

# BSDU NEWSLETTER

Jan-June, 2023

11<sup>th</sup>  
Issue



## The Era of

### Highlights

- ❑ BSDU's First Retreat
- ❑ Administrative Activities
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### Retocus

### Reshape

### Redefine

Dear Friends,

It gives me great pleasure in introducing you to BSDU's latest newsletter! It has been prepared diligently to capture some of the highlights that have unfolded on our campus over the last six months. As you will read through the various sections of this document, you will appreciate that the university is undergoing a process of strategic planning based on the inspiring founding vision of our founder, Dr. Rajendra Joshi. Having joined the university recently, I am particularly inspired by the way he has brought the best elements of the Swiss Dual system to India. Many of our activities at the university remain committed to fulfilling his vision, one that our chairperson, Madam, Ursula Joshi is now taking forward.

The list of activities and developments captured in the newsletter is long, and proof that the university is a vibrant institution. The essays contained in this newsletter are a testimony to the energy and momentum that currently characterizes this phase of the university's evolution. I invite you to read it with interest, and I am sure you will look forward to the next edition.

Happy reading!



**Prof. Vivek Bhandari**  
President, BSDU

Dear Colleagues,

Hope this 11<sup>th</sup> issue of BSDU Newsletter finds you well and thriving in your academic/administrative pursuits.

As we embark on a new academic year, we are excited to share with you the panoramic view of the Academic achievements and Administrative activities held in the past six months, not only elevating the teaching- learning atmosphere at BSDU but also committed towards providing a futuristic and transformative educational experience to equip our students with the necessary competence to excel in their chosen trades and make a positive impact on society.

We are elated to record the exciting activities such as the stellar event i.e. the Retreat 2023 organized for the first time at BSDU. The research initiatives of the faculty members and Ph.D. Research Scholars, the heartening Internship and Placement updates, the joyous and festive moments of celebrations at BSDU, the engaging articles and many other such activities certainly add on to enrich this Newsletter.

The editorial team immensely thanks the Management, all the Deans/Officiating Deans/In charges/Department Heads and for extending their support and cooperation in bringing out the Newsletter.



**Dr. Sangeetha Noval**  
Offg. Dean, FGE

# BSDU

First Strategic Planning  
*Retreat*  
2023

**21-22 March 2023**

Venue: The Palace by Park Jewels Hotels & Resorts, Jaipur, Rajasthan



## **DAY ONE: DELIBERATING AND BRAINSTORMING WITH FREEDOM**

To launch the Retreat, the President, Prof. Vivek Bhandari extended a hearty welcome to Mr. Jayant Joshi (Chief Functionary, RUJCT), Mr. Abhishek Joshi (Director, RUFIL), Mr. Markus Gmeiner (CEO, JCF, Switzerland), and all the participants to the event. In addition, describing the main objectives of the two-day event, the President discussed the usefulness of Open Space Technology and how it is different from an over-structured system; and provides a platform where the participants are encouraged to think out of the box and come up with new ideas.



The President also spoke of how the use of this tool succeeds in strengthening the bond among the participants, their commitment towards BSDU, and developing ideas for future planning. In his closing remarks, he underlined the centrality of two main principles of OST in the Retreat:

1. Equality: All the employees working in the university are equally important and play crucial roles for the university's smooth functioning and growth. Every vertical is equally important.
2. Intellectual Honesty: All participants in the university are expected to be honest and sincere in their discussions about how to work towards fulfilling the vision and mission of the university.



Mr. Jayant Joshi (Chief Functionary, RUJCT), in his address lauded the President, Prof. Vivek Bhandari's initiative in hosting the event where the entire staff gathered to discuss and plan for the future development of the university. The memory of the Late Dr. Rajendra Kumar Joshi brought forth feelings of nostalgia. He stated that BSDU is the outcome of the hard work, devotion, and perseverance of the Late Dr. Rajendra Kumar Joshi and his wife, Ms. Ursula Joshi, who had a vision for skill education in India and intended to develop an environment comparable to the Swiss Dual System in Switzerland.



Mr. Abhishek Joshi (Director, RUFIL) congratulated the President and the team on organizing the event. He



described the Late Dr. Rajendra Kumar Joshi's ambitions, his opinions concerning society and the system, and the necessity to bring skill education to India. Mr. Abhishek Joshi, too, grew sentimental. He mentioned that the founder chairman intended to adapt the education system to the current needs and improve the lives of people via skill education. He identified the gap and accepted.

The challenge of establishing a model skill university. Mr. Abhishek Joshi was glad to share that several employees of BSDU had played a crucial role in fulfilling the vision of Dr. Rajendra Kumar Joshi to skill India's Youth. Mr. Abhishek Joshi also mentioned that the university is still in the planning stages, and everyone involved needs to connect and bridge the gap between the Swiss Dual System and the Indian ground realities. There were several ice-breaking activities to let people get to know one another better, and to lighten the mood. The activities were conducted creatively by Ms. Rashmi Chaudhary, Head/Manager-HR.



The Ice Breaking sessions were followed by lunch, after which the participants broke-up into nine groups (with 4-5 members in each group) and made posters addressing the personal (intellectual and emotional) connection with the mission of BSDU, the optimal teaching-learning process that would allow for the integration of the Swiss Dual education system into the Indian educational landscape, and their expectations as professionals and members of the BSDU community.



The teams worked together and made nine posters which were presented in three rounds. The emphasis of their work was mainly on three broad domains: refocusing, reshaping, and redefining the university's priorities for growth. The posters captured the views of each team's perspectives, thoughts, techniques, and expectations for the growth of the university. As the afternoon progressed, the teams presented their posters, and invited questions and discussions from those present.



Participants were encouraged to stick notes and feedback on the posters. Everyone was invited to experience freedom, share their thoughts on the posters, and take responsibility for them in order to support true empowerment. Each participant made an effort to comprehend the various strategies utilized by each group, and they commented on the posters in accordance with the information that they had gleaned. The President lauded the collaborative effort that was put forward.

The first day of the event ended with various sports activities and games like cricket, badminton, volleyball, tug of war and spoon race.

## **DAY TWO: CONSOLIDATING AND INITIATING THE STRATEGIC PLANNING PROCESS**





The second day began with a revitalizing session on "Heartfulness" meditation led by Dr. Sandeep Kumar Tomar, Registrar, BSDU where he taught the participants to practice a heart-centered approach towards life. He also showed how such a practice can improve the quality of life, and eventually the quality of work.



The President, Prof. Vivek Bhandari provided an overview of the events conducted on the first day of the Retreat. He discussed the key challenges that employees face, such as striving for high quality, wanting others to learn, and achieving high educational quality. He also discussed the need for BSDU to nurture links with industry, students, and government of the kind comparable to those maintained in Switzerland.



Mr. Markus Gmeiner (CEO, JCF, Switzerland) was delighted with the previous day's discussions. While discussing the formation of BSDC/U, he became nostalgic. He added that Late Dr. Rajendra Kumar Joshi was inspired by the Swiss Dual System of Education and wished to provide job-oriented education to India's youth. With this mission in mind, BSDC came into existence as a training center in 2013 and started imparting training to students in the mechanical field. Following the success of BSDC, the Late Dr. Rajendra Kumar Joshi decided to launch additional skill programmes, which resulted in the establishment of

BSDU in 2017. He desired to create a base-level workforce.

