Dr. Divya

Nodal Officer Engineering TEQIP-III
Harcourt Butler Technical University
Kanpur-208002

7-9 PM

Theory class

S-2

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Attendance-Future Skill Training "3D Printing and design"-29th July 2021

S.No.	Timestamp	Email Address	Name	Roll No.	Branch	Gender	Mobile No.	DOB
1	7/29/2021 19:09:51	190110068@hbtu.ac.in	UTKARSH AMASTHI	190110068	Mechanical Engineering	Male	9811767479	12/27/2001
2	7/29/2021 19:09:55	190110062@hbtu.ac.in	Sudhanshu Twari	190110062	Mechanical Engineering	Male	8175057261	4/9/2002
3	7/29/2021 19:09:58	190110010@hbtu.ac.in	Aryan Verma	190110010	Mechanical Engineering	Male	9519441112	12/17/2001
4	7/29/2021 19:09:59	190110030@hbtu.ac.in	HIMANSHU GUPTA	190110030	Mechanical Engineering	Male	+918933094536	5/22/2000
5	7/29/2021 19:10:02	avishkar.chandel14@gmail.com	AVISHKAR CHANDEL	180110025	Mechanical Engineering	Male	6307046234	9/14/1999
6	7/29/2021 19:10:02	170110059@hbtu.ac.in	Tanish Kherotia	170110059	Mechanical Engineering	Male	7376991104	3/4/1998
7	7/29/2021 19:10:06	190110009@HBTU.AC.IN	Aryan Pandey	190110009	Mechanical Engineering	Male	9336043494	8/22/2001
8	7/29/2021 19:10:06	190110051@hbtu.ac.in	Sambhav Jain	190110051	Mechanical Engineering	Male	8858008019	9/6/2001
9	7/29/2021 19:10:11	190110053@hbtu.ac.in	Shakti Yadav	190110053	Mechanical Engineering	Male	6392099300	5/29/2001
10	7/29/2021 19:10:11	190112012@hbtu.ac.in	Geetanjali Prakash	190112012	Mechanical Engineering	Female	9369258045	8/6/2000
11	7/29/2021 19:10:26	190110034@hbtu.ac.in	Kanika Chaudhary	190110034	Mechanical Engineering	Female	7983878599	5/3/2001
12	7/29/2021 19:10:32	190110037@hbtu.ac.in	Kriti Singh	190110037	Mechanical Engineering	Female	6387211270	2/4/2000
13	7/29/2021 19:10:59	190110056@hbtu.ac.in	Shikher Tiwedi	190110056	Mechanical Engineering	Male	6387611363	4/13/2001
14	7/29/2021 19:11:04	190110002@hbtu.ac.in	Akanksha Gupta	190110002	Mechanical Engineering	Female	6390276914	1/26/2002
15	7/29/2021 19:11:26	190110046@hbtu.ac.in	Omjee Sengar	190110046	Mechanical Engineering	Male	8957302310	3/5/2000
16	7/29/2021 19:11:28	180110061@hbtu.ac.in	Abhishek Singh	180110061	Mechanical Engineering	Male	+918318623462	6/1/2000