**On the second day**, utilizing the ideas from the first day as a springboard, as well as the remarks of Prof. Bhandari and Mr. Gmeiner, there was an open discussion about the strategic planning problems relating to the four objectives viz. developing an optimal design for a vocational education that balances India's ground realities and the Swiss Dual System moderated by Mr Christian Reber; building curricula that meet the needs of our two primary stakeholders moderated by Prof. Binit Kumar Jha; ensuring the statutory compliance in all matters moderated by Dr. Sandeep Kumar Tomar; and creating a campus culture which is nurturing for all members of the community moderated by Ms. Rashmi Chaudhary.



There was discussion about BSDU's past strengths and successes, as well as the current challenges. The team also concentrated on reforming areas and establishing an enabling environment and organizational culture at BSDU that are consistent with the organization's basic mission and vision.



The two-day event- BSDU Retreat 2023 concluded with an expression of gratitude by the President, Prof. Vivek Bhandari. Participants jotted down their thoughts/comments on the poster that was made specifically for participants' feedback.

## Administrative Activities

### MOUs SIGNED

S. No	MOU with	Purpose	Date signed on
1	TESCA Technologies Pvt. Ltd. Jaipur	Skill-Based Training, Education, Research and Development	21.04.23
2	Rajasthan Chamber of Commerce & Industry, Jaipur	Skill-Based Training, Education, Research and Development	28.04.23
3	Malot Hospital, Jaipur	Skill-Based Training, Education, Research and Development	29.04.23
4	Vishwakarma Industries Association, Jaipur	Skill- Based Training, Education, Research and Development	12.05.23

## Academic Activities

S. N	Section/ Department	Date and Day	Nature of the event	Venue
1	Finance	27.3.23	Meeting of Finance Committee	Conference Room, BSDU First Campus
2	VC Secretariat	31.3.23	10th Board of Management Meeting	Conference Room, BSDU First Campus

### Board of Studies Meetings

S. No.	Name of the Faculty	Date of BOS Meeting	Chairperson
1.	Faculty of Electrical Skills	28 April 2023	Dr. Ritu Tak
2.	Faculty of Healthcare & Paramedic Skills	22 May 2023	Mr. Om Prakash Shrimal

## Co-Curricular Activities

- The **Faculty of Electrical Skills Education** organized an upskilling training programme for the trainers of the School in collaboration with the CSIR-CEERI, Jaipur on "Inverter standards, Characterization & Testing". The 6-day training programme held from 8 -13 May 2023 benefitting the trainers and faculty members of FES was imparted by the scientists of CSIR-CEERI Jaipur viz.

Dr. Sachin Devassy, Mr. Sai Krishna Vaddadi and Mr. Gyan Singh Meena.

- The **Faculty of Electrical Skills Education** held a short-term training on PLC and Industrial IOT for students of MIT-WPU Pune. A total of 24 students attended the training in two batches from 9-11 January 2023 and were trained by Mr. Yatendra Singh Hada, Ms. Surbhi Pareek & Ms. Priyanka Rathore.
- Mr. Om Prakash Shrimal, Incharge, **Faculty of Healthcare & Paramedic Skills Education**, Master Trainer Mr. Louis Khunti, and the trainers- Ms. Neha Masih and Mr. Ankit Prajapat underwent an upskilling training from 23-26 June 2023 at American Heart Association for Basic Life Support and Advanced Cardio Vascular Life Support.
- Faculty of Hospitality & Tourism Skills Education:** Ms. Marietta Nuessli, Project Manager conducted the *Train the Trainer Program* on various topics of Hospitality Skills.
- Mr. Dharmpal Kumhar Verma, Trainer, **Faculty of Manufacturing Skills Education** upskilled himself on "Inspection & Quality Control in Manufacturing" from IIT Roorkee through NPTEL in online mode.
- Mr. Munendra Koli, Trainer, **Faculty of Manufacturing Skills Education** did a certificate course in "Python" from GUVI Geek Networks.
- Faculty of Manufacturing Skills Education** conducted corporate trainings for the employees of Hilti Manufacturing India Pvt. Ltd. as detailed below:



Batch	No. of trainees	Duration of Training
2	20	17.01.2023 to 16.02.2023
3	27	06.05.2023 to 02.06.2023
4	21	12.05.2023 to 10.06.2023

## Extra-Curricular Activities

- On the occasion of National Youth Day on 12 January 2023, the members of the **Faculty of Healthcare and Paramedic Skills Education** was invited to Government Senior Secondary School, Manakchowk, Jaipur to raise awareness about vocational degree courses. Mr. O. P. Shrimal -In charge, Faculty of Healthcare & Paramedic Skills, Mr. Shankar Singh, and Mr. Louis Khunti, together with final year students visited the school. The students of the School were invited to visit BSDU and updated them on the structure and curriculum of BSDU. Mr. Shrimal and Mr. Khunti also informed the students about the B. Voc. course in Healthcare sector.



- The **Faculty of Healthcare and Paramedic Skills Education** celebrated the International Nurses' Day on May 12, 2023. Dr. Sandeep Tomar, Registrar and Ms. Rashmi Chaudhary, HR-Head along with the faculty members of FHPS inaugurated the day by cutting a cake. The International Nurses Day, observed on May 12 each year serves as an opportunity to acknowledge the invaluable contributions of nurses in promoting health, preventing disease, and providing patient care.



It highlights their commitment, compassion, and professionalism in delivering quality healthcare

services to individuals and communities worldwide. Various events and activities such as seminars, conferences, award ceremonies, nursing symposiums, and community outreach programs are organized on the day to honour the nurses and raise awareness about their vital role in healthcare. The day also provides an opportunity to address the challenges faced by nurses, promote their professional development, and advocate for improved working conditions and policies.

- The **Faculty of Healthcare and Paramedic Skills Education** proudly celebrated the 75<sup>th</sup> World Health Day on 7 April 2023 in BSDU. The world celebrates the founding anniversary of the World Health Organization (WHO) in 1948 every year.



The theme of World Health Day for 2023 was "Health for All." Prof. Vivek Bhandari President, BSDU inaugurated the event and complimented and inspired the Healthcare team for the initiative. Around 110 employees of BSDU actively participated and had their health check-ups.

- Helmet and Seat Belt Awareness Programme:** BSDU being the sole educational facility in the SEZ area and committed towards a social obligation, held an awareness session on wearing Helmet and Seat belt on Monday, January 16, 2023, at the Mahindra SEZ Entrance Gate, Domestic Tariff area. The program was focused on ensuring adherence to the Road Safety Rules under the awareness programme - Road Safety Week, January 11 - 17 2023, organized by the Ministry of Road Transport and Highways. The employees and students actively participated in the event contributing towards the resounding success of the event.



• **International Yoga Day**



The 9<sup>th</sup> International Yoga Day 2023 was celebrated with great enthusiasm and fervour at BSDU on 21 June 23. The event took place in the University's Courtyard, Poly Mechanic Block, where students, faculty members, and staff gathered at 08:00 a.m. to practice yoga and meditation. The event aimed at promoting the physical, mental, and spiritual well-being of all the staff and students of the University while emphasizing the significance of yoga in our lives.