17	7/29/2021 19:12:10	vivekchaurasia8564@gmail.com	Vivek Chaurasia	190110077	Mechanical Engineering	Male	8564087293	1/25/2001
18	7/29/2021 19:12:24	190110033@hbtu.ac.in	ISHA SINGH	190110033	Mechanical Engineering	Female	9984732600	6/22/2000
19	7/29/2021 19:12:58	190110035@hbtu.ac.in	Karrik Chauhan	190110035	Mechanical Engineering	Male	7037755563	1/21/2002
20	7/29/2021 19:12:58	190110024@hbtu.ac.in	Diyansh Singh	190110024	Mechanical Engineering	Male	6387361852	12/15/2000
21	7/29/2021 19:13:07	190110043@hbtu.ac.in	Nandani	190110043	Mechanical Engineering	Female	6389701107	8/10/2001
22	7/29/2021 19:13:25	190110061@hbtu.ac.in	Sonu Gupta	190110061	Mechanical Engineering	Male	7347703525	1/12/1999
23	7/29/2021 19:13:49	190110005@hbtu.ac.in	ANUJ SAHU	190110005	Mechanical Engineering	Male	8115384712	12/6/2000
24	7/29/2021 19:14:01	180110031@hbtu.ac.in	Diyarsh Pandey	180110031	Mechanical Engineering	Male	6306138755	7/25/2000
25	7/29/2021 19:14:15	190110066@hbtu.ac.in	Tapish Garg	190110066	Mechanical Engineering	Male	8218868766	1/25/2000
26	7/29/2021 19:14:30	190110003@gmail.com	Akash kumar	190110003	Mechanical Engineering	Male	8650306750	7/29/2021
27	7/29/2021 19:14:39	190110071@hbtu.ac.in	VARUN ARORA	190110071	Mechanical Engineering	Male	7985601037	9/3/2001
28	7/29/2021 19:14:43	190110006@hbtu.ac.in	Archana Devi	190110006	Mechanical Engineering	Female	7355495097	6/11/1999
29	7/29/2021 19:14:46	190110013@hbtu.ac.in	Atray Mishra	190110013	Mechanical Engineering	Male	6396293679	10/17/2000
30	7/29/2021 19:14:50	190110052@HBTU.AC.IN	SATYENDRA SRIVASTAVA	190110052	Mechanical Engineering	Male	9936856647	3/30/2000
31	7/29/2021 19:15:32	190110027@hbtu.ac.in	Harsh verma	190110027	Mechanical Engineering	Male	7500268244	6/16/2000
32	7/29/2021 19:16:00	190110028@HBTU.AC.IN	Himanshu	190110028	Mechanical Engineering	Male	6392430338	5/8/2000
33	7/29/2021 19:16:14	190110054@hbtu.ac.in	Shashank Tiwari	190110054	Mechanical Engineering	Male	9793533767	6/16/2002
34	7/29/2021 19:16:42	190110012@hbtu.ac.in	Ashutosh Kumar	190110012	Mechanical Engineering	Male	9565626060	7/31/1999
35	7/29/2021 19:16:45	190110070@hbtu.ac.in	Vaibhav Shukla	190110070	Mechanical Engineering	Male	9026405159	10/24/2000

7-9 PM

Attendance-Future Skill Training "3D Printing and design"-29th July 2021

S.No.	Timestamp	Email Address	Name	Roll No.	Branch	Gender	Mobile No.	DOB
36	7/29/2021 19:17:20	190110040@hbtu.ac.in	Mohammad Aqib	190110040	Mechanical Engineering	Male	7983632115	6/5/2000
37	7/29/2021 19:19:03	190110049@hbtu.ac.in	RIYA VERMA	190110049	Mechanical Engineering	Female	9129932470	6/27/2001
38	7/29/2021 19:23:46	190110020@hbtu.ac.in	Ayush Tiwari	190110020	Mechanical Engineering	Male	9450912820	7/18/2001
39	7/29/2021 19:24:02	nikhilsingh724289@gmail.com	Sumit Kumar	180110055	Mechanical Engineering	Male	7897861812	7/10/2000
40	7/29/2021 19:28:30	sunbhigond2@gmail.com	Sunbhi gond	190110065	Mechanical Engineering	Female	6392569802	6/3/2001
41	7/29/2021 19:28:36	raiyush91230@gmail.com	Ayush Rai	190110019	Mechanical Engineering	Male	9628956655	12/30/2001
42	7/29/2021 19:28:37	180110015@hbtu.ac.in	Anand Kumar Anuragi	180110015	Mechanical Engineering	Male	7080509155	11/16/2000
43	7/29/2021 19:28:56	190110070@hbtu.ac.in	VAIBHAV SHUKLA	190110070	Mechanical Engineering	Male	9026405159	10/24/2000
44	7/29/2021 19:28:59	190110075@hbtu.ac.in	Vishal Kumar	190110075	Mechanical Engineering	Male	6386965028	5/21/2001
45	7/29/2021 19:29:03	190110074@gmail.com	Vishal Chaudhary	190110074	Mechanical Engineering	Male	7983615201	6/12/2000
46	7/29/2021 19:29:07	190110031@hbtu.ac.in	Hrithik Bhadauria	190110031	Mechanical Engineering	Male	8112620769	1/8/2000
47	7/29/2021 19:29:13	190110076@hbtu.ac.in	vishwas badal	190110076	Mechanical Engineering	Male	8081315195	12/11/2001
48	7/29/2021 19:29:45	divyanshashana123@gmail.com	Divyansh ashana	190110023	Mechanical Engineering	Male	7605520190	11/1/2002
49	7/29/2021 19:36:55	180110036@hbtu.ac.in	Km. Sneha	180110036	Mechanical Engineering	Female	8439922790	4/28/2001
50	7/29/2021 19:41:21	190110060@hbtu.ac.in	Shubham Rana	190110060	Mechanical Engineering	Male	06397575958	9/6/2000
51	7/29/2021 19:41:22	180110062@hbtu.ac.in	Harshit Srivastava	180110062	Mechanical Engineering	Male	8176952440	2/26/2000
52	7/29/2021 19:43:02	180110024@hbtu.ac.in	Avinash Krishna	180110024	Mechanical Engineering	Male	9026247058	8/15/2000
53	7/29/2021 19:58:06	180110056@hbtu.ac.in	Swarnil Tiwari	180110056	Mechanical Engineering	Male	8840398815	1/22/2000
54	7/29/2021 20:10:27	180110037@hbtu.ac.in	Mayank Chaudhary	180110037	Mechanical Engineering	Male	6397254994	11/23/2000
55	7/29/2021 20:13:47	190110015@hbtu.ac.in	Ayant Kumar Aya	190110015	Mechanical Engineering	Male	8419809877	10/5/2000
56	7/29/2021 20:18:10	180110046@hbtu.ac.in	Prateek Srivastava	180110046	Mechanical Engineering	Male	6391936881	8/8/2002
57	7/29/2021 20:18:42	190110041@hbtu.ac.in	Mridul Kumar	190110041	Mechanical Engineering	Male	8303008200	10/28/2001
58	7/29/2021 20:21:53	190110067@hbtu.ac.in	Uday gupta	190110067	Mechanical Engineering	Male	9807748401	3/15/2001
59	7/29/2021 20:32:46	pateldivyanshu3@gmail.com	Divyanshu Patel	190110025	Mechanical Engineering	Male	9170601908	9/14/2001
60	7/29/2021 20:36:21	kumarj2611@gmail.com	Ashish Kumar	180110021	Mechanical Engineering	Male	+917905514261	11/26/1999
61	7/29/2021 22:14:10	190110026@hbtu.ac.in	Harsh Raj Anand	190110026	Mechanical Engineering	Male	9694664576	5/17/2003
62	7/29/2021 22:15:11	190110060@hbtu.ac.in	Shubham Rana	190110060	Mechanical Engineering	Male	06397575958	9/6/2000

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Technical Education Quality Improvement Program (TEQIP)
Knowledge Incubation in Technical Education (KITE) Center

Indian Institute of Technology Hyderabad

CERTIFICATE

_____ OF PARTICIPATION _____

THIS IS TO CERTIFY THAT

SAURABH SANGAL

of Harcourt Butler Technical University, Uttar Pradesh has participated in NPIU TEQIP online
Faculty Development Program on

“Future-skill technologies in 3D Printing & Design” organized at IIT Hyderabad between June 19 – 26, 2021.



Dr. Prasad S Onkar
Workshop Organizer

Assistant Professor
Department of Design



Prof. Suhash Ranjan Dey
TEQIP Coordinator

Professor
Department of Materials Science
and Metallurgical Engineering



Prof. B Umashankar
Chairperson - CCE

Professor
Department of Civil Engineering



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