The event began with a brief introduction about the importance of the day and a welcome address by the Dr. Sandeep Kumar Tomar, Registrar, BSDU.

**Yoga and Pranayama Practice:**



The Yoga Experts-Mr. Jeet Ram Choudhary and Dr. Bhoop Singh led the participants through a series of asanas (yoga postures) that encompassed a holistic approach to wellness. The participants eagerly followed their instructions, embracing the practice with sincerity and dedication. The asanas included Surya Namaskar (Sun Salutation), Padmasana (Lotus Pose), Vrikshasana (Tree Pose), Bhujangasan, Sukhasan, Pawan Muktasana etc. with pranayama like Bhastrika, Anulom Vilom, Kapal Bhati, Bhramari, Udgeet etc. among others. The instructors ensured that participants of all levels of

proficiency could actively engage and benefit from the sessions.

**Meditation Practice:**



Following the invigourating yoga practice, the participants were guided through a meditation session by Dr. Sandeep Kumar Tomar who introduced *Heart fullness* meditation techniques to cultivate mindfulness, tranquillity, and inner peace. The participants were encouraged to focus on their breath, observe their thoughts without judgment, and develop a sense of serenity within. The meditation session provided a moment of stillness and self-reflection, enabling participants to rejuvenate their minds and connect with their inner selves.

During the event, Ms. Rashmi Choudhary, the Head-HR also briefed on the importance of yoga in our daily lives. She emphasized on yoga not merely being a physical exercise but a comprehensive practice that promotes harmony between the body, mind, and spirit in addition to numerous benefits, such as stress reduction, improved flexibility, increased strength, enhanced concentration, and overall well-being.

The International Yoga Day 2023 celebration at Bhartiya Skill Development University concluded with a vote of thanks by Registrar, Dr. Tomar. Special appreciation was extended to Mr. Jeet Ram Choudhary, Dr. Bhoop Singh, and Ms. Rashmi Choudhary for their valuable guidance and expertise. Dr. Tomar also acknowledged the efforts of Dr. Shaikh Juned Saoud, Deputy Registrar, Jitendra Singh, Sr. Administrative and Purchase Officer, Mr. Chandra Kishore, Sr. Estate Officer, CAFO Mr. Mukesh Kumawat for their active support.

All staff and students enjoyed the healthy breakfast specially arranged for them in the BSDU mess after the yoga session.

## Activities @Institution's Innovation Council

**National Youth Day:** The IIC, BSDU under the aegis of the Ministry of Education, Govt. of India celebrated the National Youth Day on 12 January 2023. Dr. Amit Jhalani, Assistant Professor SKIT, Jaipur delivered an expert talk on *Innovation and Creativity: The Vivekananda way*. Speaking on the occasion, Dr. Amit Jhalani advocated following the inspiring life and teachings of Swami Vivekananda which serve to be a source of constant inspiration for the youth of the world.



Speaking further about Swami Vivekananda as the creator of modern India, he brought to focus the major contribution of Vivekananda and his disciple Sister Nivedita in establishing the Indian Institute of Science and the Bose Research Institute.

**National Start-up Day:** Under the aegis of the Ministry of Education, Govt. of India, the Institution's Innovation Council, BSDU Jaipur celebrated the National Start-up Day on 16 January 2023. Mr. Bhawani Singh Shekhawat, from Vision Automation Solutions, deliberated on "Start-up challenges and sustainability requirements". Along with this, Mrs. Dolly Sharma, a delegate from Vision Automation Solutions shared her journey about her start up business venture with the BSDU students, trainers and faculty members. The

activity focused on encouraging students, trainers and faculties to contribute in creating a favourable environment for the start-ups.



**Leadership Talk by Chairman AICTE, Prof. T.G. Sitharam:** The IIC, BSDU Jaipur under the Ministry of Education's Innovation Cell activities, facilitated the members of BSDU to join the Leadership Talk by the Chairman of AICTE- Prof. T.G. Sitharam on 30 January 2023 in virtual mode. Prof. T.G. Sitharam emphasized on Research being very crucial for India's development and transformation into a self-sufficient (Atma Nirbhar) country by 2047. He apprised about the future plan of AICTE of publishing books in various languages of the country to aid students from various regions. The speaker insisted on managing stress by learning and enjoying what one desired, making serious and sincere attempts to achieve goals, believing in oneself, never fearing failure and continuing perseverance.

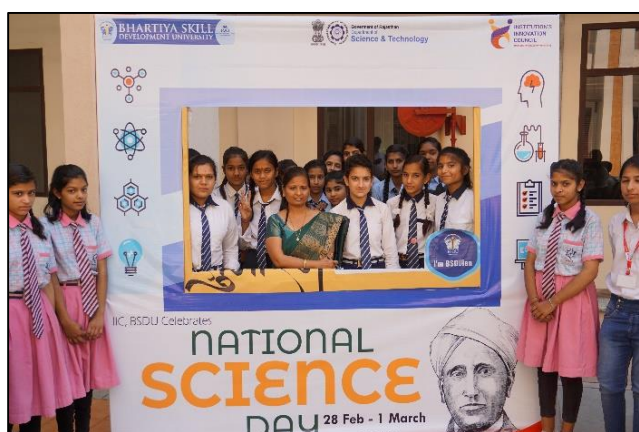
## Field Visit to Pre-Incubation Units at JKLU Jaipur:



On 20 February 2023 the students and staff of BSDU visited the Atal Incubation Centre at J. K. LakshmiPat University, Jaipur to understand the aspects of pre-Incubation Unit setup. The participants had an

overview of various projects, understood the operational mechanism and interacted with various stakeholders of AIC, and JKLU about their roles and challenges being faced.

**National Science Day:** The IIC BSDU, celebrated the National Science Day on 28 February & 01 March 2023 sponsored by the Department of Science and Technology, Government of Rajasthan. A grant of Rs. 30,000/- was received by BSDU for the celebration of National Science Day. The celebration began with the inaugural session on 28 February 2023 with the lighting of the lamp and paying homage to Sir C.V. Raman in the presence of Mr. Rajesh Kumar Garg, the chief guest on behalf of the Department of Science and Technology in the program.



More than 400 students from various schools of the Jaipur district participated in this event. The prominent Schools were viz. Redcliff Group of School, Jaipur, Maa Sharda Senior Secondary School, Jaipur, Asian World Public School, Jaipur, Govt. Senior Secondary School, Devaliya, Govt. School Dausa and MGSSS Bagru. The

students enthusiastically participated in various competitions such as the project exhibition, quiz and speech competitions etc. The winners were awarded with certificates of merit and various gifts. The students and staff members of the University and the schools savoured the delicious refreshments at the end of the event.

Prof. Vivek Bhandari, President, BSDU appreciated the surging inclination of students towards Science and innovation. Dr. Sandeep Kumar Tomar, Registrar commended the projects exhibited by the students and inspired them to continue their efforts. The Convener, IIC Cell, BSDU Dr. Satyendra Singh highlighted the significance of National Science Day. The Vice President, IIC Cell BSDU, Dr. B.K. Jha emphasized the importance of science in the lives of people and its contribution in simplifying lifestyle through new innovations.

Expressing the views on Global Science for global well-being, Dr. Pushpendra Singh, Associate Professor, J.K. Lakshmi Pat University Jaipur, graced the seminar organized on the second day.

**International Women's Day:** On the occasion of International Women's Day, an Expert talk on Innovation and Technology for Gender Equality was organized by the Institution Innovation Council of the University on 15 March 2023 under the aegis of the Ministry of Education, Government of India.



Dr. Pankhuri Goyal, the Director of Aastha Hospital, delivered an expert talk on the topic of "Health and Wellness." In her address, she emphasized on collective effort towards building a healthier and more equitable society by prioritizing women's health. She

highlighted the unique health challenges faced by women including reproductive health issues and the need for a holistic approach towards healthcare that recognizes the interconnectedness of physical, mental, and social wellbeing. Dr. Pankhuri highlighted the importance of promoting a healthy lifestyle including exercise, good nutrition, and stress management as well as the role of healthcare professionals in providing culturally sensitive and gender-responsive care.

Start-up Coordinator IIC, Cell, BSDU, Dr. Sumitra Singar, Asst. Prof., Faculty of Computing Skills also delivered an expert talk on the topic "DigitAll-Innovation and Technology for Gender Equity." Dr. Singar emphasized the role of innovation and technology in bridging the gender gap and promoting gender equity in various sectors. She focussed on the need for women to be included and represented in the development and implementation of digital technologies and the importance of addressing the gender biases and stereotypes that still exist in the tech industry.

#### **Visit to MNIT Innovation and Incubation Centre:**



The Institution's Innovation Council, BSDU organised a one-day field visit to the Incubation Unit at MNIT Innovation and Incubation Centre for the students and Faculty members of BSDU on 19 April 2023. The students and faculty members took note of the various projects and understood their operational mechanism and also attended an AMA Session for FITT, IIT Delhi's Hackathon in association with FCI that aimed to converge participants to solve the supply chain and logistics management challenges pertaining to food

grains. AMA- Ask me anything round witnessed participation from start-ups, students, and researchers. Dr. Saket Chattopadhyay, Senior Manager- FITT-IIT Delhi and AGM- FCI S. S. Porika aptly addressed the queries of the participants.

#### **World Creativity and Innovation Day:**



The World Creativity and Innovation Day collaboratively organized by the IIC Innovation Coordinator, Dr. Sunil Anand and IIC Start-up coordinator, Dr. Sumitra Singar was celebrated on 21 April 2023 benefitting 30+ participants. Dr. Rajeev Sharma (Ph.D. Research Alumni of BSDU) delivered a session on Sustainable Manufacturing and Eco-innovation towards Green Environment. He emphasized on developing creativity and innovation.

#### **World Intellectual Property Day:**



The IIC-BSDU Jaipur celebrated the World Intellectual Property Day on 26 April 2023 at BSDU Main campus. The objective of the session was to increase awareness and understanding of the important role that intellectual property rights play in promoting innovations. Prof. Amar Patnaik, Associate professor,

Department of Mechanical Engineering, MNIT, Jaipur, the resource person of the program briefed the intellectual property rights like copyrights, patents, trademarks, industrial design, geographical indication, trade secrets, etc. and detailed the filing process of Intellectual property.

**National Technology Day:** On the occasion of National Technology Day on 27 May 2023, expert lecture sessions were organized in the University on the theme -Transformation of Business & Academics through Technology under the banner of IIC, BSDU.



The invited speakers viz. Mr. Siddharth Adholia, Area Sales Director, HCL Technologies, New Delhi, Ms. Vidhi Saxena, The DevOps Evangelist from Naggaro Softwares, Jaipur, and Dr. Vijay Shankar Sharma. Asst. Professor, Sr. Grade, Computers & Communication Engineering explained the role of IT in the changing scenario of today's time and stressed on adapting to the changing technological world. They highlighted the concepts of ChatGPT, Cloud Computing, and Metaverse among others and expressed their views on the transformation of Business and Academics through Technology. The experts also addressed the inquisitive students' queries and doubts in the Open Session held thereafter.

Dr. Sandeep Kr. Tomar- Registrar, Dr. Shaikh Juned-Deputy Registrar, Dr. Ritu Tak - President IIC, BSDU, along with Dr. BK Jha- the Vice President, IIC, BSDU congratulated and felicitated the speakers for the inspiring and knowledgeable sessions motivating students.

The inaugural address by the Hon'ble Prime Minister of India, delivered on 11 May 2023 was telecast live under the MIC activities of IIC India at BSDU.

## Research & Development

### Patent

Name of the Patent	Name of the Faculty/Sc holar	Application No.
Smart Street Lamp with Monitoring, Navigation, and Mechanism to Support Sanitization Needs	Dr. Pancham Kumar	202221061828

### Research Papers Presented in Conferences/ Seminars/Symposia

Present er's Name	Title of the Paper	Name of Conferences/ Seminars/Symposia	Venue & Date
Mr. Jitendra Mathur	AWS Academy Educator Conference	AWS Academy Educator Conference	Delhi NCR North region, 16 June 2023
Mr. Sumit Gaur	AWS Academy Educator Conference	AWS Academy Educator Conference	Delhi NCR North region, 16 June 2023

### Research Papers/Chapters/Book Published

Author/s	Title of the Paper/Chapter/Book	Publisher/ Journal
Sumitra Singar and Raghuvveer Singh Dhaka	"Near Threshold Operation Based a Bug Immune DET-FF for IoT Applications", Lecture Notes in Networks and Systems, ISBN 978-981-19-8824-0, ISSN 2367-3370, DOI: 10.1007/978-981-19-8825-7_41	Springer (SCOPUS), March 2023
Pushpa Koranga, Sumitra Singar, Sandeep Gupta,	"A Comparative Analysis of Single Image Dehazing Techniques for Real Scene", Proceedings of Third International Conference on Sustainable Expert Systems. Lecture Notes in Networks and Systems, ISSN: 23673370, 23673389, Vol. 587, DOI: 10.1007/978-981-19-7874-6_43,	Springer, 23 February 2023
Manisha Sheoran, Pancham Kumar,	Applications of Recycled Solid Substances of Solar Photovoltaic Modules	Nanotechnology-Enhanced Solid Materials

Susheela Sharma, Prabhat Ranjan	and Their Environmental Impact Analysis	
Pancham Kumar, Mahipal Bukya, Ajay Shankar	An experimental approach towards cost benefit analysis of 850 kW solar PV plant	Visions for Sustainability Journal
Peeyush Garg, Mahipal Bukya, Pancham Kumar	Cost Benefit Analysis of 50 kW Solar Power Plant for Educational Hostel Building	IEEE
Ms. Saloni, Pancham Kumar, Pooja Sharma, Prabhat Ranjan, Tanmoy Chakraborty	Electronic and Optical Properties of Lead-free Double Perovskites $A_2BCl_6$ ( $A = Rb, Cs; B = Si, Ge, Sn$ ) for Solar Cell Applications: A Systematic Computational Study	Journal of Physical Organic Chemistry
Bobby Solanki, Pooja Sharma, Prabhat Ranjan, Pancham Kumar, Tanmoy Chakraborty	A computational study of double perovskites $A_2BI_6$ ( $A = Cs, K, Rb; B = Pt, Sn$ ) invoking density functional theory	Journal of Physical Organic Chemistry (Published by Wiley)

## Human Resource Department

### New Joining: Jan 2023-June 2023

S.No.	Name	Designation	Date of Joining
1	Prof. Vivek Bhandari	President & Professor (Faculty of General Education)	09.01.2023
2	Mr. Chandra Kishore	Senior Estate Manager	16.01.2023
3	Mr. Abhishek Sharma	Junior Trainer	06.02.2023
4	Mr. Jitendra Singh	Senior Manager-Admin & Purchase	08.02.2023
5	Mr. Mukesh Jat	Driver	27.02.2023
6	Mr. Bhanwar Singh Rajawat	Driver	13.03.2023

### Promotions:

S. No	Name	School/ Department	Promotion
1	Mr. Jitendra Mathur	FCSE	Senior Trainer-I to Chief Trainer
2	Mr. Alok Kemani	Admission Cell	Office Superintendent to Office Manager
3	Mr. Hemraj Yadav	Accounts	Finance Executive to Assistant Manager
4	Ms. Neha Masih	FHPSE	Senior Trainer-II to Senior Trainer-I
5	Mr. Vinay Kumar Verma	FHTSE	Senior Trainer-II to Senior Trainer-I
6	Mr. Anirudh Singh Sandu	FMSE	Senior Trainer-II to Senior Trainer-I
7	Mr. Rachit Tiwari	FMSE	Senior Trainer-II to Senior Trainer-I
8	Mr. Dharm Pal Kumhar	FMSE	Trainer-I to Senior Trainer-II
9	Mr. Deepak Swami	FMSE	Trainer-I to Senior Trainer-II
10	Mr. Munendra Koli	FMSE	Trainer-I to Senior Trainer-II
11	Mr. Sourabh Chechani	FASE	Trainer-I to Senior Trainer-II
12	Mr. Baljeet Singh	FASE	Trainer-I to Senior Trainer-II
13	Mr. Om Prakash Shrimal	FHPSE	Trainer-I to Senior Trainer-II
14	Mr. Pawan Kumar Choudhary	FESE	Trainer-I to Senior Trainer-II
15	Mr. Yatendra Singh Hada	FESE	Trainer-I to Senior Trainer-II
16	Mr. Kuldeep Singh	FESE	Trainer-I to Senior Trainer-II
17	Mr. Devendra Pathak	FRACSE	Trainer-I to Senior Trainer-II
18	Mr. Ankit Prajapat	FHPSE	Trainer-II to Trainer-I
19	Mr. Koshal Kishor Nagar	FASE	Trainer-II to Trainer-I
20	Mr. Mr. Ubed Ul Haque	FASE	Trainer-II to Trainer-I
21	Mr. Madhusudan Singh Rathore	FMSE	Trainer-II to Trainer-I
22	Mr. Sumit Bhukar	FMSE	Trainer-II to Trainer-I
23	Mr. Mukesh Kumar Khakhal	FMSE	Trainer-II to Trainer-I
24	Mr. Shankar Lal Choudhary	FMSE	Trainer-II to Trainer-I
25	Mr. Kamlesh Bagra	FWSE	Trainer-II to Trainer-I
26	Mr. Vikash Kumar Naga	FWSE	Trainer-II to Trainer-I
27	Mr. Sumit	FCSE	Trainer-II to Trainer-I
28	Mr. Dinesh Kumar Choudhary	FCSE	Trainer-II to Trainer-I

## Re-Designations

S. No	Name	School/ Department	Re-Designation
1	Dr Shekhar Kapoor	TPO Cell	Training & Placement Officer to Internship & Placement Officer
2	Mr. Iqraj Nabi	Construction Site	Trainer-I to Junior Project Manager
3	Mr. Sultan Singh	Administration	'PS to Provost' to Administrative Executive
4	Ms. Varsha Sharma	FMSE	PA to Office Executive
5	Ms. Alka Choudhary	Exam Cell	PA to Office Assistant
6	Mr. Jeetram Choudhary	VC Secretariat	General Duty Worker to Office Assistant
7	Mr. Banwari Lal Bunkar	Administration	Office Boy to Senior General Duty Worker

## Additional Responsibilities

S. No	Name & Designation	School/ Department	Additional Responsibility
1	Dr. Sumitra Singar	FCSE	Incharge, Faculty of Computing Skills Education
2	Dr. Prakhar Kumar Kharwar	FWSE	Incharge, the Faculty of Woodworking Skills Education
3	Dr. Pancham Kumar	FESE	Ph.D. Coordinator
4	Dr. Sheetal Kumar Jain	FRACSE	Officiating Deputy CoE
5	Mr. Kaushal Tiwari	FWSMSE	Incharge Internship & Placement Office

## Celebrations & Events

### Welcoming the President- Prof. Vivek Bhandari



It was a momentous occasion for BSDU on 9 January 2023 when all the employees of the University came together at room No 204, Polymechanic Block to welcome Prof. Vivek Bhandari as the new President of BSDU.

The Hon'ble Managing Trustee, RUJCT, Mr. Jayant Joshi graced the occasion extending a hearty welcome to Prof. Bhandari. He congratulated him on taking the helm of the prestigious Skill University and was confident that with his expertise and rich experience in academia for over twenty-five years while also working closely with the Government, Corporate, and Civil Society sectors would mark a new beginning at BSDU through transformative changes to shape the future of BSDU and also accomplish greater success under his leadership. All the employees of the University greeted him with great enthusiasm. The event was followed by High tea.

### Holi Celebration- The festival of Colours



The celebration of the colourful Festival-Holi at BSDU held on 4 March 2023 was a vibrant and culturally enriching event that brought together the students, faculty, and staff to commemorate the festival of colours. The celebration venue - Quadrangle, Polymechanic Block was adorned with the beautifully designed standee carrying the Holi celebration banner, cardboard hand cut-outs with interesting Holi slogans including funny and colourful wigs.

The highlight of the event was the playful and colourful celebration, where all the BSDU family members exchanged Holi greetings and applied colours on each

other using the eco-friendly organic colours, gulal, and cylinder sprays arranged by the management.

The vibrant and unstoppable dance performances by the students and employees to the heart-throbbing bollywood as well as Rajasthani folk songs added to the atmosphere of joy, fun and frolic.

Elevating the spirit of Holi, a diverse range of Indian delicacies aptly suiting the culinary traditions associated with the festival such as the mouth-watering gujiyas, paneer pakodas and thandai were relished by everyone. All the employees happily enjoyed the celebration that lasted for almost two hours.

**Health Check-up of BSDU Employees:** Fostering a culture of wellness across the University and as an initiative towards ensuring good health and safety of employees of BSDU, the Team-HR, BSDU, organized a Health check-up Programme for all the employees. The Check-ups were conducted during the month of April 2023 by the reputed chain of Hospitals in Jaipur- Eternal Hospital, Sanganer. The initiative aimed to promote preventive healthcare and early detection of potential health issues, create awareness among employees about the importance of regular health check-ups, offer accessible and convenient health screening services on campus and to provide personalized health recommendations and resources for improving well-being. The blood and the urine samples of the employees were collected by the hospital staff from the BSDU campus and a few examinations viz. ECG, 2D Echo, and Chest X-ray were done at the Eternal Hospital. Employees were sent to the hospital in a group of 10 – 15 in number on various dates in April 2023.

A total of 45 tests were done including physician and dietician consultations benefitting employees on various facets of health. The program was a huge success and was highly appreciated by the employees.

### Training & Placement Cell

The Training & Placement Cell of the University organized internship drives for the selection of students

in various companies placing a total of 261 students in the second, fourth and sixth semesters for internship in various organizations like Mahindra, Hero, Narsi Interiors, JCB, Genus Power Infrastructures, HMT, RS India, KTL, Ruj woodcraft, Y2k, Aha3D, IBIS Hotel, Hyatt Jaipur among other companies.

Ten students were placed in organizations like Ensol Multiclean, Roshan Hyundai and B.M. Bhandari. The students were selected through the recruitment process viz. GD&PIs, technical and the HR rounds.

The T&P cell is comprised of the following:

Name	Role
Prof. Binit Kumar Jha	Director, Industrial Relations
Mr. Kaushal Tiwari	In Charge Training & Placement Officer
Dr. Vipin Pahuja	Placement Coordinator, FAS
Mr. Anirudh Singh	Placement Coordinator, FMS
Mr. Jitendra Mathur	Placement Coordinator, FCS
Dr. Sheetal Kr. Jain	Placement Coordinator, FRAC
Mr. Sunil Naga	Placement Coordinator, FWS
Mr. Bhagwan S. Bunkar	Placement Coordinator, FWSMS
Mr. Shankar Singh	Placement Coordinator, FHPS
Mr. Yaduvendra Singh	Placement Coordinator, FES
Mr. Vinay Kumar Verma	Placement Coordinator, FHTS

The T&P Cell achieved the landmark of 100% internship for all 261 students of the second, fourth and sixth semesters. All the students were successfully placed for internships in reputed organizations.

### Industrial Visits

- Mr. Vinay Kumar Verma and Ms. Jyoti Sharma, Faculty of Hospitality and Tourism Skills visited IBIS Hotel on 16 May 2023 and Ms. Marietta Nuessli made an Industrial visit to Hyatt Regency on 29 March 2023
- The FASE team members viz. Dr. Vipin Pahuja and Mr. Pranjal Maheshwari visited the following Industries:
  - Audi Jaipur and Saisha Skoda on 20 April 2023 for industrial collaboration, strengthening industry connections and for students' internship assessment



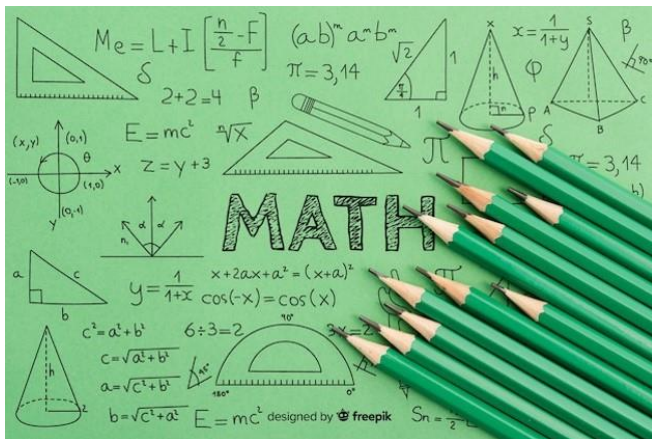
- Auric motors Jaipur and Autoplex AV on 12 April 2023 and 5 June 2023 respectively for industrial collaboration, strengthening industry connections and for students' internship assessment
- Hindustan Hyundai, Rajesh Kia, Prem Motors and Alfa Hyundai on 14 June 2023 for industrial collaboration, strengthening industry connections and for students' internship assessment
- Hindustan Hyundai on 28 April 2023 for industrial collaboration, strengthening industry connections and for students' internship assessment
- KTL Automobiles Pvt. Ltd. on 31 May 2023 for industrial collaboration, strengthening industry connections and for students' internship assessment
- Kalyan Motors Bhankrota on 29 May 2023 for industrial collaboration, strengthening industry connections and for students' internship assessment
- Ensol Multiclean Equipments Pvt. Ltd. on 25 March 2023 and 3rd June 2023 for industrial collaboration, strengthening industry connections and students' internship assessment
- Dr. Sunil Anand and Mr. Sourabh Chechani held a meeting with Techwheel First Mobital & Audi Jaipur, Sitapura Industrial Area, Rajasthan on 7th June 2023. The meeting was held with GM Mr. Deepak Sharma at Techwheel and Mr. Prashant Mahendru at Audi Jaipur. The visit provided an opportunity to interact with industry leaders and internship candidates, gaining valuable feedback on the B. Voc. program. The insights gathered will aid in aligning the program with industry demands and enhancing course effectiveness.
- FAS and the T&P coordinators coordinated a recruitment drive by M/s Kalyan Motors- the largest dealer of Mahindra and Mahindra in Jaipur on 13 January 2023
- Mr. Vishal Sharma, representative from ASDC visited FAS on 10 January 2023
- Mr. Ravi Jangir, Dealers Training Manager, Auric Motors visited FAS on 4 March 2023
- Mr. Lokesh Kumar, Service expert, ASDC visited FAS on 27 June 2023
- The Faculty of Automotive Skills organized a visit for the officials of Honda Cars India Ltd. at Bhartiya Skill Development University, Jaipur on 10 February 2023. The purpose of the visit was to initiate a bond between the industry and the university for the purpose of internship/placement/training of trainees/training of trainers (ToT) at BSDU. In addition to that collaboration with industry for the benefit of students and Faculty members.
- Mr. Praveen Paranjape, Director & Senior Vice President, Ms. Anu Mehta, Head CSR, and Mr. Pradeep K Singh, representatives from Honda Cars India Ltd. visited the University
- Mr. Najmool Haque and Mr. Abhishek Sharma- faculty members of RAC visited the industry to monitor the performance of students on 28 March 2023.
  - Mr. Devendra Pathak, Mr. Abhishek Sharma and Mrs. Nikita Singh, Faculty members of RAC- visited the industry to monitor the performance of students on 20 June 2023
  - Mr. Devendra Pathak, Mr. Abhishek Sharma and Mrs. Nikita Singh- Faculty members of RAC visited the industry to monitor the performance of students on 22 June 2023
- Mr. Najmool Haque and Mr. Abhishek Sharma, and Mrs. Nikita Singh FRAC visited the following companies:
  - Sheetal Refrigeration
  - Rama Aircon
  - Superior Air System
  - Across Engitech

## Mathematics in Vocational Education

**Dr. Rakesh Choudhary,**  
Assistant Professor, FGE



**Vocational Mathematics** differs from the abstract concepts and the hierarchy of mathematical skills which we are familiar with in general education Mathematics is included in vocational courses because it is needed for specific work situations there will always be some application of mathematics that is used on the job.



Students will be more interested and motivated to learn if they can relate maths to their present job or career objectives.

The goal of Vocational Mathematics is to train students to work out solutions to problems they will meet on the job. This is why we begin with an approach to problem solving which will give students a framework to follow. Then we look at particular skill areas in which students are known to have difficulties.

One of our underlying principles is that mathematics should be taught for understanding, using a variety of approaches including hands-on material. If students' learning is based on understanding, if they know why they are doing something, they have a much better chance of remembering the steps correctly. For example, if they have forgotten a formula, they should be able to work out the problem by drawing on their understanding of the processes involved.

## Importance of Mathematics in B.Voc

Mathematics plays a crucial role in B.Voc (Bachelor of Vocation) programs, as it provides a strong foundation for various vocational fields. Here are some key reasons why mathematics is important in B.Voc:

- **Problem-solving skills:** Mathematics helps develop critical thinking and problem-solving skills. Many vocational fields require individuals to analyze data, interpret information, and solve complex problems. Mathematical concepts and techniques enable students to approach problems systematically and find effective solutions.
- **Quantitative analysis:** B.Voc programs often involve analyzing numerical data and making informed decisions based on quantitative information. Mathematics equips students with skills in data analysis, statistics, and mathematical modeling, allowing them to interpret data accurately and derive meaningful insights.
- **Technical applications:** Mathematics forms the basis for various technical applications in vocational fields. Whether it's engineering, computer science, finance, or any other discipline, mathematical concepts like calculus, algebra, and geometry are essential for understanding and applying technical principles and methodologies.
- **Financial literacy:** Mathematics plays a crucial role in developing financial literacy skills. B.Voc programs often include modules or courses related to financial management, accounting, or business operations. Proficiency in mathematical concepts such as percentages, ratios, and equations is vital for understanding financial calculations, analyzing budgets, and making informed financial decisions.
- **Industry-specific calculations:** Different vocational fields may require specific mathematical calculations and formulas. For instance, fields like construction, manufacturing, or logistics involve measurements, calculations of quantities, and spatial reasoning, which are all based on mathematical principles.

- **Research and innovation:** Mathematics is the language of science and technology. B.Voc programs with a research or innovation focus often require students to conduct experiments, collect data, and analyze results. Mathematical tools and techniques enable students to quantify and model experimental outcomes, making their research more rigorous and accurate.
- **Professional growth:** Mathematics proficiency can enhance employability and career prospects. Many industries and employers value individuals who possess strong mathematical skills as they are seen as logical thinkers, problem solvers, and analytical minds. Mathematics provides a competitive edge in the job market and opens doors to a wide range of career opportunities.

In summary, mathematics is of significant importance in B.Voc programs as it develops critical thinking, problem-solving abilities, quantitative analysis skills, and provides a foundation for technical applications. It also supports financial literacy, industry-specific calculations, research endeavors, and contributes to professional growth.

### **Integrating Mathematics with skill education**

Integrating mathematics with skill education involves combining mathematical concepts with practical skills that are relevant to specific careers or everyday life. Here are some examples of how to achieve this integration:

- **Automotive Repair:** Teach students how to use mathematical concepts such as measurements, ratios, and proportions when repairing and maintaining vehicles. They can calculate tire pressure, engine performance, and fuel efficiency.
- **Construction and Carpentry:** In construction courses, use geometry and trigonometry to calculate angles, areas, and volumes. Students can apply these concepts when building structures or creating architectural designs.
- **Healthcare Professions:** In healthcare education, teach students how to calculate medication dosages,

interpret medical statistics, and use data analysis to improve patient outcomes.

- **Environmental Sciences:** Use Maths to analyze environmental data, model ecosystems, and study climate change. Students can learn about statistical methods, calculus for rates of change, and algebraic modeling.
- **Financial Services:** In finance-related skill education, teach students about compound interest, investment strategies, and risk assessment. They can also explore financial modeling and economic forecasting.
- **Electronics and Robotics:** In electronics courses, incorporate math to understand circuitry, electrical currents, and digital logic. Students can use mathematical principles to design and program robots.
- **Tourism and Hospitality:** Integrate math in hospitality courses by discussing revenue management, pricing strategies, and financial planning for hotels and travel agencies. Introduce math in culinary classes by discussing measurements, conversions, and scaling recipes. Students can also learn about food costs, portioning, and budgeting for a restaurant or catering business.
- **Mechanical Engineering:** Teach mathematical principles like calculus and physics laws to understand mechanical systems and design machines.
- **Coding and Software Development:** Integrate Maths in coding education by teaching algorithms, data structures, and mathematical modeling used in software development.

By integrating Mathematics with skill education in these and other fields, students can develop a deeper understanding of both Maths and its practical applications. This approach fosters critical thinking, problem-solving abilities, and a greater appreciation for the relevance of mathematics in various aspects of life and work.

## *Impact of AI Chatbots on Human Life*

**Dr. Sumitra Singar,**  
Assistant Professor, FCS



Businesses and organisations are increasingly using chatbots to engage with their customers. A Chatbot is a software application designed to replicate human conversation online, usually through text or voice interactions. Several well-known AI chatbots that were in use include the following:

**Google Assistant:** Google Assistant is a virtual assistant that can do tasks, carry out informational tasks, and have conversational conversations. It is integrated into devices and platforms.

**Amazon Alexa:** Powered by Amazon, Alexa reacts to voice requests, manages smart home appliances, and gives information.

**Apple Siri:** Siri is built into Apple devices and responds to voice commands to carry out tasks, provide information, and engage with people.

**Microsoft Cortana:** Despite the discontinuation of its consumer-oriented version, Cortana is still employed in business settings for functions like scheduling and managing work-related activities.

**IBM Watson Assistant:** Watson Assistant enables companies to build adaptable AI chatbots for virtual agents, customer service, and other uses.

**Salesforce Einstein:** As a component of Salesforce's AI toolkit, Einstein may be added to customer relationship management (CRM) platforms to improve customer interactions.

**ChatGPT:** Developed by OpenAI, ChatGPT is a conversational AI model that can be applied to a number of tasks, such as content creation and customer service.

**Botsify:** Botsify provides organisations with AI-powered chatbot solutions that let them build and use chatbots on websites and messaging services.

**Live Person:** Live Person helps organisations interact with customers across channels by offering AI-powered chatbots for customer interaction and support.

**Zendesk Answer Bot:** Integrated with Zendesk, this AI chatbot streamlines customer service by suggesting pertinent help articles to consumers in need of assistance.

**Drift:** Through automated chats, Drift's chatbots help firms engage and qualify leads. They are built for sales and marketing.

**ManyChat:** Using ManyChat, businesses can automate messaging and communicate with customers by building chatbots for Facebook Messenger.

**Wit.ai:** Wit.ai, which Facebook just acquired, is a platform for natural language processing that enables programmers to build AI chatbots that can understand different languages.

While chatbots have been around for a while, current developments in machine learning and natural language processing (NLP) have elevated their level of sophistication and effectiveness. However, chatbots have effects that go beyond corporate uses. In fact, chatbots are already starting to make a big difference in contemporary culture. AI chatbots have impacted human existence in a variety of ways, both positively and negatively. Let's explore both sides of the argument:

### **Positive Impact**

**Convenience and Efficiency:** AI chatbots offer consumers round-the-clock, quick support, increasing users' convenience and efficiency. They can complete jobs, respond to inquiries, and provide solutions in a timely manner, saving time and effort.

**Cost savings:** By using AI chatbots to automate repetitive operations, businesses can cut costs. This could result in higher operational efficiency and possibly lower consumer prices.

**Scalability:** Because AI chatbots can manage several conversations at once, organisations can extend their

customer care operations without having to hire and train more human agents.

**24/7 accessibility:** Regardless of time zones or business hours, AI chatbots guarantee users may get information and support at any time.

**Personalization:** Chatbots can analyse user data and provide tailored recommendations thanks to sophisticated AI algorithms, improving user experiences in industries including e-commerce, education, and healthcare.

**Language Accessibility:** AI chatbots can break down language barriers and offer assistance in a variety of languages, enhancing services for a worldwide clientele.

**Data Insights:** Businesses may leverage the insightful data that chatbots produce about user interactions, preferences, and trends to enhance their goods, services, and marketing tactics.

**Negative Impact**

**Job displacement:** In some industries, automation of work by AI chatbots could result in job losses, especially for positions requiring repetitive or regular duties.

**Loss of Human Interaction:** An overreliance on AI chatbots may result in less interactions between people, which could leave people feeling lonely and less emotionally connected.

**Privacy Issues:** Giving personal information to AI chatbots poses privacy and security issues, particularly if the information is misused or abused.

**Limited Understanding and Empathy:** In areas like providing mental health help, AI chatbots may find it difficult to fully understand nuanced human emotions or demonstrate true empathy.

**Algorithmic Bias:** If AI chatbots are not properly educated, they may respond biasedly, mirroring and maybe amplifying societal biases that already exist.

**Dependence and Skill Erosion:** An over-reliance on AI chatbots may cause the deterioration of some human

abilities, including effective communication, problem-solving, and critical thinking.

**Technical limitations:** AI chatbots might not always give precise or helpful answers, especially in circumstances that call for creative problem-solving or nuanced judgement.

**Ethical Dilemmas:** Decisions made by AI chatbots may present ethical issues, such as in situations when human values and AI programming clash.

In summary, AI chatbots have revolutionised many facets of daily life by facilitating accessibility, efficiency, and personalised experiences. However, they also carry with them worries about the loss of jobs, privacy, social contact, and ethical issues. For AI chatbots to be responsibly integrated into society, a balance must be struck between using them to improve human experiences and mitigating any potential disadvantages.

***Transforming Skill Training with  
Industry 4.0: A Practical Approach for  
Skill Institutes***

**Mr. Hemant Sharma,**  
Trainer, FMS



**Introduction**

In the ever-evolving landscape of technology, Industry 4.0 has emerged as a game-changer for industries across the world. But how can skill institutes harness its power? As a skill trainer in a modest institute equipped with advanced CNC machines, Coordinate Measuring Machine (CMM), and SolidWorks CAD software, I am eager to explore how Industry 4.0 can be effectively implemented within our campus to enhance skill training and prepare our students for the changing workforce demands.



## **Understanding Industry 4.0 at Skill Institute Level**

At its core, Industry 4.0 is about integrating digital technologies, automation, and data exchange to create a smarter, more efficient production environment. While traditionally associated with large industries, the principles of Industry 4.0 can also be applied to skill training institutes, offering unique advantages:

- 1. Enhanced Learning Experience:** Industry 4.0 concepts expose students to cutting-edge technology and processes, offering a more realistic and up-to-date learning experience.
- 2. Skill Relevance:** By incorporating digital skills and smart manufacturing concepts, students are better prepared for industry demands, increasing their employability.
- 3. Hands-On Practice:** Integrating Industry 4.0 tools like CNC machines, CMMs, and CAD software enhances hands-on training and bridges the gap between theoretical knowledge and practical application.
- 4. Adaptation to Industry Trends:** Introducing Industry 4.0 practices allows the institute to stay relevant in a rapidly changing industrial landscape.

## **Implementing Industry 4.0 in a Small-Scale Skill Institute**

Here's a practical roadmap to implement Industry 4.0 concepts within our small-scale skill institute:

- 1. Assessment and Strategy Development:** Evaluate the existing infrastructure and identify areas for improvement and integration. Define clear goals, such as improving student employability, updating curriculum, and enhancing practical training.
- 2. Infrastructure Enhancement:** Invest in essential digital tools and technologies like sensors, PLCs, and data connectivity solutions, considering the scale and budget constraints of the institute.
- 3. Data Collection and Analysis:** Utilize the CNC machines and CMM to collect real-time data on machine performance and student projects.

Implement basic data analysis to monitor efficiency, identify bottlenecks, and improve processes.

### **4. Digital Skill Integration:**

Modify the curriculum to include modules on digital skills, such as CAD/CAM software operation, basic programming, and data interpretation.

### **5. Digital Twin Development:**

Utilize SolidWorks CAD software to create simplified digital twins of the CNC machines and processes.

This allows students to visualize and simulate production processes, aiding in better understanding and troubleshooting.

### **6. Hands-On Projects:**

Develop projects that require students to work with digital twins, programming automated processes, and analyzing data outputs.

Encourage critical thinking and problem-solving by introducing real-world manufacturing challenges.

### **7. Collaborative Learning:**

Foster a culture of knowledge-sharing by organizing workshops, seminars, and group projects where students collaborate on Industry 4.0-related projects.

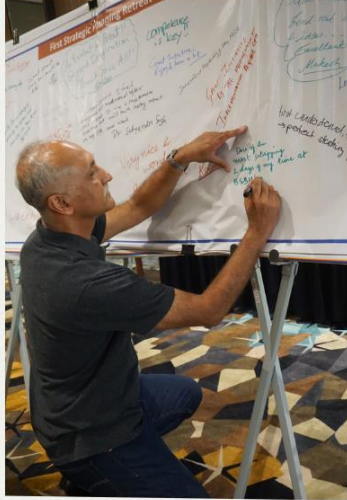
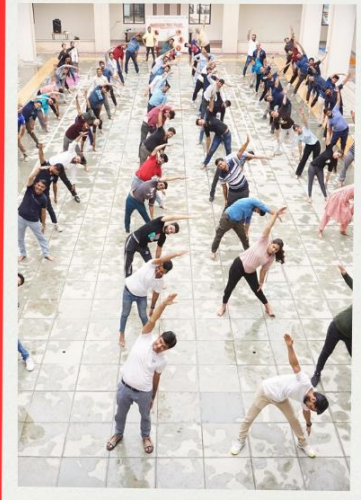
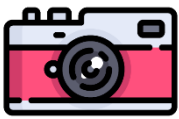
### **8. Continuous Improvement:**

Regularly review the implemented changes, gather feedback from students, and make necessary adjustments to enhance the learning experience.

## **Conclusion**

Embracing Industry 4.0 principles within a skill institute may seem like a challenge, but the benefits far outweigh the efforts. By strategically integrating digital technologies, data analysis, and practical training, our institute can prepare students for the demands of the modern manufacturing landscape. Through this roadmap, we are not only enhancing our teaching methods but also fostering a generation of skilled professionals ready to contribute to India's industrial growth.

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# BSDU NEWSLETTER

11<sup>th</sup>  
Issue

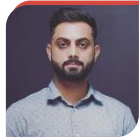
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